

Respondent Number	1	2	3	4	5	6	7	8
What is your name? - Name	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
What is your email address? - Email	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
What is your organisation? (if applicable) - Organisation	Personal capacity	n/a				[REDACTED]	n/a retired	
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not sure	Yes	No	Not Answered	Not sure	Yes	Yes	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information		The entirety of the Scottish West Coast, and the waters around Orkney and Shetland should be Protection Zones. To suppose that sea lice populations are only an issue in the highlighted areas is simplistic, as is the notion that high populations are only of concern in the months of April and May. Sea Trout, for example, are largely coastal fish, inhabiting near shore areas until they return to their natal river to spawn.				The Pentland Firth, and any areas where it can be proved that salmon smolts use as migration routes	Salmon smolts migrate northwards through the Minch and certainly all those coastal area from Skye northwards should be considered salmon protection zones. There seem to be major river systems such as the rivers Kirkaig, Inver and Laxford which don't seem to have protection zone status and that need to be corrected. There are smaller systems inbetween such as the Duart that also have salmon which are not currently covered and they need to be.	Eigg, Canna and Muck
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not sure	No	No	Not Answered	No	No	No	No

<p>If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information</p>		<p>n/a</p>				<p>Not applicable</p>		
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>Based on ten years' experience observing sea lice infections of salmon in a laboratory setting in Scotland I can tell you that sea temperature is a factor and likelihood of infection will increase through April and May, so monitoring must include late-running smolts to be realistic about the specific level of risk to those fish.</p> <p>Salmon can also be infected directly by pre-adult L.salmonis from marine sticklebacks, on which they can only develop to pre-adult stage (Jones et al 2006). Pre-adults can easily overwhelm even larger farm-size smolts, but chalimus and adults are less damaging, so stage of lice as well as number must be considered with small fish.</p> <p>Adult females produce several pairs of egg strings and will appear non-gravid after every one, so it makes much more sense to count adult females than gravids.</p>	<p>I have not, but plenty of other authorities do.</p>	<p>I point out that the Canadian Government, who are responsible for open water fish farms, have closed 15 farms, and are currently moving them into land based farms. The reason for this is a rapid decline in wild fish numbers. Eliminating pollution, sea lice infestation, and improving the ecosystem, in my opinion, is the direction of travel required. Bourne out by the decision of the Canadian Government.</p>			<p>The evidence of sea lice on sea trout smolts which is in the domain of Marine Scotland as a result of the sweep netting carried out in various locations of Argyll shows conclusively the enormous damage and mortality to sea trout caused by sea lice and open cage salmon farming. The only times when sea lice numbers are low are when local salmon farms are followed</p>		
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/consultation/download_file?squid=question-2021-11-25-9063656368-filesubquestion&user=ANON-G44V-9KHQ-2</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>

<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>I think maybe staff from the Machrihanish lab where I work within the Institute of Aquaculture might be able to help. For example, I would tell you that an adult female louse may not be ovigerous (with egg strings showing) some of the time because she is about to produce another pair i.e. is gravid with eggs that are still internal. It makes more sense to count adult females than only adult females with egg strings because a single female may produce seven or more pairs of egg strings and appear non-gravid after every one.</p>	<p>Any and all groups interested in preservation of wild salmon and sea trout. I imagine you know who they are.</p>				<p>The Argyll Fisheries Trust The River Improvement Associations of numerous West Coast rivers Salmon & Trout Conservation [Scotland] Fisheries Management Scotland</p>	<p>The North and West Salmon Fishery Board and the West Sutherland Fisheries Trust</p>	<p>District salmon fisheries boards and fisheries trusts</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Yes</p>	<p>No</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Possibly</p>	<p>No</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>Ten years' experience of sea lice infections in a laboratory setting.</p>	<p>n/a</p>		<p>Not Answered</p>	<p>Not Answered</p>	<p>████████████████████ ████████████████████ ████████████████████</p>		
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>No</p>	<p>No</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Make sure everyone knows and sticks to a better definition of gravid that includes those (fertilised) adult females which are about to produce egg strings as well as those carrying egg strings, which are more properly termed ovigerous. This will also avoid non-counting of ovigerous females which drop their egg strings as a fish is handled. Remember mobile pre adult stages move freely between fish and may cluster, so sample numbers should be high enough to give consistent results. Mean adult female lice per fish should be clear whether it includes fish with zero lice, and even then fails to take into account clustering that may distort small samples. Ask for raw data and analyse it to get an idea of whether sample sizes are large enough.</p>	<p>SEPA could do the job they have thus far neglected to do in protecting our aquatic environment. Any data provided by a vested interest is not to be trusted, so investigations would have to be Independent, not given advance notice, and free from Government interference.</p>	<p>Take the need for compliance out of the equation, simply move the farms on to land based areas. Obviously the Canadian Government has done the research, so it would be prudent to look at their assessment, and scientific research, which brought them to the conclusions reached.</p>		<p>Not Answered</p>	<p>The only effective way to protect sea trout and salmon from the mortality caused by open cage salmon farming is to legislate for all existing and proposed salmon farms to be closed containment</p>	<p>There must be more un-announced site visits either by SEPA staff, or persons authorised to carry out such site visits. It is not satisfactory to rely on self reporting by salmon farms. There has got to be more stringent enforcement of the regulations.</p>	<p>Seine netting at or near fish farm sites and river estuaries and migration routes</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Yes</p>	<p>No</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>The obvious suggestion is sentinel cages of farmed fish that the producer is obliged to stock and sample. Microscopes are required to count copepodids and chalimus.</p>	<p>Any monitoring plan should begin with the premise that any increase in sea lice population above a naturally occurring baseline is not acceptable. Any influx of Fishfarm pollutants including "medicines", feed-additives, and farmed fish sewage is similarly not acceptable.</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>To have compulsory closed containment salmon cages will drastically reduce the amount of monitoring necessary</p>	<p>See before - more frequent un-announced site visits by SEPA staff, or persons authorised by SEPA.</p>	<p></p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Not Answered</p>	<p>No</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>If there is monitoring of wild fish then you'd have to be really careful with the timing of anaesthesia and use microscopes.</p>	<p>n/a</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>See above - closed containment</p>	<p>Long term monitoring of salmon smolts migrating to sea from the major rivers. If there is to be a recovery it will start with many more smolts going to sea. This needs to be measured and monitored annually.</p>	<p></p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>No</p>	<p>No</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>Sea surface temperatures, winds, currents, populations of wild hosts including trout and sticklebacks, pesticide resistant lice, potentially cleaner fish resistant cryptic lice...</p> <p>I sea think temperature will affect chances of infection.</p> <p>I think many factors will affect how long a smolt takes to reach the open sea, not least availability of food.</p> <p>Cryptic lice are hard to spot when small, and can slip through as adults, so farms must be aware what they are looking for. [REDACTED] has published some photos of our hypo-pigmented strain as an example.</p>	<p>Many other countries are now moving toward onshore closed-containment fish farming. This will allow for fish to be reared in controlled environmental conditions, with a commensurate drop, or absence, of many of the noxious substances presently used in the industry. Inflowing and outflowing water can be treated to ensure purity, including the absence of parasites. The extremely questionable use of 'cleaner fish' would also become unnecessary.</p> <p>Fish farm mortality, currently disgracefully high in Scottish open-cage farms, should be reduced, and the overall quality of the product should be much better.</p> <p>Ultimately, the largely overseas owned Scottish open cage industry will have to modernise or be left behind by producers closer to their markets, with better products.</p>			<p>Not Answered</p>	<p>All scientific studies should include information relating to sea trout and not just salmon</p>	<p>Data on the incidence of infective stage sea lice drifting northwards through the Minch is required to have any idea of what is really happening.</p>	
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>	<p>Yes in a negative way</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>No</p>	<p>Yes in a positive way</p>	<p>I'm not sure</p>	<p>Yes in a positive way</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>We're all part of a community of people with superficially different interests, but we all have in common being dependent on both the economy and environment. This looks like it may throw up new research questions too.</p>	<p>I have no business interest, but a pronounced interest in a clean, healthy coastal environment.</p> <p>Only closed containment will allow for the environment I wish to be restored. The present situation, or any expansion of it, will simply continue to despoil our Country's coastal habitats, and the creatures that live in it.</p>				<p>If the effects of the new proposals reduce mortality of wild sea trout and salmon, this will have a very significant effect on the numbers of migratory fish returning to West Coast rivers, and consequently the number of anglers coming to fish them to the benefit of local hotels, shops and the communities generally.</p> <p>In this context, until the arrival of open cage aquaculture in Loch Ridden/Kyles of Bute in the 1970s, there were 3 hotels in Glendaruel depending largely on their existence on annually returning fishermen. As a result significantly of aquaculture and reduced fishing returns, all 3 hotels have now closed with severe consequences for the local community and a far greater loss of employment than the number of people working locally in aquaculture</p>	<p>It very much depends on how the community is involved in the development process. Most people in west coast communities just expect SEPA to be doing a good job of controlling any pollution/ disease/ parasite discharge/ escapes, etc without involvement from them.</p>	<p>Salmon angling tourism has collapsed and this might help bring it back which with 100% catch and release gives the best of both worlds</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>Sentinel cages rather than sampling wild fish.</p>	<p>Cease any expansion of open cage salmon and trout farming, and move immediately into a transition to a clean, modern industry of which we might all be proud as a source of employment, a source of good quality food, and a beacon of environmental credentials.</p>				<p>Closed containment aquaculture will not only have dramatic beneficial results for the survival of sea trout and salmon, but will also greatly protect the sea bed environment around current open cage farms which is being enormously damaged by 'effluent' emanating from those cages.</p>	<p>It is now technically feasible for salmon to be grown in closed containment (CC) systems which are being introduced in many counties currently and it should be a requirement in Scotland as well. Certainly all new farms and expansion should be in CC systems</p>	
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not sure</p>	<p>No</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Not Answered</p>	<p>No</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>		<p>n/a</p>				<p>See above</p>	<p>This question doesn't make sense.</p>	

<p>Do you have any additional feedback on the proposed framework?</p> <p>- Q21 text box for information</p>	<p>This looks like a very good initiative to me. The one thing which stands out most is that people still catch these fish on rod and line.</p>	<p>It is a start. Let's make sure it delivers far more than tinkering around the edges of a dirty industry, producing bad food, owned largely by Norwegians.</p>		<p>I ask that all future plans to expand marine fin fish farming be suspended immediately and all existing farms moved to onshore enclosed systems.</p>	<p>I call for an immediate ban on the expansion of salmon farming and a switch from farming salmon in the sea to rearing them in on-shore tanks. This would eliminate the huge sea lice epidemic, the massive pollution problem, the damage caused to marine predators and reduce disease and the annual premature deaths of hundreds of millions of salmon. It would not eliminate all the cruelty and suffering caused to the salmon but it would be a very big step forward.</p>	<p>The current proposals appear only to accept that existing salmon farms will remain in place. Unless there is a policy of scrapping all open cage salmon farming, it is essential that they should be moved to areas where salmon and sea trout do not migrate which will include on shore production units.</p>	<p>No</p>	<p>Implementation will need increased funding and boots on the ground</p>
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Respondent Number	9	10	11	12
What is your name? - Name	██████████	██████████	Not Answered	██████████
What is your email address? - Email	██████████████████	██████████████████	Not Answered	██████████████████
What is your organisation? (if applicable) - Organisation	N/A		Not Answered	-
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes	Yes	Not Answered	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	There should be protection zones along the western coast of Scotland. Salmon and sea trout smolts will travel considerable distances along coast lines.	The marine protected area around Gruinard bay should be included	Not Answered	All around the coast
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No	No	Not Answered	Not sure
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information			Not Answered	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information		The Wester Ross fisheries trust have published papers on sea lice thresholds and the current thresholds when multiplied by the number of fish being farmed is totally unsustainable.	Not Answered	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Atlantic Salmon Trust Salmon & Trout Conservation.</p>	<p>Wester Ross Area salmon fishery board and the Wester Ross fisheries trust Plus other west coast boards and trusts</p>	<p>Not Answered</p>	<p>S&CTS All angling related groups</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>			<p>Not Answered</p>	
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>No</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Unannounced site visits with assessments undertaken randomly. Each visit should be done by a team of at least three individuals. Photographic evidence to be taken. Dip net testing of the cages to assess the general welfare of the farmed fish.</p>	<p>Levy heavy fines and order culls if non compliance is discovered</p>	<p>Not Answered</p>	<p>Ensure ALL salmon farming open net pens are banned and only enclosed/solid pens allowed</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not Answered</p>	<p>Not sure</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Not Answered</p>		<p>Not Answered</p>	
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>	<p>Not sure</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>Not Answered</p>		<p>Not Answered</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>			<p>Not Answered</p>	<p>Norwegian enclosed pens no more nets</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>No</p>	<p>I'm not sure</p>	<p>Not Answered</p>	<p>No</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>The general slow demise of recreational angling for salmon and seatrout has left local communities with minimal or no local income derived from it. The Northern 500 has, in part, replaced that lost income but has meant the efforts to save the fishing have been relegated. Salmon farming employs a minimal number of staff. Wages are not high but the profits are significant. These profits are not enjoyed by the local communities.</p>	<p>Loch Sguod, which drains into loch ewe has been impacted by a serious decline in sea trout numbers. We have not seen a sea trout in the system for two years despite setting fyke nets to catch spawning sea trout and electro fishing the spawning burn. We have set fyke nets over the last 12 years to monitor the smolts going to sea and we have seen a year on year decline. We will try again this April /May. there are so few spawners now that it does not take many predators to have a serious detrimental impact.</p>	<p>Not Answered</p>	<p>you will talk it to death most of the damage has already been done by escapees breeding with established salmon sea lice can easily be fixed by using enclosed units and treating with the correct dose for the enclosed volume of water and leaving it for the required time.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>The biggest negative is the timeframe and lack of urgency in the Plan. To remove these, there must be a faster implementation. As the purpose is to protect the environment which is already suffering, the longer the delay, the less there is to protect.</p>	<p>Insist on all farms being of the close confined method of farming so there is no interaction between sea lice and the farmed fish.</p>	<p>Not Answered</p>	<p>no more open nets</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>No</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>			<p>Not Answered</p>	<p>enclosed pens it is very simple but expensive</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>I think the 'terms of reference' of the framework, the proposals, and the wording render the project little short of useless and favour the maintenance of the current status quo for some considerable time. There is no ambition here at all. There is nothing about reversing the impact of salmon farming here. There is no stated aim of what would constitute 'success'.</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>this is a load of bullshit you know what should be done just do it</p>

Respondent Number	13
What is your name? - Name	██████████
What is your email address? - Email	██████████
What is your organisation? (if applicable) - Organisation	Western isles District Salmon Fisheries Board
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not Answered
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not Answered
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	Not Answered

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	Not Answered
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	Not Answered
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	Not Answered
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	Not Answered
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	Not Answered
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	Not Answered

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>Not Answered</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not Answered</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>Not Answered</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>Not Answered</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>The WIDSFB welcomes SEPA proposals and consultation for managing interaction between farm derived sea lice and wild salmonids. Although greater protection is urgently needed WIDSFB feel there are significant omissions and gaps in the level of protection required from such a framework.</p> <p>The key concerns of the WIDSFB are:</p> <p>The proposal of only protecting post smolts April – May, adult fish as we know from Garynahine 2018 suffer from the impact of farm derived lice as well. https://www.bbc.co.uk/news/uk-scotland-48266480. If the new framework is to protect wild fish it must do so during all vulnerable life stages and across protection zones as fish migrate.</p> <p>The proposal for narrow inshore areas dedicated as Salmon protection zones. The term Salmon protection zone is misleading (figure A1) as they are more likely to be potential zones of interaction. Loch Roag would be designated a salmon protection zone with all the existing sites and known history of serious harm to wild fish. Failure to address the impact of existing farms many of which are cumulative in nature will allow detrimental impacts to continue inside “salmon protection zones”. It is therefore of great concern to the WIDSFB that sections 5.2 and 6.1 state the risk assessment would only be applied to new sites or biomass increases at existing sites. Lice emanating from existing sites must be accounted for when deriving lice thresholds. Another cumulative impact that has to be considered is wild fish moving between protection zones that could suffer lice burdens above the threshold. If this cannot be accounted for within the modelling then thresholds should be lowered as a precautionary measure. Early results from the west coast tracking project show wild fish are moving between zones. The WIDSFB believe the outcomes of the SIWG should be followed “regulatory regime must apply to all farms and should encompass strengthened licence conditions and associated enforcement measures to deliver the essential regulatory protection that wild salmonids require”.</p> <p>As well as the Blackwater estuary event in 2018 the Outer Hebrides Fisheries Trust monitoring site in Loch Roag showed that 70% of the fish sampled had a lice burden greater than 0.3 and would have died (Taranger et al. 2015). The data also shows a strong cyclical link to the production cycles of aquaculture sites in the Loch Roag area. Again, the outcomes of the SIWG should be applied:</p> <p>SIWG:</p> <p>For sites where best scientific evidence indicates that an existing site presents an adverse impact on wild salmonids:</p> <ul style="list-style-type: none"> • In the first instance, tighter regulatory standards should apply. • The consenting regime should be amended to enable efficient relocation of existing biomass to a suitable alternative location. <p>Section 1.2 and 5.1 of the consultation states it will be delivered through existing CAR regulations. In many cases these have proven unfit for purpose in other local aquaculture situations e.g., Mingarry dam, South Uist. SEPA will need to offer assurances to wild fish stakeholders backed by clearly defined enforcement actions. Such enforcement actions should include the ability to review or revoke licences and fixed monetary penalties. Where evidence supports enforcement action this should be taken in favour of engagement with those in breach of licence.</p> <p>Lastly SEPA should note that throughout this response WIDSFB has referenced “wild fish” as it is our strong belief that sea trout which are potentially at even greater risk than salmon should be included in the framework.</p> <p>Thank you for the opportunity to respond to this significant and important consultation for wild fish.</p>

Respondent Number	14
What is your name? - Name	██████████
What is your email address? - Email	██████████
What is your organisation? (if applicable) - Organisation	Outer Hebrides Fisheries Trust
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not Answered
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not Answered
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	Hebridean sweep netting data available from 2013 onwards

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/consultation/download_file?squid=question-2021-11-25-9063656368-filesubquestion&user=ANON-G44V-9KSS-F</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Not Answered</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not Answered</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>OHFT welcomes SEPA proposals and consultation for managing interaction between farm derived sea lice and wild salmonids. Although greater protection is urgently needed OHFT feel there are significant omissions and gaps in the level of protection required from such a framework.</p> <p>The key concerns of the OHFT are:</p> <p>The proposal of only protecting post smolts April – May, adult fish as we know from Garynahine 2018 suffer from the impact of farm derived lice as well. https://www.bbc.co.uk/news/uk-scotland-48266480. If the new framework is to protect wild fish it must do so during all vulnerable life stages and across protection zones as fish migrate.</p> <p>The proposal for narrow inshore areas dedicated as Salmon protection zones. The term Salmon protection zone is misleading (figure A1) as they are more likely to be potential zones of interaction. Loch Roag would be designated a salmon protection zone with all the existing sites and known history of serious harm to wild fish. Failure to address the impact of existing farms many of which are cumulative in nature will allow detrimental impacts to continue inside “salmon protection zones”. It is therefore of great concern to the OHFT that sections 5.2 and 6.1 state the risk assessment would only be applied to new sites or biomass increases at existing sites. Lice emanating from existing sites must be accounted for when deriving lice thresholds. Another cumulative impact that has to be considered is wild fish moving between protection zones that could suffer lice burdens above the threshold. If this cannot be accounted for within the modelling then thresholds should be lowered as a precautionary measure. Early results from the west coast tracking project show wild fish are moving between zones. The OHFT believe the outcomes of the SIWG should be followed “regulatory regime must apply to all farms and should encompass strengthened licence conditions and associated enforcement measures to deliver the essential regulatory protection that wild salmonids require”.</p> <p>As well as the Blackwater estuary event in 2018 the Outer Hebrides Fisheries Trust monitoring site in Loch Roag showed that 70% of the fish sampled had a lice burden greater than 0.3 and would have died (Taranger et al. 2015). The data also shows a strong cyclical link to the production cycles of aquaculture sites in the Loch Roag area. Again, the outcomes of the SIWG should be applied:</p> <p style="text-align: center;">SIWG:</p> <p style="text-align: center;">For sites where best scientific evidence indicates that an existing site presents an adverse impact on wild salmonids:</p> <ul style="list-style-type: none"> • In the first instance, tighter regulatory standards should apply. • The consenting regime should be amended to enable efficient relocation of existing biomass to a suitable alternative location. <p>Section 1.2 and 5.1 of the consultation states it will be delivered through existing CAR regulations. In many cases these have proven unfit for purpose in other local aquaculture situations e.g., Mingarry dam, South Uist. SEPA will need to offer assurances to wild fish stakeholders backed by clearly defined enforcement actions. Such enforcement actions should include the ability to review or revoke licences and fixed monetary penalties. Where evidence supports enforcement action this should be taken in favour of engagement with those in breach of licence.</p> <p>Lastly SEPA should note that throughout this response OHFT has referenced “wild fish” as it is our strong belief that sea trout which are potentially at even greater risk than salmon should be included in the framework.</p> <p style="text-align: center;">Thank you for the opportunity to respond to this significant and important consultation for wild fish.</p>

Respondent Number	15	16	17
What is your name? - Name	[REDACTED]	[REDACTED]	[REDACTED]
What is your email address? - Email	[REDACTED]	[REDACTED]	[REDACTED]
What is your organisation? (if applicable) - Organisation	Loch Long Salmon	Argyll and Bute Council	Garynahine Estate
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes	Not sure	Not Answered
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	I believe it would be helpful to focus on east coast rivers to in order to better establish any cause and effect between salmon farming activity and impact to wild fish.	N/A	Not Answered
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not sure	No	Not Answered
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	I am not familiar with all of these areas but your map looks very comprehensive which i support.	N/A	Not Answered
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	No.	N/A	Not Answered

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Farmers Scientists/Acadmics Regulators Fisheries Management Scotland Local Fishery Boards Local Fishery Trusts Local authorities Marine Scotland</p>	<p>Going forward it will be important to include local authorities that deal with aquaculture, and to include NatureScot, Marine Scotland Science (MSS), Argyll District Salmon Fishery Board (ADSFB), Argyll Fisheries Trust (AFT), and the Atlantic Salmon Trust to assist the development of the Framework.</p>	<p>Not Answered</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>		<p>N/A</p>	<p>Not Answered</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>I would hope that most farmers are already reporting sea lice levels per fish. I expect that SEPA will also need to know the number of fish in order to calculate the total number of sea lice at a given farm.</p>	<p>No</p>	<p>Not Answered</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>As previously stated I would recommend that control rivers are also monitored that are immune from any potential pressures placed on them by salmon farms. East Coast rivers perhaps.</p>	<p>It will be imperative to check if there is anything of importance within the current EMPs. SEPA are more suitably qualified to monitor all EMPs and monitoring strategies. SEPA will need to examine existing EMPs to identify areas of good practice in terms of monitoring.</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not sure</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>			<p>Not Answered</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>No</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>Loch Long Salmon are developing a site that will use semi-closed containment (SCC) systems to farm salmon. SCC have demonstrated to be extremely effective at preventing breeding populations of lice becoming established in farmed salmon groups and therefore not contributing to the. There is a growing body of evidence (most of which we have provided in our planning application) backing up these results. We would recommend this alternative way of farming as a way of continuing to grow the sector in any areas that are/become vulnerable and/or where conventional open net farming is not supported due to potential sea lice impact .</p>	<p>Some elements of EMPs could be useful; such as the identification of salmonid population numbers and sea lice counts on wild fish, and at river mouths from annual coastal sweep netting, plankton trawls, and electrofishing at known Atlantic salmon and Sea trout Rivers and Burns.</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>	<p>Yes in a positive way</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>		<p>Agree that the new framework and regulatory system is much needed and will be important to help ensure a more sustainable future for Scotland's wild salmon populations and the aquaculture industry in Argyll. Any real-time data and improved scientific evidence can help streamline the regulation process and provide much needed transparency for the aquaculture industry as a whole.</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>As previously answered regarding the use of SCC systems.</p>		<p>Not Answered</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>			<p>Not Answered</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>n/a</p>	<p>Yes. What transitional arrangements will there be for Environmental Management Plans (EMPs)? Local authorities need to know what they must do with existing EMPs. Where is the responsibility for Sea trout EMPs going to lie? Local authorities need to move away from EMP responsibility. Local authorities are not equipped to monitor and implement Sea trout EMPs. This is particularly problematic when Atlantic salmon EMPs will be the sole responsibility of SEPA. The issue is that local authority council members are not equipped to make decisions on scientific data and will look to planning officers' for their input. Planning authorities do not have access to Sea trout population and sea lice data, including scientific modelling programmes. This must come from scientific bodies (SEPA) and the industry. Therefore, it would not be appropriate for this to remain with planning while Atlantic salmon will be wholly SEPA's responsibility. SEPA must take responsibility for sea trout EMPs now and aim to map sea trout population movements as soon as possible. Sea trout populations should be included as part of the risk-based framework for wild Atlantic salmon. SEPA must collect base-line information and use the Norwegian Risk Management Framework model for this to happen.</p>	<p>Garynahine estate has serious concern that SEPA are only proposing to protect post smolts April – May. In July 2018 hundreds of dead adult Atlantic salmon were removed from the Blackwater estuary by staff from the estate and fisheries trust. Some of these fish had horrendous numbers of lice, the worst of which had 757 counted by the trust biologist. Garynahine estate would expect the framework to protect Atlantic salmon at all stages and not just as smolts. It is very disappointing that Loch Roag is being called a salmon protection zone when there are several fish farms and a known history of serious harm to wild fish. The impact of existing farms in Loch Roag must be addressed as a priority within the new framework. If need be, SEPA should insist that farms causing problems are relocated or closed immediately.</p> <p>Although it was adult salmon that were killed by sea lice in 2018, the estate is a mixed fishery with a five year average of 36.2 sea trout. Sea trout, including finnock, are present March – October so if lice levels are not controlled these fish can face huge problems and sometimes their only option is to come back into the river which reduces their chance to feed. It is our strong belief that sea trout should not be forgotten or left out of the framework. Lastly, SEPA should take action when evidence shows damage to wild fish stocks. This action should include fines and penalties, some of which should be used to compensate affected fisheries. In 2018 it was left to the estate, fisheries trust and volunteers to save what fish were left in the Garynahine sea pool.</p>

Respondent Number	18	19	20
What is your name? - Name	[REDACTED]	[REDACTED]	[REDACTED]
What is your email address? - Email	[REDACTED]	[REDACTED]	[REDACTED]
What is your organisation? (if applicable) - Organisation	Uig Lodge Fishery	Aquabyte	Marine Conservation Society
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes	Not sure	Not sure
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	I think that even areas outside the obvious need to also be carefully considered as there is a very strong likelihood of sea lice contamination from a site outside the protection zone (ie sea lice / larvae will travel significant distances) so modelling should be looked at and mitigations put in place.		
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No	Not sure	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information			
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	[REDACTED] at the Outer Hebrides Fisheries Trust should be consulted in relation to this.		

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>For the Hebrides: The Outer Hebrides Fisheries Trust The Western Isles District Salmon Fisheries Board FMS Atlantic Salmon Trust - smolt tracking programme</p>	<p>Include groups with specific and practical sea lice technical competence (ex. organizations with expertise in sea lice monitoring technologies in use today, sea lice treatment), sea lice advisors from other countries. Groups with practical expertise can help implement tried-and-true solutions to manage lice load pressure affecting wild salmon populations.</p>	<p>In addition to the industry, Fisheries Management Scotland, Marine Scotland Science, NatureScot, Fish Health Inspectorate and local authorities, technical working groups should include environmental representation. Advisory groups need to be inclusive, extending beyond a technical working group to make sure a wide range of viewpoints, expertise and experience can be provided.</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>Possibly</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>		<p>Automatic sea lice monitoring in fish pens</p>	
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Not Answered</p>	<p>Yes</p>	<p>No</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Independent scrutiny of the sea lice data Involvement of the Outer Hebrides Fisheries Trust in analysing the data</p>	<p>Systems exist to provide automatic readings of number of sea lice per fish by species and stage. Data from technology systems can help with monitoring of current sea lice levels.</p>	<p>In addition to operator submitted data SEPA could undertake independent inspections for verification.</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>It should be developed in coordination with the Outer Hebrides Fisheries Trust as they have the knowledge and expertise to monitor. It is important that the aquaculture companies are also involved and coordinate / cooperate with the Trust as the aquaculture companies have significant resource. This is already happening within the EMP framework but the EMP's need to be significantly improved. Fisheries in the respective region should also be invited to scrutinise the data - the process should be as transparent as possible. Atlantic Salmon Trust smolt tracking programme results should be used to help identify smolt migration routes around the Hebrides (eg Loch Roag and Loch Erisort)</p>	<p>Effectiveness of the framework can be informed by automated systems quantifying sea lice counts that indicate the efficacy of managing sea lice levels.</p>	<p>Given that salmon populations are in poor conservation status across Scotland , it is imperative that this risk-based spatial framework be implemented without further delay. Whilst we understand that sea lice from salmon farms are only one of twelve impacts on the conservation status of wild salmonids , it is one anthropogenic risk that can be improved. This need to progress alongside efforts to address the other impacts, such as habitat restoration and ensuring accessible migration routes. Information relating to the conservation and stock status of wild Atlantic salmon is essential to inform this development. As the new framework is focused on salmon conservation rivers, the conservation status of these populations need to be assessed, with resulting data being used to inform the adaptive management approach. If conservation or stock status of wild Atlantic salmon continues to decline, further measures/actions need to be taken. This could include reducing biomass at farms, reviewing the timing of putting smolts to sea or relocation of the farm if other measures are unsuccessful.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not sure</p>	<p>Yes</p>	<p>No</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>		<p>Automatic sea lice monitoring in fish pens</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>No</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>Again the fisheries trusts and boards in the respective regions should be consulted throughout this process in order to achieve the very best integrated approach. One of the key remits's of the OHFT and the WIDSFB is to preserve and protect the wild fisheries so they have a key role to play. The developing procedure / monitoring program should include both wild salmon and sea trout (not just salmon). FMS should also be heavily involved in the process.</p>	<p>Objective data on sea lice per fish from electronic measurement systems may assist in adaptively developing sea lice level frameworks.</p>	<p>Information relating to the conservation and stock status of wild Atlantic salmon is essential to inform this development. As the new framework is focused on salmon conservation rivers, the conservation status of these populations need to be assessed, with resulting data being used to inform the adaptive management approach.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>	<p>Yes in a positive way</p>	<p>I'm not sure</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>If the framework is adapted and significantly improved (in conjunction with the OHFT, WIDSFB, FMS and Aquaculture companies) then it could have a very significant positive impact on the survival rate at sea of wild salmon and sea trout. However, it is crucial that this is done well. If the monitoring and enforcement programme is not up to standard then the impact will likely be a negative one.</p>	<p>Improved monitoring and control over the sea lice pressure from fin fish farms, more effective treatments and time of treatment, improved knowledge toward sea lice control will result in reduced pressure from sea lice on wild salmon.</p>	<p>There could be positive affects for the protection of wild salmonids if the framework is implemented as proposed, and a data rich adaptive management approach was taken. Identifying areas of high risk for sea lice enables a more informed decision making process for location of salmon farms. It will also inform areas that are not suitable for open net pens, which may include existing sites. These sites can then be repurposed as per Professor Griggs recommendation: It is recommended that 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. Those sites would either then be:</p> <ul style="list-style-type: none"> • Returned to the wild; • Become available for shellfish operators who see some as good places for shellfish production, and • In some cases help the seaweed industry expand.
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>	<p>Not sure</p>	<p>No</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>Again, more consultation with FMS, OHFT, aquaculture and the individual wild fisheries. Those that work at the fisheries also have key experience so they should be contacted too.</p>		
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Yes</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>As above - coordinate with OHFT, WIDSB, Wild fisheries, Aquaculture. It has to be a coordinated effort. There should be significant punishment measures in place for when the thresholds (whatever the final agreed threshold is) are crossed - ie significant biomass reduction and fines. The aquaculture companies should understand that they have a duty to protect the marine environment in which they operate. They have a key responsibility here.</p>	<p>Historical data measuring day-to-day sea lice development (ex. in each development stage over time) can be used in models to forecast future lice infestations.</p>	<p>The framework plan could be used positively as an opportunity for both the collection of data to inform the subsequent sea trout management plan. This will also require further information on the status of sea trout stocks, which should be informed both by ICES assessment data and data derived from other salmon producing countries such as Norway.</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>We believe there are significant omissions and gaps in the level of protection required from such a framework.</p> <p>Key concerns include:</p> <p>The framework should apply to existing sites too (not just new sites). For sites where best scientific evidence indicates that an existing site presents an adverse impact on wild salmonids:</p> <ul style="list-style-type: none"> • In the first instance, tighter regulatory standards should apply. • The consenting regime should be amended to enable efficient relocation of existing biomass to a suitable alternative location. <p>There should also be protection in place for returning adult salmon (June - September) not just for smolts (April - May) though it is acknowledged that the smolt migration is hugely important and needs to be protected as much as possible.</p> <p>Life cycles at the fish farms should be closely looked at - ie 2nd year life stage often leads to huge lice problems in the spring / summer of second year.</p> <p>Close attention should be given to sea lice contamination from sites outside the protection zone - ie modelling should be closely looked at as sea lice / larvae can travel significant distances. If the modelling is accurate then mitigations can be put in place.</p> <p>SEPA will need to offer assurances to wild fish stakeholders backed by clearly defined enforcement actions. Such enforcement actions should include the ability to review or revoke licences and fixed monetary penalties. Where evidence supports enforcement action this should be taken in favour of engagement with those in breach of licence.</p> <p>Sea trout should also be included in the framework (not just salmon) as they are severely impacted by sea lice.</p>		<p>Given that salmon populations are in poor conservation status across Scotland, it is imperative that this risk-based spatial framework be implemented without further delay. Whilst we understand that sea lice from salmon farms are only one of twelve impacts on the conservation status of wild salmonids, it is one anthropogenic risk that can be improved. This need to progress alongside efforts to address the other impacts, such as habitat restoration and ensuring accessible migration routes.</p> <p>We are keen to see the proposed sea lice threshold of "0.7 infective-stage sea lice-days m2 integrated over the upper 2m of the sea" maintained at the commencement of this framework. We understand that this figure has been derived from Norwegian data, but adjustments have been made, via modelling data, to allow for the conditions experienced in Scottish waters. As this framework is adopting an adaptive management approach, we would expect to see any need for an adjustment of this figure captured and incorporated into subsequent iterations. However, this would need to be informed by robust data collection and measures of effectiveness before changes to increase this threshold are considered.</p>

Respondent Number	21	22	23
What is your name? - Name	[REDACTED]	[REDACTED]	Not Answered
What is your email address? - Email	[REDACTED]	[REDACTED]	Not Answered
What is your organisation? (if applicable) - Organisation	Scottish Anglers National Association	Garware Technical Fibres Ltd	Not Answered
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not sure	No	Not Answered
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	No comment.		Not Answered
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not sure	Not sure	Not Answered
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information			Not Answered
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	No.	No	Not Answered

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>SANA is concerned that previous regulatory regimes have had a large element of self-control by the finfish farming industry. Given the evidence on fish escapes*, as well as on the current subject of sea lice levels on fish open sea cages, this doesn't work.</p> <p>It is essential that all interested parties should be represented on the technical advisory groups and that these groups should have a supervisory role in evaluating the regime after implementation. As well as Fishery Management Scotland covering the national picture, in each affected area Salmon Fishery Boards and/or Fishery Trusts should be members of the groups and financed for the costs of fulfilling that role. We note Professor Griggs' recommendations on the regulatory regime and suggest that the income from licence fees be used for this purpose.</p> <p>*Escapes of farmed fish cause introgression - harm to the genetic integrity of local salmon stocks through hybridisation at spawning. This could be prevented by obliging fish farm licensees to use triploid stock when using open cages.</p>	<p>Salmon Scotland SAIC</p>	<p>Not Answered</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>No</p>	<p>Not Answered</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>			<p>Not Answered</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Not Answered</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>No comment.</p>	<p>Access to site lice count data</p>	<p>Not Answered</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not Answered</p>	<p>Yes</p>	<p>Not Answered</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Not Answered</p>	<p>Obvious option is capture of out migrating smolts and checking for lice. However this is extremely difficult and almost impossible to attribute any lice found to a salmon farm or farms. Also - any smolts with lice may be compromised and therefore easier to catch thereby skewing the results.</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>Not Answered</p>		<p>Not Answered</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Not Answered</p>	<p>No</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not sure</p>	<p>No</p>	<p>Not Answered</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>			<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>	<p>Yes in a negative way</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>Yes, in a positive way. However, changing production technology to closed containment – in sea cages or on-shore facilities - offers the prospect of a substantially better solution to the sea lice problem. It would also remove the impact of fish faeces and farm chemicals on the marine environment. Additionally, it would provide a solution to the substantial deaths of stocked fish due to impacts from toxic algae and from jellyfish. That may be the biggest driver of change but we would also support public spending to aid adoption of closed containment.</p> <p>Further, it is regrettable that the reference to sea trout (brown trout which have migrated to feed in salt water) on page 13 of the consultation document says that their plight is not worthy of consideration for lack of evidence. Mature sea trout are progenitors of offspring which can be either sea-going or not. Therefore, it is a matter of concern that the consultation fails to consider the impact of sea lice on populations of both sea trout and brown trout in Scottish waters.</p> <p>The reasoning behind the proposed protection zones appears to be that salmon need of protection in these areas – because their numbers are well below historic levels in those places. Since pointers are that sea trout have been in greater decline in salmon farming areas of the west coast than on the east coast where there is little salmon farming, the concept of zones for sea trout should be capable of delivery.</p> <p>Absence of evidence cannot be relied on for justification of the inaction indicated at paragraph 9.1 of the consultation paper. There is plenty of photographic evidence on the internet of immature sea trout being severely impacted by sea lice infestation, both here and in Norway.</p> <p>In any case, absence of evidence is not the same thing as evidence that sea trout are not being impacted. The precautionary principle should be applied.</p> <p>Marine Scotland Science, with fishery boards and trusts, has developed a considerable body of knowledge on sea trout over many years. We do not accept your assertion that at paragraph 9.2 that “there is very limited information on the status of sea trout populations in Scotland”. There may be greater knowledge about salmon but the results of decades of research on sea trout are not insignificant.</p> <p>From the official catches data, we note that sea trout catches in the areas of the proposed protection zones have fallen away to a greater extent than the corresponding salmon catches. Therefore, it may be that sea trout stocks will benefit from “salmon” zones. We suggest that sea trout zones should also be considered.</p> <p>No salmon protection zones have been proposed for Orkney and Shetland where there are open cage farms, few salmon catches and significant sea trout catches (historically).</p> <p>The 2020 rod catch for Shetland was 167 sea trout released and 41 kept. Also, 440 finnock were released and 197 kept. Best year for sea trout was 1 739 in 1985.</p>	<p>Proposed framework is effectively a moratorium on further development of the sector.</p>	<p>Not Answered</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not sure</p>	<p>Yes</p>	<p>Not Answered</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>No comment.</p>	<p>Better empirical data / evidence re alleged impact of farm lice on wild fish. There is no credible baseline and it will be impossible to attribute any changes re wild salmon to the framework - far too many variables.</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not sure</p>	<p>No</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>No comment.</p>	<p>I do not believe there will be any positive effects from the proposed framework.</p>	<p>Not Answered</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>SANA has no locus or expertise which would justify comment on the technical aspects of this consultation. On behalf of the angling community, it is important to record that the central purpose of the reforms has our support as a means of tackling a particular problem arising from open cage fish farming. However, it is like a sticking plaster to cover a deep wound.</p> <p>We believe that the long term development of the industry lies in the direction of partial or whole term closed containment. Only then, can we be confident that the industry will be sustainable in terms of its impact on wild fish and on the wider marine environment.</p>	<p>The proposed framework will undoubtedly have a profound negative socio economic impact on both the immediate areas where salmon farming takes place as well as throughout Scotland and the rest of the UK due to reduced activity in the sector supply / value chain.</p>	<p>Not Answered</p>

Respondent Number	24
What is your name? - Name	██████████
What is your email address? - Email	██████████
What is your organisation? (if applicable) - Organisation	NatureScot
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not sure
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>We have participated in meetings of the Technical Group, during the preparation of this framework and support the inclusion of relevant Special Areas of Conservation in the process of identifying wild salmon protection zones. Beyond that, there is obviously a knowledge gap about salmon migration routes around areas of our coast and ongoing work to fill some of those gaps is encouraging. Given that uncertainty, as our knowledge improves, there is the potential that further wild salmon protection zones will need to be identified.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	<p>Despite answering 'no' above, it will be important that the framework also considers any existing and proposed developments not located within risk zones where modelling demonstrates that sea lice emanating from these sites are likely to contribute to lice loads within a risk zone. Equally, where lice emanating from a farm located in one risk zone are likely to be dispersed in to a separate risk zone this should also be considered.</p>
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>While we don't have relevant experience in the development of modelling protocols, we are happy to share experience related to our previous involvement in dealing with risks to wild salmonids through our advice to planning authorities.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Real-time compliance monitoring is likely to be challenging. Retrospective compliance monitoring may be a more realistic option in many areas, although with Special Areas of Conservation it would require careful adaptive management with further safeguards. Generally, in all likelihood this means management action would be taken based on compliance over the previous risk period (Apr-May). If an area is not complying or is on the borderline of compliance it seems reasonable to assume that there would be limited capacity to accommodate further additional biomass, unless it can be demonstrated that novel technologies / equipment can remove the risk of additional sea lice entering the marine environment.</p> <p>If an area is consistently failing to comply then what options are there to address this through enforcement?</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Monitoring of lice levels in the marine environment may provide one mechanism to determine the effectiveness of the framework in terms of validating model outputs and predictions. It is likely this may require plankton monitoring or towed sentinel cages.</p> <p>Assessing the health of the wild Atlantic salmon population is a key component of measuring the success of the new regulatory framework, although sea lice is only one of 12 key pressures on the species. There is a mechanism (through the National Electrofishing Programme for Scotland (NEPS) to deliver this. However, long-term funding must be assured for NEPS to be delivered on an annual basis and to provide meaningful measures of population health. Monitoring the health of fresh water populations will be particularly important where they themselves are a high conservation priority (e.g. Special Areas of Conservation, to ensure the policy tests of the Habitat Regulations are met). It is worth noting that the watercourses in several relevant Special Areas of Conservation are relatively small and can fall outwith NEPS. A means of monitoring them needs to be included within the plan, and we suggest be tied to permitting, in order to ensure that the relevant precautionary policy needs of such sites are adequately addressed.</p> <p>It is also important that any estimated of sea lice impacts on post-smolt Atlantic salmon be assessed at the population level and not simply on individual fish.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>No</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>We have experience of developing monitoring programmes through our advice on Environmental Management Plans to local Planning Authorities that may be relevant. Relevant Special Areas of Conservation are also monitored as part of our Site Condition Monitoring programme – however that national scheme is not sufficient to be included as a component in monitoring the effectiveness of the proposed new framework</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>There would be merit in gathering further data on Atlantic salmon post-smolt migration routes, particularly in high risk zones, as the shortest route to open sea is not necessarily the route that post-smolts will take. This may affect the boundaries of the proposed risk zones and could help to inform the framework in the future.</p> <p>Collecting data to refine our understanding of the spatial dispersal of sea lice over space and time within the 'aquaculture zone' to identify areas of high risk.</p> <p>Data on actual lice levels on fish in the wild could help to validate model predictions. This may require use of, for example, towed sentinel cages to replicate predicted migration speeds and routes.</p> <p>Better linkages could be made between the framework and the Wild Salmon Strategy, particularly in relation to the priority theme: 'Understanding and mitigating pressures in the marine and coastal environment' and its associated actions.</p> <p>Supporting the delivery of a statistically robust evidence base for assessing the status of juvenile Atlantic salmon populations is not mentioned within the consultation. It is against such a baseline that the impact, and success, of the framework can be measured. A framework already exists for this work though the National Electrofishing Programme for Scotland, although support and delivery is not guaranteed on an annual basis.</p> <p>Sea trout have been excluded from the current proposed framework. It is important sufficient research is rapidly undertaken, particular on their ecology, coastal migratory behaviour and status, so that this proposed regulatory approach can be extended to include both salmonid species.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>We welcome the proposed framework as a positive and important step to improve the management of sea lice and the risk they pose to wild Atlantic salmon. We have recommended refinements to ensure that the framework takes a sufficiently precautionary approach to meet the precautionary policy tests of the Habitat Regulations. And we encourage the inclusion of sea trout within the same approach, to similarly protect that species (which is a priority marine feature), but also to have a single regulatory approach that supports the aquaculture industry and stakeholders.</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>No</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>See above Q 18</p>

<p>Do you have any additional feedback on the proposed framework?</p> <p>- Q21 text box for information</p>	<p>We have been involved in some of the work during the preparation of this framework, by our membership on the Technical Working Group. We warmly welcome this proposed framework as an important step in managing the interactions between sea lice from marine finfish farms and wild Atlantic salmon.</p> <p>We recognise that wild Atlantic salmon numbers are in decline and that the root cause of this decline may lie in a complex range of pressures within the freshwater and marine environments. These have been summarised in the recently published Wild Salmon Strategy. We also acknowledge that aquaculture is only one of 12 key pressures identified in the Wild Salmon Strategy and it important that adequate action is taken to address all of the pressures.</p> <p>We understand the reasons why the current proposed framework is unable to include sea trout. We look forward to working with you and others to gain sufficient knowledge that, as soon as possible, the framework can be extended to include this other priority species.</p> <p>We have made suggestions to refine the regulatory approach, particularly to adequately address the policy tests within the Habitat Regulations. And we look forward to the successful implementation of the framework in order to both continue supporting Scotland's important aquaculture industry and improve the protection of our wild Atlantic salmon populations.</p>
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Respondent Number	25
What is your name? - Name	██████████
What is your email address? - Email	████████████████████
What is your organisation? (if applicable) - Organisation	Community of Arran Seabed Trust (COAST)
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>The hard, cut-off straight lines that are a result of the approach taken to determine protection zone boundaries do not make sense ecologically in terms of identifying areas of risk for migrating salmon. Also, the approach taken does not account for areas where sea lice from multiple farms will accumulate and pose a significant risk for migrating salmon smolts. The Clyde region is an example of this. Here the approach taken implies that there is no risk seaward of the identified red zones. In practice this would not be the case. Sea lice are just as likely to accumulate on the seaward side of the red zones and salmon smolts migrating through these areas will be exposed to these raised levels of sea lice.</p> <p>The proposed salmon protection zones need to be revised to address the fact that raised levels of sea lice will occur over much larger areas than those identified. Viable sea lice can be transported over 30km and their dispersion and accumulation will be determined by prevailing hydrodynamics of an area. Also, it is not guaranteed that migrating smolts will necessarily choose the shortest route. These considerations need to be applied to the determination of protection zones. Failure to do so means that the salmon protection zones will fail to adequately cover areas of critical importance to migrating salmon smolts.</p> <p>In the Clyde area there is already evidence from hydrodynamic and sea lice dispersion modelling that demonstrates the cumulative effect of sea lice from the existing multiple farms within the Clyde region, with accumulations within areas that are not covered by the proposed salmon protection zones.</p> <p>As the consultation document identifies, there is already evidence of substantial impacts on marine survival of wild Atlantic salmon resulting from sea lice from finfish farms that has been demonstrated in Ireland and Norway. It is reasonable to consider that such impacts have occurred / are occurring in Scotland. Scotland's wild salmon populations are in a desperate state requiring that proposed protection measures are as robust as they possibly can be.</p> <p>We consider that the proposed framework including identification of protection zones should be applied to sea trout as well. The assertion in the consultation document that sea trout catches appear to have stabilised is not supported by available data.</p> <p>The framework including identification of protection zones must be applied to existing farms at the same time. The North Atlantic Salmon Conservation Organisation (NASCO) 2009 guidance on best management practices to address the impacts of sea lice and escaped farmed salmon on wild stocks is for 100% of farms to have effective management so that there is no increase in sea lice loads or lice induced mortality of wild salmonids attributable to farms.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>Our understanding is that the evidence from Norway currently provides the best available information and should therefore be applied at this time but should be subject to prompt revision as further relevant evidence becomes available.</p> <p>The period of time over which sea lice thresholds apply must be broadened. Smolt migration can vary with influence from things such as weather patterns and temperature and the threshold period needs to reflect this. Also, if raised sea lice levels on a farm are detected, there is a time lag in implementing management action to address this, and in this action being effective in reducing the lice burden on farmed fish.</p> <p>A threshold period limited to April/May is not sufficient. The industry's Code of Practice regarding reduced lice threshold levels applies to the period February – June and it is this sort of broader period of time that needs to be applied within the framework.</p>
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Community representation (for example through Coastal Communities Network (CCN) Scotland and specific community-based organisations), environmental organisations, bodies such as Salmon and Trout Conservation Scotland and fisheries representatives such as from District Salmon Fisheries Boards should be involved alongside regulatory organisations and industry representatives. Many others outside of the regulatory bodies and industry have technical expertise to input to this work.</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Possibly</p>

<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>COAST has a range of experience with open cage salmon farming, and regulatory and technical matters relating to this. This includes working with other coastal community groups and others on modelling work and other research within the Clyde region.</p> <p>We are concerned that the consultation document appears to imply that applicants construct the requisite models and undertake the modelling. There appears to be no requirement for independent verification or validation of this. This is not acceptable and provides no oversight of the data collection and modelling.</p> <p>It also appears that the modelling is only required to be applied at an individual farm level, when the very basis for the consultation clearly requires that modelling for an application must also encompass modelling of cumulative impacts with outputs from other farms within a water body/region where these will overlap to any degree.</p> <p>There needs to be transparency and independence in the data collection and modelling for fish farms and new applications. Currently this isn't the case and wouldn't be under the proposals as set out in the consultation document.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Currently there is a lack of transparency and accessibility to real time monitoring data and management actions, including treatments and chemical use for open cage fish farms in Scotland. Information and data need to be made publicly available and readily accessible in a much more timely manner than is currently the case, on a weekly basis at minimum.</p> <p>There must also be regular independent verification of monitoring and management as an integral part of any framework. It is reasonable that the costs of this could be funded from a levy on the industry as part of a licence.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Whilst not specifically part of this consultation, there is a requirement both within the screening process for applications and more generally in relation to monitoring requirements for open cage fish farms to address the impacts of fish farm waste and pollutants on the marine environment and human health more broadly. Current data collection and monitoring requirements are very narrowly focussed and are not required to monitor further afield effects which available evidence indicates are likely to be occurring, e.g. impact of Emamectin benzoate on crustaceans outside the allowable zone of influence.</p> <p>A robust approach to monitoring the effectiveness of the framework is essential to provide assurance about the approach. It is also essential that where monitoring indicates issues with the effectiveness of the framework that these are addressed promptly and any changes required are implemented and not delayed.</p> <p>The monitoring approach must include compliance monitoring by SEPA and greater frequency of unannounced monitoring visits.</p> <p>An agreed approach for effectiveness monitoring must be developed prior to implementation of any new framework. There should be an opportunity for the public to comment on the proposed effectiveness monitoring approach ahead of it being finalised.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not sure</p>

<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>There needs to be application of the precautionary principle to any adaptive approach. Scotland is party to treaties and laws which make the use of the precautionary principle obligatory. Relying on adaptive management is not precautionary.</p> <p>While it is reasonable to consider that the approach to regulation and management should be adaptable over time, reliance on an adaptive approach risks failing to actually address the specific issues and problems, as is currently the situation overall with the regulation of open cage salmon farming in Scotland.</p> <p>Decisions based, for example, on innovative technology or novel management approaches need to demonstrate that the measures have proven to be effective before being accepted as a means to reduce sea lice abundance emanating from fish farms.</p> <p>The inquiry by the Rural Economy and Connectivity (REC) committee of the Scottish Parliament into salmon farming in Scotland (2018) made a number of recommendations regarding the precautionary principle which are still relevant and need to be applied in relation to any new framework (e.g. RECC inquiry recommendations 40, 46 and 48).</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>I'm not sure</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>There are potential positive and negative effects from the proposed framework depending on how it is taken forward and what it contains.</p> <p>Failure to establish an effective framework means further demise of populations of Scottish wild salmon and sea trout with negative impacts on the freshwater and marine environments and the ecology that is influenced by these species, and the individuals, communities, organisations and businesses that are connected with these.</p> <p>A fundamental issue relates to the stated intention of the new framework to contribute to ensuring a sustainable future for Scotland's wild salmon populations and its aquaculture industry. Scottish Government, SEPA and other regulatory organisations need to clearly define what 'sustainable' means in terms of fish farming in Scotland, in line with Scottish Government's acceptance of the UN definition of sustainability as set out in overarching policy. Without this, and clear parameters defining sustainability for this industry, including transparent cost benefit analysis, any new framework is destined to fail to deliver what it says it is aiming to achieve.</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>Please see other comments relating to measures needed to ensure a robust and effective framework, and re defining sustainability in relation to this industry.</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>Positive effects could be delivered by a commitment to a planned transition from open cage fish aquaculture to fully closed containment, preferably shore based, to remove all sea lice risk, remove discharge of waste and pollutants direct into the sea and remove the requirement for wild caught cleaner fish.</p>

The stated purpose of the proposed framework is to help ensure Scotland's environment is protected and improving, and that this also contributes to achieving sustainable economic growth.

There are a number of issues here that the framework fails to properly acknowledge or address:

1. The dire state of Scotland's west coast wild salmon populations and populations of sea trout. This requires much more robust measures to address all the known impacts of open cage fin fish aquaculture on these species. It is no good tinkering around the edges and hoping that this will reverse the trend of declining populations. Urgent action is needed now, not in 12 months' time or longer.
2. Sustainability. The UN's definition of environmentally sustainable development (used in Scotland's National Marine Plan) is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. There is a very significant issue with use of the word 'sustainability' in relation to open cage salmon farming in Scotland. The reality is that there is no such thing as environmentally sustainable open-net salmon farming. It is not coincidence that growth of open-cage salmon farming has coincided with the collapse of wild salmon runs in countries around the world. This, together with other issues outside the scope of this specific consultation, such as impacts on wild fish stocks for feed and cleaner fish, and dumping of waste and pollutants into the marine environment and implications of this on marine species, other businesses and human health, mean that open cage salmon farming in Scotland is very far away from meeting the definition of sustainability that has been accepted by the Scottish Government as part of its overarching marine policy framework. The lack of a proper cost benefit analysis of the salmon farming industry is indicative of this issue.
3. Impacts from existing farms: It makes no sense to focus the new framework on new and expanded farms and leave consideration of existing farms until later. Existing farms are already producing sea lice that are affecting wild salmon and sea trout; the framework should be applied to existing farms as a matter of priority. This should be prioritised over and above consenting of new farms and expansions to existing farms. Failure to do so means that the contribution of sea lice impacts of existing farms will continue to be ignored and undermine the stated purposes for the new framework. The REC committee salmon farming inquiry report (2018) recommended that "... if the industry is to grow the "status quo" in terms of regulation and enforcement is not acceptable". And 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."

Prioritising applications for new farms and expansions of existing farms under the framework, ahead of addressing issues associated with existing farms currently in place, blatantly ignores this recommendation. Regulatory deficiencies, fish health and environmental issues have not been addressed and the basis for the REC committee recommendation still applies.
4. Postponing inclusion of sea trout within the framework until a later date. There is no valid justification for doing this. Sea trout are a priority marine species for which Scotland has commitments to protect. The framework needs to apply equally to both wild sea trout and salmon from the outset.

Do you have any additional feedback on the proposed framework?

- Q21 text box for information

Respondent Number	26
What is your name? - Name	[REDACTED]
What is your email address? - Email	[REDACTED]
What is your organisation? (if applicable) - Organisation	Argyll Fisheries Trust and Argyll District Salmon Fishery Board
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>The first year of West Coast Salmon Tracking Project has identified a significant proportion of smolts from the River Awe and the River Etive migrate through the Firth of Lorne, a large part of which has not been identified as a protection zone. It is therefore necessary to include a larger area of the Firth of Lorne as a protection zone.</p> <p>Argyll Fisheries Trust electrofishing survey data shows that there is a salmon population in the Barbreck River at the head of Loch Craignish, which has not been identified as a protection zone.</p> <p>Upper Loch Long is not currently identified as a protection zone. Argyll Fisheries Trust has recorded juvenile Atlantic salmon in the Croe Water at the head of Loch Fyne in surveys and should therefore be part of a protection zone. There are also rivers on the south and east of the Isle of Arran that support salmon populations, but have no protection zone. These rivers are the Blackwater, Kilmory Water and Glenashdale Burn.</p> <p>We believe that these salmon population need to be included within the protection zones.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	<p>Results from the West Coast Salmon Tracking Project suggest some smolts migrating from the Rivers Etive and Awe can have slower swimming speeds in Loch Etive, around the Connel Bridge and Firth of Lorne. These preliminary results show that smolts can take longer to migrate through some areas than others and therefore have an increased sea lice exposure in these areas. The relevant data to these areas are:</p> <p>Mouth of River Etive to Connel Bridge: 61 smolts, 0.68 ± 0.43 (bodylength/s), 1.14 (min. days), 11.25 (Max. days), 4.58 ± 2.19 (Avg. Days).</p> <p>Mouth of River Awe to Connel Bridge: 88 smolts, 0.82 ± 0.82 (bodylength/s), 0.18 (min. days), 9.47 (Max. days), 2.22 ± 1.76 (Avg. Days).</p> <p>Connel Bridge to Sound of Mull: 23 smolts, 1.02 ± 0.36 (bodylength/s), 0.75 (min. days), 8.52 (Max. days), 3.53 ± 2.35 (Avg. Days).</p> <p>Connel Bridge to Sound of Lorne: 46 smolts, 1.52 ± 0.68 (bodylength/s), 0.44 (min. days), 3.61 (Max. days), 1.64 ± 0.95 (Avg. Days).</p> <p>Given the variation in swimming speed shown by individual tagged smolts and between the locations, it is essential to collect and utilise these data in modelling exposure to sea lice. Additionally, by using average swimming speeds, these models will leave a significant proportion of smolts which swim slower than the average, insufficiently protected. The use of the slowest swimming speed would protect a higher proportion of smolts.</p>

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/consultation/download_file?squid=question-2021-11-25-9063656368-filesubquestion&user=ANON-G44V-9KES-1</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>District salmon Fishery Board & Fishery Trusts Fishery Management Scotland Marine Scotland Scottish Association for Marine Science Aquaculture representatives</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Yes</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>Argyll Fisheries Trust has monitored sea lice on sea trout in several locations in Argyll & the Islands over a period of 20 years in some locations. This work has built a degree of experience in monitoring activities and collated relevant data which may inform modelling.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>We believe that by monitoring gravid lice on farms it is likely that the number of sea lice eggs being introduced to the environment will be underestimated. Fish farms already record the number of adult female lice which will include those lice which may have already released their eggs. Therefore, to ensure more realistic estimates of sea lice larvae production, SEPA should use adult female lice counts to assess compliance.</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>It is essential that SEPA ensure the validity of their modelling approach. Therefore, it would be beneficial to for the monitoring plan to ensure that data on wild fish and sea lice in the environment are included to better inform the modeling development process and provide transparency as to the effectiveness of the framework.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Yes</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>The main method of monitoring should be direct measures of sea lice larvae in the environment and the collection of data on sea lice burdens of wild salmonid fish. These data may be used to monitor effectiveness of the framework and further inform the modelling approach.</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not sure</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>If the implementation of the framework is effective in protecting wild salmon it will benefit both biodiversity and freshwater fisheries which both add to local economic activity in angling and general tourism. Local residents also stand to benefit from knowing their environment is better regulated and not damaged by inappropriate development. To achieve these outcomes it will be important for the proposed framework to be able to clearly demonstrate to local communities and businesses that it is effective.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not sure</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not sure</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>In general, we welcome the underlying principle of managing the overall number of infective-stage sea lice in the marine environment at a level below which impacts on wild salmon are expected. We do however highlight a number of concerns below in relation to the scope and detail of the proposed framework.</p> <p>Section 2.5 of the consultation document states that the proposed regulatory framework will deliver on the Scottish Government's response to the Salmon Interactions Working Group Recommendations. We do not consider this to be accurate for the following reasons:</p> <ul style="list-style-type: none"> •The SIWG recommendations were clear that they relate to wild salmonids (Atlantic salmon and sea trout); •The SIWG recommendations apply to all farms (new and existing); <p>•Related to the above, the Scottish Government response made reference to our international obligations under NASCO, which includes "100% of farms to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms".</p> <p>To demonstrate that appropriate regulation in line with the SIWG recommendations for a regulatory system which is "robust, transparent, enforceable and enforced" (as accepted by the Scottish Government), it is crucial that both farmed fish numbers and on-farm sea lice levels are published in real time.</p> <p>Section 6.3 states that more information is required to enable an accurate assessment of whether existing finfish farm operations are causing a hazard to wild salmonid populations. It is therefore vital that a precautionary approach is adopted by SEPA, and that the associated implementation of the framework is designed to ensure that any such information gaps are addressed. However, we would emphasise that the approach set out in the current consultation of managing the overall number of infective-stage sea lice in the marine environment is equally applicable to existing farms, and indeed we consider that modelling could be swiftly employed to derive on-farm sea lice thresholds for existing farms that are necessary to maintain infective-stage sea lice below the exposure thresholds in the environment.</p> <p>We do not consider that the application of this framework during April and May is sufficient to protect migrating post smolts. We believe that lice levels in March ahead of the April and May window should be included in the proposed framework. We note that the industry's own 'Code of Good Practice' defines the sensitive period for wild fish as 01st February to 30th June inclusive, and that some Environmental Management Plans lodged with local authorities, do not define a 'sensitive period' and include a single sea lice threshold which applies year-round. Furthermore, it has been known for smolt runs to be delayed by cold and dry springs and protracted in catchments with large freshwater lochs and could therefore be expected to be travelling up the West Coast until at least late June.</p> <p>Section 9.3 states that there is evidence that "at least some sea trout can re-enter freshwater to rid themselves of sea lice infestations". Whilst this is correct, it does not recognise the significant physiological and growth consequences that arise from lost feeding opportunities in the sea. It's also important to emphasise that physical damage from sea lice can result in secondary infections when sea trout re-enter freshwater, and these considerations must be reflected in the developing risk assessment framework for sea trout.</p> <p>Section 8.4 states that local authorities "will remain the lead bodies for considering the risk posed to wild salmonids from marine finfish farm developments". However, local authorities have no role in relation to wild-farmed interactions for the majority of existing farms in Argyll (which have permanent planning permission and no EMPs). Where EMPs are in place, they are relatively new and it is not yet established if they are fit-for-purpose. Additionally, local authorities do not have the capacity or expertise to properly enforce these conditions. We believe that EMPs should not have a role in the new regulatory framework and that specific conditions in the CAR licence should be used to create a fit-for-purpose, enforceable system for management of sea lice.</p> <p>We support SEPA's proposals on data sharing within C16 and C17, and strongly suggest that this data is published in real time in order that all stakeholders fully understand, and engage with, the process. The current timescale for aquaculture data publication within Scotland's Aquaculture website and Scotland's Environment Web does not provide sufficient transparency.</p>

Respondent Number	27
What is your name? - Name	██████████
What is your email address? - Email	██████████
What is your organisation? (if applicable) - Organisation	West Sutherland Fisheries Trust
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>We recognise that the classification of river mouths, sea lochs and sounds as wild salmon protection zones is a useful starting place, but we are concerned about gaps in the current proposals. A brief assessment of the zones detailed within West Sutherland raises the issue of protection of a number of salmon rivers in close proximity to active fish farms, in particular around Loch a' Chairn Bhain. In addition, the absence of Loch Glencoul from the current proposal, which is upstream of a protection zone and therefore has the potential to impact on any salmon and sea trout within the area, is confusing.</p> <p>Many of these rivers are not part of Marine Scotland's 2021 list of graded rivers, which is based on angler catch and to some extent landowner reporting. The exclusive use of this list, therefore, misses the potential to conserve all wild salmonid populations, or to restore the biodiversity of the area through the restoration of previous populations. We believe that protection of all rivers with access for migratory fish populations should be implemented within this framework in order to properly conserve the salmonid population.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>The assumption implicit in sections 5.4, 6.1 and 6.2 that current lice levels from existing farms are not damaging wild fish is concerning. We do not believe that this is necessarily the case and feel that conditions should be constructed to keep lice below the exposure threshold to protect wild salmonids. This threshold should be based on the potential impacts, as detailed within scientific literature, rather than an arbitrary background level based on current conditions. If the intent of the framework is to protect the wild salmonid populations from impacts arising from sea lice then it is important that all infective sea lice are considered, from both new and existing farms.</p> <p>In section 6.3 you state: 'It is also necessary because more information is needed to enable an assessment of whether the operation of existing farms is resulting in a hazard to wild salmon populations. In this case we feel that the precautionary principle should therefore be applied as the framework should be preventing any hazard, not mitigating it. There is a large body of evidence within Scotland of the impacts of existing farms on the sea trout population. While acknowledging that this framework does not consider impacts on sea trout, the development of high lice loadings within a short space of time following the smolt run, would suggest that the salmon smolts were also likely to collect significant lice burdens during their migrations to oceanic waters. Further, we fail to see how any strategy to manage the overall number of infective-stage lice in the marine environment could be properly enacted without consideration of, and the modelling of, existing farms.</p> <p>We do not consider that the application of the framework during April and May is sufficient to protect migrating smolts, or the returning adults. Notwithstanding our concerns about sea trout, we believe that the provision of a sensitive period within the framework is unnecessary and unhelpful. A brief assessment of the published lice levels over the past 11 months would indicate that as lice levels start to increase within the cages most attempts at a reduction are at best limited, with lice numbers routinely exceeding current thresholds within a month of treatment. This would therefore suggest that protection of migrating smolts, particularly in the second year of production, would best be achieved by lice levels remaining below the threshold throughout the year. This would have the added benefit of protecting returning adults where flow conditions mean they are held within the coastal areas and providing a degree of protection to sea trout prior to the development of a dedicated model.</p> <p>When calculating the threshold lice levels within the protection zones, the minimum passage time of smolts has been proposed. We consider that this is inadequate as it will protect only a proportion of the smolts. It is more applicable to use maximum passage time, or at the very least the mean passage time, in order to provide protection for the entire smolt run. While information on passage time can be derived from, for example, the Norwegian studies, it should also be noted that the Atlantic Salmon Trust has been running tracking projects in association with the Trusts and DSFB's, both on the east (Moray Firth Tracking Project) and the west (West coast salmon tracking project) of Scotland. The final report from the west coast tracking project will be available shortly. This project has also produced information on the smolt run outwith the protection zones, and further highlights the use of the wider area and the fact that salmon smolts may pass through several protection zones before leaving coastal waters. In this instance, the use of cumulative exposure would be required to protect migratory smolts from the impacts of sea lice.</p> <p>In modelling the densities of infective-stage sea lice within a protection zone, it is vital that the spatial and temporal scale used accurately reflects the risk to wild salmonids. It is important to ensure that the approach used does not miss peak sea lice densities, thereby potentially under-estimating the level of risk presented to wild salmonids.</p> <p>We believe that SEPA should define common and consistent modelling protocols to be used by developers. Whilst we appreciate that the fish farming industry has a great deal of expertise in this area, it is important that a consistent approach to modelling is used across Scotland. In particular, it would not be appropriate for different companies to use different modelling assumptions, for example in relation to the expected number of larvae produced per adult female louse and the expected rate of production of infective-stage lice. SEPA should also define the expected proportion of lice that are likely to become attached to a wild fish host and ensure that a consistent approach to displaying results is used. We would welcome an opportunity to discuss this further.</p> <p>Within section C11 (and mentioned elsewhere), SEPA have indicated that the intention is to use gravid female lice numbers as the starting datapoint for calculating the juvenile sea lice emanating from a given farm site. Whilst we accept that it is gravid female lice that produce eggs, we believe that it would be sensible to use the data which is collected currently (adult female lice per fish) as the basis for these calculations. This would also build in a degree of precaution within the modelling.</p>
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Fisheries Management Scotland and its members Missing Salmon Alliance</p>

<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>We consider that the regulatory framework must include farm-specific sea lice thresholds (devised to ensure that the exposure threshold in the relevant water body is not exceeded) with enforcement action for breaches of these thresholds. We would not support a threshold for treatment, or management action, but rather an absolute threshold which should not be exceeded. We recognise that SEPA have existing powers for fixed and variable monetary penalties, enforcement undertakings and have the ability to review (including reductions in maximum consented biomass where appropriate) and revoke licenses. We wish to see a clearly defined regulatory approach set out, which meets the tests of being robust, transparent, enforceable and enforced.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>Monitoring the effectiveness of the framework is fundamental to generating public acceptance of the approach. In particular, monitoring the distribution and densities of infective-stage sea lice in the environment, and infestation pressure on wild fish where possible, will be crucial. Compliance monitoring against the framework should not be undertaken by operators alone (as alluded to within Section C14 and C18) and SEPA should define a programme of unannounced audit inspections of sites to ensure transparency in this process. Further, it is important that the lice numbers within the protection zones are also monitored to ensure that the measures in place are sufficient to maintain the number of infective lice stages within the wild at below threshold level.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Yes</p>

<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>We have experience of monitoring sea lice levels on wild fish and also in the analysis of plankton samples for juvenile sea lice.</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not sure</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a positive way</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>The delivery of this framework is a crucial first step towards implementing a robust regulatory system which aims to protect wild fish. The principles included in the framework, if delivered appropriately, have the potential to significantly improve the regulation of wild-farmed interactions, thereby contributing to their conservation into the future</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Not sure</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not sure</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	

You state in Section 2.5 that the proposed framework will deliver on the Scottish Governments response to the Salmon Interactions Working Group recommendations. Unfortunately, the proposal as laid out in the consultation fails to deliver on this statement.

- The SIWG recommendations relate to wild salmonids, which include sea trout. By excluding sea trout from all consideration, this proposal falls far short of this recommendation;

- The SIWG recommendations include all farms, both new and existing;

- Within the Government response reference was made to Scotland's international obligations under NASCO. These include "100% of farms to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms".

We have some concern as to how this framework will be delivered, as this is not clear from the consultation document. In particular, how it will be ensured that lice levels will remain below the threshold. Currently changes in lice levels within farms can be seen to increase with time, sometimes quite rapidly, and there is no information on how SEPA intend to implement an adaptive management to all the farms impacting the area, including existing farms, nor the timescale of any management decisions. The establishment of a threshold lice level is welcomed but further detail is required on how this will work in practice to ensure the prevention of impacts throughout the farm cycle.

We find it disappointing that the protection of sea trout is not being considered within the framework alongside that of salmon. The marine phase of sea trout is designated as a Priority Marine Feature and therefore of conservation importance. In addition, by excluding sea trout, the framework is not in line with either the SIWG recommendations, or the Scottish Government response. While you state that the transitional arrangements for sea trout will continue to rely on current actions undertaken by local authorities, we do not find this acceptable or see how this will work in practice.

While some fish farms may be situated in areas without salmon populations these will be rare, and therefore any protective measures issued by SEPA will undoubtedly have an impact on sea trout management and therefore the actions proposed by the local authority.

Whilst we recognise that the migratory behaviour of sea trout will make the development of a specific regulatory framework more difficult, we feel that the precautionary principle should apply, and that some protection is undoubtedly better than none until the development of a sea trout specific framework is completed. In this instance, as highlighted above, the removal of the 'sensitive period' with regards to threshold lice levels should be implemented. We accept that there is a lack of data in order to fully develop the models but would reinforce the fact that there is a body of evidence within the Trust network that demonstrates impacts on sea trout populations from the current management policy and the failure of industry in some instances to maintain adult female lice levels below the current Code of Good Practice levels. We would also suggest that the collection of the necessary data should be initiated immediately.

While it is true that some sea trout will re-enter freshwater to rid themselves of lice, this statement does not recognise the impacts of this action on the physiology and growth of the fish. In addition, it fails to recognise the secondary infections that may arise from the physical damage caused by lice attachment. As stated above, there is significant evidence within the Trust network, supported by Marine Scotland, of the population effects of lice infestations on the sea trout population within our coastal waters.

While SEPA do not propose that sea trout would be protected by this framework in the first instance, it does state that the framework intends to encompass some areas for the protection of the freshwater pearl mussel as they are "dependent on salmonids" (4.3). There are some SAC and SSSI populations of freshwater pearl mussels that are entirely dependent on trout populations, for example within the Stack SSSI, and therefore the omission of sea trout from the framework would mean that the framework will not fulfil the protection needs of these areas. Again, the removal of the sensitive period within the threshold levels would provide some protection for this critically endangered species.

You state in section 8.4 that local authorities "will remain the lead bodies for considering the risk posed to wild salmonids from marine finfish farm developments". We would question the truth of this statement, where the local authorities have no role in the management of wild-farmed interactions for the majority of existing farms within Scotland. Where farms have the oversight of the local authority via the implementation of environmental management plans (EMP's), these have limited real time potential and are not consistent across areas. Further, the local authorities do not have the expertise or the capacity to fully enforce these conditions. Indeed, it is widely recognised that planning is a poor tool for the management of dynamic interactions. We would therefore suggest that the use of conditions within the CAR licence would be a more suitable tool for the creation of a fit for purpose, enforceable and dynamic system for the management of sea lice.

Section C13 covers the inter-relationship between access to sea lice medicines and control of sea lice, and states that operators "will need to demonstrate...access to alternative and adequate sea lice infestation prevention or control measures" to combat sea lice infestation in the absence of anti-sea lice medicines. We feel that this is an inadequate requirement and that operators should be required to demonstrate the effectiveness of their methods on an on-going basis. While acknowledging that fish farms are unlikely to wish to see sea lice numbers escalate, previous experience with the sector has demonstrated that escalating numbers of lice are common within the cages, despite assurances at planning stage that lice can be controlled. The biological nature of the issue and the dynamic nature of the environment ensures that escalation can result despite the best intentions of the operator. Ultimately, we consider that the regulatory system should be based on the outcome of maintaining sea lice below the exposure threshold. It is up to the operators to farm at a scale and location that allows them to meet this outcome, and for SEPA to regulate on this basis.

The Rural Economy and Connectivity Committee report on Salmon Farming in Scotland was published in November 2018. The SIWG report was published in May 2020. It is now 2022 and there remains no meaningful protection from sea lice infestation for wild salmonids. There are a number of planning applications already within the planning system, and it is therefore disappointing that it is SEPA's intention to take a further 12 months to implement these proposals. We urge SEPA to move this process forward with urgency. Should SEPA issue any CAR licences before the risk assessment framework is in place, we would expect SEPA to be clear that these licenses will be amended to reflect the new regime as soon as the framework is finalised.

In conclusion, we believe that the principles set out in this consultation, if delivered appropriately, have the potential to significantly improve the regulation of wild-farmed interactions. However, in order for this to be the case, they need to be delivered at pace, cover existing farms and provide protection to sea trout. The regulatory framework must deliver on our International commitments and meet the tests set out in the Salmon Interactions Working Group of being robust, transparent, enforceable and enforced.

Do you have any additional feedback on the proposed framework?

- Q21 text box for information

Respondent Number	28	29	30
What is your name? - Name		██████████	██████████
What is your email address? - Email		████████████████████	████████████████████
What is your organisation? (if applicable) - Organisation		Shetland Islands Council	Fidra
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	No	Not Answered	No
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information			
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not sure	Not Answered	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information			
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information			No

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Industry, relevant regulatory bodies, wild fisheries</p>		<p>Scottish Environment Link, Salmon Scotland, Institute of Aquaculture (University of Stirling), Fisheries Management Scotland, Marine Scotland Science</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>Not Answered</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>			
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>		<p>Not Answered</p>	<p>No</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>No</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>		<p>Not Answered</p>	
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>No</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>		<p>Not Answered</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>No</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>		<p>Not Answered</p>	
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a negative way</p>	<p>Not Answered</p>	<p>Yes in a positive way</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>Potential for restriction on existing and future development of aquaculture operations. Increase the burden of consenting and reporting, which is already a cumbersome process.</p>		<p>Fidra welcomes any developments such as the proposed framework which take account of the environmental impact of open cage salmon farms and are designed to minimize that impact. By offering wild salmon protection zones and highlighting areas unsuitable for siting open cage salmon farms, the framework should therefore minimize the impact on the environment from the salmon farming industry. This in turn is one of the aims of Fidra's Best Fishes project.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>	<p>Not Answered</p>	<p>Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>Imperative that it is developed on proven scientific findings and trialled. Streamlining of consenting and reporting process by all regulatory bodies to ensure necessary monitoring and regulation is effective and efficient.</p>		<p>Adaptive management should be built into the framework to enable adaption as science evolves and knowledge increases.</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not Answered</p>	<p>Not Answered</p>	<p>Yes</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>Highlight the many positive contributions and continued efforts by aquaculture industry already made to the wild fish monitoring and protection of wild fish. Ensure that all sources of potential compromise to environment are explored, monitored by such frameworks.</p>		<p>Adaptive management should be built into the framework to enable adaption as science evolves and knowledge increases.</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>		<p>Shetland Islands Council welcomes the development of this framework and sees this as a positive step forward in managing the interaction between sea lice from marine finfish farm development and wild Atlantic salmon in Scotland.</p> <p>Having such a framework in place will provide greater clarity for planning authorities and certainty for developers on the information required to support planning applications and future SEPA regulation. For some time now, there has been uncertainty around the required EMP information required for fish farm applications, how they will operate and be monitored/enforced. It is therefore welcoming to note that SEPA will become the lead body for managing and regulating this process.</p> <p>With regards to Shetland, we have previously raised with SEPA, Marine Scotland and industry that any EMP/sea lice information requirements should be proportionate to our situation (e.g. Shetland has much lower numbers of wild salmon than other parts of Scotland, such as the west coast where protection zones are identified as a result). We are therefore pleased to see that a proportionate approach will be taken, and this is referred to in the consultation.</p> <p>However, taking a proportionate approach does not mean that we should disregard the issue in Shetland. We believe that there remains a lack of monitoring and information on wild salmon presence in our coastal areas and voes. We therefore support the adaptive approach that will be taken and believe that there is an opportunity to work with you and fish farm operators in Shetland to develop a set of guidelines/requirements to support planning applications/SEPA regulation.</p> <p>It is also important that ways to gather and improve our data on wild salmon in Shetland is set out and agreed at some point in the near future.</p> <p>Additionally, we note that protection zones are not proposed for sea trout at this time, and that improved science on interactions and knowledge needs to be developed. We agree that further data is required, but this important issue should not be left behind and a clear timeline and route towards developing this future framework is needed, along with time and resource investment. This is not mentioned in much detail within the consultation and it is a concern that this may be delayed or played down in importance.</p> <p>In Shetland, angling catches of sea trout used to be prolific and one of the top fishing venues in Scotland/Europe during the 1950s and 1960s. A number of our lochs, voes and coastal areas still hold good stocks of sea trout and we believe that improved data and monitoring should be obtained to help plan for this future framework for sea trout. We would be happy to work with you and others to help set out how this could be achieved.</p>	<p>Implementation of the proposed framework needs to be done in a short timescale to ensure as many new farm sites as possible are considered under it. This would prevent the potential situation of a newly sited or expanded farm then being considered under the framework as being inappropriately sited. There may therefore be a case to suggest no licences are granted for new or expanding farms until the framework is in place.</p>

Respondent Number	31	32
What is your name? - Name	[REDACTED]	[REDACTED]
What is your email address? - Email	[REDACTED]	[REDACTED]
What is your organisation? (if applicable) - Organisation	N/A	Ayrshire Rivers Trust
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>Smolts don't just hang around these areas. They MIGRATE!</p> <p>The entire west coast should be a protection zone. It is clear that smolts, adult returning salmon, and sea trout are under threat from salmon farms, wherever they are sited on the west coast.</p> <p>https://watermark.silverchair.com/fsz160.pdf?token=AQECAHi208BE49Ooan9kkhW_Ercy7Dm3ZL_9Cf3qfKAc485ysgAAAsggwggLEBqkqhkG9w0BBwagggK1MIICsQIBADCCAqoGCSqGSib3DQEHATAeBglghkgBZQMEAS4wEQQMKzo2c_LF43vd9__vAgEQgIIce7v9eOwkMjKVus6H8Aqkp7ybe_z1v-NeieMFUhmBpSdJfwTIWjQiTezagArPt-leug2U-kJLSCZE_4bSaTSmaL_fo-4B1jNYNokCo2eiNyWb33tdj2KTHKcJipzIGvZNDRizw0FfwPovlqUKs_CVH0Twp7IFubFaNgIX6wliyR-GCaAOsptxojrl-AytqFcR547j8KdRfgUsJVF70IB7ER1omiV3Pwvyh2MNFaEPRhV3VhGpovcHpxO8gJjDgf4wg13BUmfHrGZGKUf9a-LfRm5zgnGaaU78WFD69oFHOowQn89XBfdps778KyTvk5QxTPQvUrV-hb6W_5V-4RO795vkhEE4_v-nQa0RfJJw3CFYy05zBpjVMCfBDs8tZ5WCeflzo43kPI9n2KEP9zHqeThulJPY7rj5_NXX9kRbRv0jNFTb_Goc6XjxfQZI_xL15maBA__g40r_vEYk8u8eZG8vD9WtTC9vDeB_vSKEgADYhJNGD2SZ4syPrDrcMZLkDWhtxIPIT8CRp22tVsB10mtYfRXz6Gvgi37Ex7X-uuq0OIRaMr7Z3KIBUjIh3_515KpvqBaS32RemBULFdNblVqrq5v_2DWBnw60OkgVEDu2WWv54gfOu5bdCbxdEwxvXJNhvZOcd5qeEqD5vcMRTw_jPMUBGIS1ZaGnNgWp125bsWuhsGF8AXOM9SYphonkcGWxk6YQtr4XIZBJ8Ckh_A8qIbyLhVz2VPRxYDMoP-h5PZkmRXtGXGorhgrYdVewgp0sSk_9OifZadTfzveAW_846sMBgCUxOKsjdAdwo-NUpAMxDtccyRiJMM96eyGXJybn38j-Fpl4</p>	<p>Smolts emigrating from Ayrshire rivers have never been subject to research. Consequently, the direction these young salmon take and the rate at which they leave the proposed protected zones is unknown. Assumptions have been made that all smolts leave and will swim at the same rate as they head for open seas. The progression speeds of wild salmon post-smolts through the zones can not safely be assumed at the rates indicated. Research elsewhere indicates a high degree of variability in the rate at which smolts progress in coastal waters to open seas. Consequently, adopting the precautionary principle and extending the protection zones further until more data is available would be sensible.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	<p>As an addendum to my "No" answer, these areas are only significant for the first few days of smolt migration. Thereafter, smolts will come into contact with salmon feedlot effluent, lice, chemicals, disease, pathogens, viruses etc.</p>	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.14085</p>	<p>Not all rivers in Ayrshire have been subjected to smolt migration/emigration research. Therefore, we are only able to provide limited data. However, under the precautionary principle, we assume what happens in one local river may happen in all.</p> <p>In 2021, ART captured salmon smolts as late as 16th June in the middle reaches of the River Ayr some 32km upstream of the estuary. Low water may have delayed emigration during 2021 however, with climate change increasingly leading to dry springs on the west coast, there must be consideration that the proposed sea lice threshold period covering April and May is inadequate.</p> <p>The aquaculture industry's own 'Code of Good Practice' defines the sensitive period for wild salmon as the 1st February to 30th June inclusive. ART believe this is also inadequate as we have proven smolts continue to emigrate from the Ayrshire coastline throughout June.</p> <p>It is unclear why SEPA didn't propose the industry's own accepted sensitive period as a minimum lice threshold. By extending the sensitive period to year round, this would allow SEPA to set appropriate lice exposure levels/lice thresholds and better enable the industry to achieve compliance year-round.</p> <p>It would also allow post smolts from the southern west coast rivers to migrate beyond northern protection zones safely. As migration routes from the Ayrshire coastline are unknown, we can only assume that the potential is there for Ayrshire smolts to migrate northwards through several/many west coast areas where they could be subjected to close contact with aquaculture facilities and at risk of increased and cumulative lice loads.</p> <p>Therefore, there seems little point in setting thresholds that apply only at peak smolt emigration times when control measures to keep lice levels below the threshold levels may be required in the period running up to and beyond the peak period of smolts emigration and when post smolts continue to migrate northwards to open seas.</p> <p>Extending to a year round threshold would also benefit sea trout until a strategy is developed specifically to protect this species.</p>
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Scamon Scotland https://scottishscamon.co.uk SARNS University of Stirling Marine Conservation Society Salmon & Trout Conservation Inside Scottish Salmon Feedlots issf.org</p>	<p>ART believes Fishery Management Scotland and representatives from the Fishery Trust's network of biologists would be suitable to be included on the technical advisory groups.</p>

<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Possibly</p>	<p>Yes</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>N/A.</p>	<p>We have no lice modelling expertise but Ayrshire Rivers Trust has expertise monitoring wild salmonids and extensive experience of netting fish. With our local knowledge of the Ayrshire Coastline, we may be able to contribute to gathering data and monitoring lice on wild salmonids as part of the overall monitoring requirement.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>Unannounced visits. Develop a resistance to lobbying. Carry out "Environment Protection" and pursue a moratorium rather than expansion. Fewer feedlots - less work required by SEPA.</p>	<p>It is unclear from the consultation how SEPA intends to deliver this proposed framework and assess compliance. Reliance on the aquaculture industry to self regulate would be entirely inappropriate. SEPA must ensure they are able to regulate effectively and take enforcement action at every failure. This should include unannounced visits and inspections by trained SEPA staff. Non-compliance is unacceptable and enforcement action must be taken in a consistent and transparent manner without exceptions by SEPA. This is in line with our expectations of SEPA's regulatory responsibilities across their range of operation.</p> <p>It is essential that SEPA also consider the life stage of lice used to establish lice thresholds and their potential impacts on wild salmonids. Restricting counts to gravid female lice is inappropriate. All female adult lice should be used to determine the thresholds. This also reduces the opportunities for counting errors by farm staff that may miss gravid females but instead count them as female.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>You have your own data on just how long these chemicals remain in the environment and how far they are dispersed. As far as pollution is concerned, they are all pollutants. If you were to respond to a complaint that someone was pouring organophosphates into the sea, then you would have the power to prosecute. Why do you allow these companies to pollute? A licence to kill. For monitoring compliance, speak to any local authority Environmental Health section on how they monitor compliance at food premises. They will have a database of businesses they have to inspect - all of the visits are unannounced. One or two Officers visit, carry out a full inspection and take samples where appropriate. This ensures that a "snap shot" of actual conditions is taken and nullifies any unscrupulous preparatory mitigation exercises which serve to deceive the authority and public. It is well known that salmon farmers prepare for visits by means of additional thermolicing, culls, chemical treatments etc - and we have all seen the video evidence of unannounced visits by canoeists and swimmers, portraying the full extent of the atrocities involved in salmon farming.</p>	<p>SEPA should consider using local expertise independent of the aquaculture sector to assist with monitoring and data collection.</p> <p>Establishing base line data may still be possible within the Firth of Clyde prior to the planned expansion of the aquaculture industry within this area. This is an opportunity that has long been ignored by those coordinating sea lice monitoring further north on the west coast.</p>

<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>Publicly denounce the farms that are failing to comply on social media. Make it public that their animals are suffering and that they are acting as vectors for lice infestation in wild fish. The salmon farming industry is a bully, disseminating disinformation and greenwashing a polluting industry as a benign "friend of the sea". The national Regulator must act in the public's interest.</p>	<p>The Ayrshire coastline has to date, never been included in any sea lice monitoring on sea trout that we are aware of despite aquaculture facilities operating in relatively close proximity. With the planned expansion of aquaculture in the Firth of Clyde and North Ayrshire, this situation should be addressed and the entire Ayrshire coastline included within any wider monitoring strategies. While monitoring sea trout will not provide the same results as monitoring salmon within the marine environment, it may be possible to gather valuable data on lice levels occurring on wild salmonids. These data could be used to assess changes occurring and understand direct relationships between sea lice levels recorded on nearby aquaculture sites and those occurring on wild salmonids within the Firth of Clyde. The framework should be extended to include sea trout as soon as possible. Ayrshire Rivers Trust have experience of netting procedures and knowledge of the coastline where netting operations may be possible. This is something we may be able to assist with and are keen to do so.</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>Adapt the protection zones to cover the full migratory routes of salmon and sea trout.</p>	<p>A consistent approach to modelling sea lice dispersal should be adopted. This would require agreements on whether adult female lice rather than just gravid female lice are used to inform the modelling. The industry and other stakeholders may already have well developed modelling approaches that could be integrated within the framework to allow faster implementation and protection of wild salmonids. The inclusion of sea trout within the framework as soon as possible. Consideration of the impacts of climatic conditions affecting different regions in real time. Taking this into account when setting lice thresholds seems appropriate as does extending the period of protection offered by increasing the lice threshold period year-round.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a negative way</p>	<p>I'm not sure</p>

<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>The proposed protection zones are not nearly large enough. Wild salmon will continue to be pressured by salmon farming. ALL communities on the west coast will suffer from this continual loss of species. While alternative employment ideas are not being researched, the pressure on wild fish continues.</p>	<p>Whether the framework has positive or negative effects on business and community interests will depend on how able SEPA, when applying the framework, are at delivering effective regulation and the protection of wild salmon. Once the aquaculture industry is regulated under the new framework, there is an expectation that wild salmon are protected and this should help with conserving a species that is widely acknowledged to be in crisis. However, SEPA must ensure that it is able to regulate consistently and in a transparent manner if public confidence in this new approach is to be achieved. Protecting wild salmonids from lice associated impacts will benefit the angling sector and rural economies for years to come.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>	<p>No</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>		
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not sure</p>	<p>No</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>Question 20 does not make sense. However, assuming it is a "positive" version of Q19, I have many doubts over the proposed framework's ability to protect wild salmonids. It is a token gesture towards protection - a gesture and not a solution. You know fine well that salmonid finfish feedlots have to be removed to offer any meaningful solution to the extinction event now in progress on the west coast.</p>	

<p>Do you have any additional feedback on the proposed framework?</p> <p>- Q21 text box for information</p>	<p>Start looking for alternative employment options for salmon farm employees.</p> <p>It is inevitable that salmonid farming will either eliminate wild salmon stocks from the west coast (thereby removing "the problem"), or have to wind up entirely due to uncontrollable lice, disease, viral and pathogenic pressure, rendering it unprofitable.</p> <p>In some areas where salmon farms have been situated in the paths of migrating salmonids, rivers are now devoid of returning salmon. Even restocking programmes have failed. These protection zones won't bring them back. That is an unforgivable gross failure of a Gov agency to protect a wild species.</p> <p>This framework shows no signs of being able to protect out-migrating smolts on their journey to Greenland.</p> <p>But by far the biggest problem is evident by omission. And it is also an "invisible" one. Where lice can be counted with the naked eye, DISEASE cannot. What really needs to be done is a nationwide study into how diseases, viruses and pathogens emanate from these reservoirs. A recent study on salmon caught around Greenland showed that feedlot escapees carried the majority of pathogens and disease.</p> <p>In short, marine salmonid farming must stop, for so many reasons, not only to save the impending extinction of wild salmonids, but for the health of Scotland's wider marine environment.</p>	
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Respondent Number	33	34
What is your name? - Name	[REDACTED]	[REDACTED]
What is your email address? - Email	[REDACTED]	[REDACTED]
What is your organisation? (if applicable) - Organisation	Scottish Wildlife Trust	Aquascot
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	No	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	n/a	Examples of East coast rivers should be included as sentinel sites. Reduction in salmon abundance in these rivers is clear also. The argument central to this proposed regulatory framework is that lice is not a selection pressure impacting survivability on the east coast. If that is the case then demonstrating parity (or difference) to lice burdens is a key calibrator for west coast management, equally demonstrating difference in wild salmon survival against the two areas will be key to validating the approach proposed
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	No	Not sure
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	n/a	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	No	No further comment

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Scottish Environment LINK Fisheries Management Scotland Salmon Scotland Crown Estate Scotland Local Authorities Marine Scotland Science Marine Scotland Licensing Operations Team NatureScot SAIC Coastal Community Groups</p>	<p>A balanced selection of stakeholders inclusive of representation from the production sector as well as wild fisheries but also it would be vital that there is independent scientific advisors from within the UK as well as Norway (to provide objective and meaningful context).</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>No</p>	<p>No</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>n/a</p>	
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>No</p>	<p>No</p>

<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>The Scottish Wildlife Trust considers the proposed framework could prevent additional risk to wild salmon caused by sea lice from new salmon farm developments, and also lead to improved sea lice management of existing farms during the smolt run. However, compliance by the salmon farming industry will be essential for reducing the risk sea lice from salmon farms pose to wild fish, and to also ensure the framework is given the best chance of being successful. The Trust consider it essential that sea lice monitoring and reporting is either fully or partly carried out by an independent party. This should be carried out prior to and during the smolt run.</p> <p>Likewise, the Trust also considers it vital that any farm management measures agreed to be implemented during the smolt run are assessed and monitored by regulators. Firstly, to ensure they are being implemented as agreed and, secondly, to assess whether they are having the desired impact.</p> <p>The Trust recognises that additional monitoring to ensure compliance will require additional resources (i.e. funding, time, and qualified staff) and that the cost should, at least in part, be covered by the salmon farming industry. It is important to recognise that reliable and accurate data collection and monitoring benefits both the regulators and the industry, as it will determine whether measures implemented by the industry are successfully reducing sea lice levels and the associated risk to wild fish.</p>	<p>The requested farm data is readily available through the current reporting on Scotland's Aquaculture website. It would be suggested that lice abundance checks independent of farm data would be an important validation of compliance/modelling approach. Equally benchmarking comparable information for "non aquaculture regions" would be essential to demonstrate compliance with the intended scientific outcome.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>One of the key components for demonstrating the effectiveness of the framework, with regards to reducing the impact of sea lice on wild Atlantic salmon, is a well-resourced monitoring programme.</p> <p>One of the key objectives of the framework is to reduce the risk to wild fish from farm-borne sea lice, specifically during the smolt run. An important outcome of this would be an increase in the number of salmon returning to rivers and, subsequently, healthier populations. It is, therefore, essential to have a good understanding of current population health, and also the capacity to monitor changes in the number of salmon leaving and returning to rivers over time.</p> <p>It is important to recognise that there are a number of other factors that impact wild salmon populations, such as natural predation in rivers and at sea, river pollution, unnatural barriers (e.g. hydroelectricity), and climate change. All of these pressures need to be addressed, but it is important to be able to determine the impact of the sea lice framework. Therefore, monitoring across multiple river systems (and catchment areas) in Scotland, which contain different pressures on wild salmon, must be included in the monitoring plan to enable the impact of the sea lice framework to be identified.</p> <p>The Trust considers it important to identify a realistic timeframe for determining whether the sea lice framework is being effective, and the number of wild salmon returning to rivers is increasing. It is likely that different rivers will experience different levels of success and, therefore, it is important to have a plan in place that contains an agreed set of actions if the sea lice framework is found to be ineffective. It is important that the monitoring and action plan is developed and agreed to by all stakeholders, to ensure buy-in and compliance.</p> <p>The Trust believes it is important that, if the approval of a new farm development is dependent on other farms in the same wild salmon protection zone reducing their sea lice levels, a trial period covering multiple farm cycles is carried out first to demonstrate the new measures work. If the new measures do not reliably reduce sea lice levels, then the new farm development should not be approved.</p>	<p>See feedback provided previously but to reiterate if such a framework were to be implemented it requires the necessary check and balances. The framework must be capable of:</p> <ul style="list-style-type: none"> •Providing validation of free living (infective) lice abundance within the proposed protection zones independent of farm data capture: To calibrate modelling approach and regulatory decisions. •A similar approach as above needs to be applied in non-aquaculture zones to validate differences in lice abundance and thus need for regulatory framework •An appropriate wild salmon stock mortality surveillance scheme to be applied in "sentinel" catchments both within and out with the Aquaculture zones which is capable of empirically and unquestionably determining and tracking causative factors to wild salmon survivability. The impact of lice abundance on wild salmon stocks within the protection zones must be accountable to feedback on, and ultimately justify the proposed regulation.
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not sure</p>	<p>No</p>

<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>		
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>No</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>- Inclusion of other management measures that aim to address the other pressures wild Atlantic salmon face beyond salmon farming (Wild Salmon Conservation Strategy). This will be important for identifying the effectiveness of the sea lice framework.</p> <p>- Spatial management plans for environmental conservation and other sector plans for marine industries. The sea lice framework may direct salmon farming into certain areas, but environmental conservation measures, in particular the proposed Highly Protected Marine Areas, may prevent development.</p>	<p>There is a need to develop, validate and utilise monitoring techniques independent of farm surveillance to determine abundance of free-living sea lice stages. Such techniques thereafter should be utilised to both monitor sea lice abundance independently of farms, across the protection zones as well as cross validation, i.e. sentinel monitoring sites, out with the aquaculture zones (E.g. east coast locations). The ultimate intention of this regulatory framework is to enhance wild salmon abundance in the west coast of Scotland through the management of sea lice abundance in the wild salmon protection zones based on the premise that lice abundance differs between such locations. Such a regulatory framework therefore needs to be accountable and capable of demonstrating (independent of farm data capture) differences in lice abundance between aquaculture and non-aquaculture zones to validate its central premise.</p> <p>Evidence from scientific studies for prioritising the diverse array (12 groups) of drivers impacting wild salmonid population abundance across Scotland. To thereafter generate appropriate stock mortality surveillance schemes to be applied in "sentinel" catchments both within and out with the Aquaculture zones. If the proposed regulatory framework was established and in subsequent years wild salmon abundance continued to decline, it will be necessary to provide clear evidence as to the causative factors (which could well be independent of lice abundance) of this decline (and vice versa). To attempt to regulate one proposed causative factor without the means to account for all other potential drivers influence means this framework lacks accountability and thus validity.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>No</p>	<p>Yes in a negative way</p>

<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>		<p>Positives: As a seafood business supplying the retail sector with a particular emphasis on the ethics and sustainability of the farmed fish we source, if implemented effectively this proposal has further positive impacts on the credentials of our supply chain e.g.:</p> <ol style="list-style-type: none"> 1) Further reduction of perceived negative impacts of salmon farming. 2) Evidence of progress and transparent regulation adopting modern scientific approaches improving the credentials of the sector. 3) Increased abundance of Wild salmon <p>Negatives: It is essential that this regulatory framework has demonstrable impact on its intended outcome. I.e. the abundance of wild salmonids. Currently it is not evident within the proposal how this accountability will be realised. The proposals will impact on production practices ranging from farm development to farming practices. It may have inadvertent negative impacts on rural communities (i.e. impacting developments in the future). It may also impact on the sectors scale of production. This process will become a focal point for activists that will have broader impacts on the sector i.e. consumer behaviour. Therefore, accountability is essential to success. To reiterate, if this framework was implemented and wild salmon stock abundance continued to decline in the regulated zones how can SEPA confirm that the lice abundance is the major causative factor and justify continuing with the regulation. It has the potential to become a real focal point of contention for the sector.</p> <p>With respect to the implementation of such a framework, it is being proposed at a challenging time with the sector reflecting on the recommendations of the Griggs Independent review of the current regulatory framework for Scottish Aquaculture. There should be a cohesive approach to developing and implementing a new state of the art regulatory framework for the sector. To implement the current framework independently brings confusion and potential for subsequent regulatory conflicts which does not cast the sector in a good light in the eyes of the consumers.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>No</p>	<p>Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>		<p>As outlined previously it would be essential that any such approach has the means to account for and differentiate empirically all drivers of wild salmon survivability to be capable of validating the impact of the proposed regulation.</p> <p>Furthermore the validity in the modelling approach would be central to this regulatory framework. If the model is flawed (lacking in appropriate resolution, incorrect assumptions, lack in calibrating data) then the model based regulatory approach can easily be brought into question. Model validity needs to be challenged openly before implementation.</p> <p>The ultimate positive outcome is a demonstrable increase in wild salmonid abundance that can be definitively linked to the regulation put in place. It is not clear how this will be achieved.</p> <p>With respect to the regulatory landscape, this process which evidently needs further development and consultation, should be brought into the wider sector regulatory review to ensure there is a broad and effective framework put in place where all component parts work in synchrony.</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>No</p>	<p>Not sure</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>		
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>The Trust considers that the process for developing the sea lice framework has been inclusive and provided multiple opportunities, for all stakeholders, to contribute towards its development. We consider the information used to develop the model to be the most up-to-date information available, and the adaptive approach built into the framework will allow for any additional data to inform and optimise the framework, whether the data comes from the scientific literature or on-site monitoring. The Trust considers it important that any adaptation to the sea lice framework (or model) is evidence based, and that a well-planned and resourced monitoring plan is essential.</p> <p>The Trust recognises that the proposed sea lice framework focuses on reducing the impact on wild Atlantic salmon, but considers it important that further work is carried out to assess the impact sea lice have on sea trout populations. Further research is required to determine the current health of sea trout populations in Scotland, including a better understanding of their behaviour, home range, and site fidelity, and also the risk sea lice pose.</p> <p>Given the long-term decline of sea trout (Scotland's Marine Assessment 2020) and the important role they play in the life cycle of freshwater pearl mussels (protected under the Wildlife and Countryside Act 1981 (as amended) and the Nature Conservation Act 2004)), the Trust would like to see a commitment to assess the risk sea lice pose to sea trout and the development of a plan/framework to manage that risk.</p> <p>We consider an important step to protecting sea trout from sea lice would be to assess whether sea trout can be integrated into the proposed sea lice framework for Atlantic salmon, or if a separate framework is required that reflects their different behaviour and life cycle. If a separate framework is required, we consider the steps to develop the framework should be actioned in a timely manner.</p> <p>The Scottish Wildlife Trust welcomes this consultation and looks forward to engaging in further discussions and consultations on its implementation and the development of an associated monitoring plan.</p>	<p>A balance needs to be struck between protecting wild salmonids while also ensuring the sustainable development of the Aquaculture industry. Reform of regulation needs to be proportionate to the demonstrable impact. i.e. where are the check and balances in this process to demonstrate that impacts on the industry are to the positive outcome of protection of wild salmon stocks?</p>

Respondent Number	35
What is your name? - Name	[REDACTED]
What is your email address? - Email	[REDACTED]
What is your organisation? (if applicable) - Organisation	Crown Estate Scotland
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Not Answered
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not Answered
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	
Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information	The area-based approach to managing risks posed by fish farms to wild salmon populations should over time facilitate localised determination of sea lice exposure thresholds appropriate to the local farm presence and wild fish population dynamics. Measures to collect locally relevant scientific data to enable this should be included and used to implement necessary refinements.

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>Crown Estate Scotland would like to be a member of the technical advisory group. Decisions made around this framework may influence how seabed leases for finfish developments are granted and there may be opportunities for Crown Estate Scotland to complement the work being done through this spatial tool. Generally, Crown Estate Scotland is keen to understand and contribute to the implementation of the proposed framework.</p> <p>It is assumed that this framework will be kept under periodic review and we are keen to be involved with any review process.</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Yes</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>Crown Estate Scotland has worked with Fisheries Management Scotland to develop a monitoring protocol for the assessment of sea lice levels on wild fish using fyke nets. This offers a more flexible monitoring method for assessing infestation on wild fish, often using sea trout as a proxy for wild salmon, noting that sea trout are a receptor in their own right that should also be monitored and that fyke nets can also be used to do this. Fyke nets are easy to install, cost effective and can be used in a variety of locations. Rights to install them can be added to existing Crown Estate Scotland leases as ancillary equipment, free of charge.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>The most effective way of assessing compliance is likely to be auditable reporting of the number of sea lice on both farmed fish and wild fish at selected monitoring locations, using an agreed protocol, during the high-risk period (April-May). Other methods such as surveillance monitoring points downstream of farms to monitor sea lice on wild fish may also serve as an efficient way of assessing compliance, if deemed appropriate.</p> <p>The industry should be encouraged, if not required, to undertake monitoring of lice levels on wild fish at identified locations within protection zones/management areas. SEPA will need to consider whether there is a need for additional infrastructure or to rely on industry monitoring. We would suggest that independent verification of monitoring should be considered.</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>The monitoring of sea lice on wild fish is a complex issue but necessary as real data is needed to help validate any assumptions and to understand what is happening in the environment. The monitoring plan should therefore include monitoring of sea lice on wild fish to properly understand the interaction between farmed and wild stock in relation to sea lice. Consideration should be given to the need for strategic monitoring of sea lice on wild fish upstream, downstream, and next to farm sites.</p> <p>This monitoring could be used to help validate sea lice dispersal models as well as develop evidence of the nature and prevalence of impacts of sea lice on wild fish. This should be undertaken on an area-based platform, as referred to. Identification of discrete areas or zones where farms can be identified as having a clear effect on lice levels seen on locally sampled wild fish will be integral to enabling mitigation where this is required.</p> <p>Effective review and transparent reporting are necessary to instil confidence in the science and ensure compliance with the measures introduced. We would recommend consideration of 'built in' mitigation measures to be adopted in the event of any inability to meet prescribed thresholds that can serve to test the validity and continued use of these thresholds.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not Answered</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>If not already done, investigate and review the use of established monitoring points and data from the various fisheries boards and trusts as a long-term data set that would give an indication of baseline monitoring results for the numbers of sea lice on wild fish.</p> <p>Establish a monitoring network to gather field data for assessing the risk to wild fish from sea lice. Correlate data from farm fish sea lice levels with wild fish sea lice levels to understand effects.</p> <p>The map given in the consultation document shows the shortest path to sea but it is unclear whether this is the actual route the wild fish take? Data collected from the smolt tracking project - https://atlanticsalmontrust.org/our-work/the-west-coast-tracking-project/ - on wild salmon migratory routes should be used to verify this map.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Not Answered</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>The effects could be both positive and negative. The framework is a major step in offering protection to wild fish populations from farmed fish and associated sea lice. Depending on how the industry manage change, there may be a need to support the industry to relocate sites or investigate further site swaps.</p> <p>There is potential to impact revenues that are received from finfish production that are fed back to local authorities via the Scottish Government Consolidation fund. For example, reducing biomass (fish) on site is a an option for managing risks from sealice. However harvesting sites at less than optimum yield could mean reduced rents to the public purse.</p> <p>It's not clear at the moment what the risk framework is going to mean and what strategy the industry is going to adopt to deal with the changes being introduced.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>The new data that is available both through this framework and from sea lice dispersal models should be used to reassess current farm management area maps as shown in the Code of Good Practice Code of Good Practice Salmon Scotland. The purpose of these farm management areas is to manage the cumulative impacts from the finfish industry at an appropriate area scale, rather than on a site-by-site basis. These areas were delineated in 2015 and should be reassessed given new data available to ensure they are fit for purpose. Synchronised fallowing and coordinated medicine use across an area allows for the sea lice population to be managed and not cause sea lice displacement to another site(s). Once a site is treated for sea lice, there is a risk that sea lice will travel to another site, unless a coordinated approach is taken. A coordinated approach across a relevant scale management area will lead to a reduction in the need to treat for sea lice and in turn reduce discharges of medicine or bath treatment residues to the environment. Managing areas and not individual sites for disease and sea lice risk is a logical and efficient way of reducing negative impacts to the environment, whilst maximising productivity. Managing areas in this way is key to the industry becoming truly sustainable.</p> <p>Establishing area management zones where finfish farms are present in Scotland and facilitating management agreements will compliment efforts to reduce cumulative impacts from farms on other activities such as shellfish sites (impacts from medicine use). Farmed fish will still need to be treated for sea lice infestation regardless of whether they sit within a salmon protection zone, for fish welfare reasons. The management of areas for finfish production in this way will offer opportunity to go over and above addressing the high-risk areas identified for wild fish and will encourage optimal use of resources and minimise discharges across Scotland's marine environment where finfish developments are present.</p> <p>Without clarity on which farms do or are likely to contribute to cumulative pressures within individual protection zones, and measures to mitigate these agreed by the relevant operators, the aims of the framework may be much harder to achieve.</p> <p>Farm management agreements are not a legal requirement as the legislation also allows for a farm statement as defined in the Aquaculture & Fisheries Act 2007.</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>Not Answered</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	

Respondent Number	36
What is your name? - Name	Loch Duart Ltd
What is your email address? - Email	[REDACTED]
What is your organisation? (if applicable) - Organisation	Loch Duart Ltd - salmon producer (marine & freshwater farms and processing)
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	<p>Not enough is known about wild salmon post-smolt migration routes to be able to identify protection zones with great certainty. The approach of identifying zones from Salmon Conservation Regulations River Mouths appears a reasonable one, as these are areas known to be important to the post-smolt phase of the wild salmon lifecycle. We do however strongly believe that a whole-lifecycle approach must be taken. Other pressures and locations – most fundamentally those impacting the freshwater reproductive stage underpinning the production of post-smolts – should be identified so activities within those areas can be managed. These recognised high-level pressures are as follows: exploitation, predation / competition, fish health, genetic introgression, invasive non-native species, water quality, water quantity, thermal habitat, instream habitat, riparian habitat, barriers to migration, coastal & marine.</p> <p>We also note that large areas of protection zone - according to the criteria cited in the framework proposal - exist around the north and east coasts of Scotland, which have been excluded simply because they are remote from aquaculture activity in areas where there is a presumption against marine finfish development. These areas equate to a protective zone already being in place for approximately 80% of Scotland's wild salmon population, throwing into question the need for the proposed framework. These extensive protection areas, along with wider considerations to encompass all pressures in all habitats, should be included in any wild salmon framework to ensure that a comprehensive assessment of pressures is made and proportionate, prioritised and effective actions identified.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Yes
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	<p>As raised during consultation engagement with SEPA 22/02/22 we have identified two areas which appear to be anomalies within the stated methodology for identifying protection zones – Sound of Harris and Bagh nam Faollean. The query could not be resolved at the time and we were advised to raise formally in our consultation response. A.8 within the consultation document states that the area within a 5km radius of each river mouth will be considered a protection zone where rivers enter the sea on open coastline. The Sound of Harris protection zone originates from a single river mouth on the south shore of Harris (Loch Steisavat system, MS River ID 92); this watercourse initially enters a small waterbody, The Obbe, and then the wider Sound of Harris. It is therefore not clear why the whole Sound of Harris waterbody, consisting of 139km² of open coastal waters, has been classed as a protection zone rather than a 5km radius from the river mouth or at most the point where the more constrained Obbe waterbody enters open coastline. This would be consistent with the stated methodology and indeed the protection zones immediately adjacent to the west of Sound of Harris (North Uist, North, MS River IDs 6 & 89).</p> <p>Similarly, Bagh nam Faollean protection zone originates from a single river mouth, the Loch Bi system (MS River ID 79). This is located to the far west of the Bagh nam Faollean waterbody. In parity with the MS River IDs 6 & 89 examples above, it would appear this protection zone should consist of a 5km radius from the river mouth rather than the whole Bagh nam Faollean waterbody, the majority of which lies to the east of the South Ford causeway. Furthermore, the post-smolt swim path does not indicate passage from west to east. As such it is suggested that inclusion of the entire Bagh nam Faollean waterbody as a protection zone is not consistent or appropriate.</p> <p>Stepping back from the detail of individual proposed protection zones, we are concerned about the principle of including freshwater pearl mussel SAC / SSSI designations in any framework. While we understand from A.5(b) of the consultation document that SACs / SSSIs where mussels are dependent on trout rather than salmon are not included, as confirmed by SEPA during discussions 22/02/22, the inclusion of freshwater pearl mussel (FWPM) designations at all appears inconsistent for a framework focussed on wild salmon. In discussion with SEPA 22/02/22 we asked what the rationale for including FWPM was, and no clear reasoning was provided. As an operator with several farms adjacent to FWPM interests we are participating in monitoring and management schemes to mitigate risk to the FWPM populations and better understand potential interactions. This work is relatively newly established (2020) in relation to areas which have been farmed for decades - indicative that there is no catastrophic impact on host salmonids of the FWPM from aquaculture activity - and is work we believe should be continued. The inclusion of FWPM designations in the proposed framework complicates, duplicates and potentially disrupts this already established process.</p>

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>As stated in point B.6 of the consultation document, the proposed exposure threshold has been derived from Norwegian studies. While the models behind these studies may be impressively advanced, for example taking into account the impact of salinity on larval lice behaviour, they are inherently tied to the specific study locations they were developed around. The Sandvik et al. (2020) study from which we understand the 0.7 sea lice-days m⁻² has been derived specifically focusses on the Hardangerfjord system, with the model being calibrated by on-fish lice levels from sentinel cages. With the threshold therefore being specific to this system, we question the validity of applying it directly to Scottish coastal waters as proposed by the draft framework.</p> <p>We also note the significant impact of selected values – such as sea lice exposure level, smolt swimming speed, lice infection efficacy etc – set as thresholds or assumed values within a system such as the proposed framework. As proposed a small number of figures underpin the whole output of the framework, and small changes in value would have a great impact on output; as such it is essential that these values are robustly defined. As recommended by the Evaluation Committee in their December 2021 evaluation of the Norwegian Traffic Light System, undertaking appropriate sensitivity analysis and identifying, quantifying and recognising sources of uncertainty is essential for any framework such as the proposed. It is also fundamental, as per Griggs' February 2022 report, that all scientific evidence be subject to independent scrutiny, and as noted by the Evaluation Committee that a clear process be in place for the inclusion of expert judgement.</p> <p>Finally, we query the detail of Table B1 of the consultation document. Point B.3 states studies to have indicated that above 0.1 mobile sea lice per gram of host fish stress-related effects and impaired swimming ability can occur. Applying this conservatively would mean up to 0.099 lice per gram, equating to 1.98 lice per 20g post-smolt. Table B1 however states 1.0 lice per fish, which appears inconsistent with the facts stated in B.3. We would also like to better understand the link between this mobile sea lice level and the 0.7 sea lice-days m⁻², for example how is infection efficacy of larvae which encounter a host fish taken into account, which studies have shown ranges from 50 – 70%.</p>
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>First and foremost any progression of the framework needs to be within the context of recommendations from the Griggs report (February 2022), aligned with Scottish Government's Aquaculture Vision and following reviewed consenting arrangements for the finfish sector.</p> <p>For future developments in this area, the finfish aquaculture sector – operators, industry bodies and associated groups with fish health and environmental modelling functions - should be central. Relevant regulators, such as Marine Scotland Fish Health Inspectorate and Marine Scotland Science, would also clearly be involved.</p> <p>While it is appreciated that other stakeholders such as fisheries managers will have a strong interest in working arrangements for any framework, their role in relation to the twelve identified pressures on wild salmonids must be recognised and appropriateness of their involvement be considered. Just as the aquaculture sector may have a vested interest in what happens in freshwater habitats for reasons of wild fish conservation to which they have commitment (for example via EMPs), they would not expect to sit in a forum developing the detail of how fisheries and land are managed as this is neither their direct remit nor area of expertise. Dialogue and cooperation between interests and potential pressures is of course important given the shared nature of the aquatic environment, however it is important that in developing the detail of any regulatory system the appropriate, contributing parties in terms of regulators and sector expertise be prioritised.</p>
<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Yes</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>As a finfish operator we have significant experience in fish production and sea lice management relevant to the development of any future framework. We work closely with third-party modelling specialists (currently undertaking NewDepomod and hydrodynamic modelling work). We also have established relationships with wild fish stakeholders through existing agreements and experience of developing and implementing monitoring plans.</p>

<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>As for all regulatory programmes and compliance assessment schemes it is important that any future framework does not result in duplication of other regimes. Specifically in this instance Marine Scotland Fish Health Inspectorate functions, Fish Farming Businesses (Reporting) (Scotland) Order 2020 & Aquaculture & Fisheries (Scotland) Act 2007 and Scottish Government's sea lice policy (reporting and enforcement). To this end, and as per our response to question 9, any framework and accompanying compliance assessment must be developed within the context of Grigg's report. As well as avoiding duplication, it is key that any framework be appropriately resourced in order that compliance can effectively be assessed; as well as staffing, the proposed framework as it stands would require significant knowledge development for SEPA as an entirely new area of responsibility. Alongside the more familiar aspects of the framework – modelling, data handling, returns - additional elements to site and record inspections would need to be covered. This would require knowledge of fish health monitoring for involved parties, and a sound understanding of wider fish health management. While sea lice are the central focus of the proposed framework, sea lice management is not an isolated topic and sits within an often complex fish health context.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Yes</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>As an operator currently involved in Environmental Monitoring Plans (EMPs) for existing operations we can provide some thoughts.</p> <p>Our current EMPs are focussed on freshwater pearl mussels (FWPM) within SAC / SSSI designations. While the EMPs include reporting of sea lice mitigation & management plans and on-farm sea lice levels, the ultimate measure to determine whether FWPM populations are at risk is the density of juvenile salmonids within the relevant freshwater system, on which FWPM are dependent for recruitment. This is tracked on an annual basis through juvenile surveys, and while short-term fluctuations in fry/parr numbers are likely, any trend of long-term decline would represent a threat to FWPM reproductive success. The EMPs aim to examine the likelihood that a decline in juvenile salmonids is linked to sea lice infection pressure through annual coastal netting programmes which monitor sea lice levels on wild fish. These results can then be considered in the context of sea lice management at the farm, with adaptation to farm practice for future cycles if necessary.</p> <p>In parity with the above it would seem a logical form of monitoring for the proposed framework would be sea lice levels on wild salmon post-smolt in appropriate locations. This information would need to be viewed in the context of sea lice levels from potentially associated farms, to evaluate the likelihood of a connection. However, while this type of monitoring is undertaken in other countries, we appreciate the significant practical difficulties of such a programme as well as the potential additional pressure to wild fish during a key stage. An alternative could be to look at planktonic lice levels at appropriate locations, although being a step removed from 'lice on fish' factors relevant to settlement success would need to be taken into account. Certainly monitoring of wild salmon numbers in a freshwater setting would not be appropriate as many other factors such as feed resources at sea, predation, fishing pressure and freshwater habitat will play a role and their relevant impacts would not be distinguishable.</p> <p>Taking a step back from the framework proposal as it stands, it is essential to consider the wider context. As per our response to question 5 the protection zones already in place around the north and east coasts should be taken into consideration. In the context of sea lice as a pressure this would afford establishment of a baseline, allowing comparison to farming areas rather than simply singling out specific aquaculture regions with nothing to reference against. Wider still, and again as per our response to question 5, we strongly believe that a whole-lifecycle and Scotland-wide approach needs to be taken in any framework and therefore any monitoring programme. While a complex, ambitious, multi-sector undertaking, we feel this is the only way that proportionate and effective conservation actions can be properly identified and their impact measured across all of Scotland for both freshwater and marine stages of the salmon cycle.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Yes</p>

<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>As a finfish operator we will, like any business, be seeking improvement and development of sites and so will be affected by the framework as currently proposed. It seems a given that as the responsible party for sites included in any future framework we would be involved in the resultant effectiveness monitoring programme, with delivery of such involving provision of information from our operations.</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>As per our response to question 5 we strongly suggest that a whole-lifecycle approach needs to be taken for any framework aiming to protect wild salmon. We accept sea lice interactions pose one risk, yet a further 11 pressures exist which may well outweigh potential sea lice interactions, for example barriers to migration and sub-optimal freshwater conditions (habitat condition and human activity) which will disrupt the reproductive success of wild salmon. Such factors need to be prioritised within any framework such that actions required of various stakeholders are proportionate and effective; this lifecycle or system-wide assessment and resultant management plan should be regularly reviewed to adapt to changes within the catchment.</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a negative way</p>

<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>The proposed framework in its current format would have a significant negative impact on our business and communities in fragile rural areas (Highlands & Islands) by affecting development. This is contrary to objectives stated within the consultation document itself of supporting human health & wellbeing and achieving sustainable economic growth. It is also contrary to Scotland's National Strategy for Economic Transformation (Scottish Government, March 2022), which sets out the vision for Scotland's future including being the best place to grow a business, with opportunity distributed fairly across all geographical regions. Directly at odds with this Strategy for the coming 'decisive decade' the proposed framework would cripple an innovative industry, part of Scotland's key food & drink heritage and export success, which contributes to rural economic wellbeing, healthful food production and innovation in key areas such as the circular economy.</p> <p>In addition to this principal issue, the purpose and scope of the framework is not clear in the consultation document. Wording of points 1.5, 6.2 and C. 14 suggests the framework is proposed to cover all farming sites interacting with the identified protection zones. In discussion with SEPA 22/02/22 it was stated that the basis of the framework is 'no deterioration in status' and therefore the intended application is to new developments located such that they will potentially interact with protection zones. It was stated that in the longer term, 5yrs+, existing operations within protection zones would be brought into the system with baseline conditions being added into permits. This lack of clarity around the fundamentals of where, when and how the framework would be applied needs to be addressed as it creates uncertainty and confusion which is directly detrimental to businesses, influencing future development plans and investor confidence, and is potentially damaging to relations with other stakeholders. It is also a reality that, while confirmed by SEPA it should not be the case, proposals from the framework will be referenced by other official bodies, stakeholders and detractors in commenting on current development proposals. This creates loss of confidence by businesses and investors and escalates tensions in site development processes.</p> <p>In terms of implementation, with the proposed framework focussed on new developments there would be inevitable impact on growth potential for our business. As a relatively small producer with farming operations across two regions – Highland and Western Isles – we are set to be disproportionately affected by the proposed framework. As the proposal stands all of our Western Isles farms and 60% of our Highland locations are within identified protection zones. As well as significantly constraining future development of these existing sites and restricting the siting of new farms within our operational areas, we would also be disproportionately burdened by increased development demands associated with the framework. As per our response to question 11 we do not have in-house modelling capability, and the availability and cost of such expertise is a significant consideration for smaller operators such as ourselves.</p> <p>We would like to note that as confirmed by SEPA 22/02/22 there has been no form of socio-economic impact assessment undertaken in the development of the framework to date. For a proposal with such impact on a key Scottish industry, particularly relevant to fragile rural communities, it is paramount this be completed as is understood to be a requirement under CAR. We do appreciate that as the proposal stands there is much detail to be determined and this detail is required to allow a thorough assessment of potential impacts; however, we are concerned that much focus will be on creating the detail and then socio-economic assessment will be completed before swiftly moving to implementation. For any future progression of the framework, within the context of regulatory review, we urge that following in-depth and consulted socio-economic assessment a 'gateway review' - as cited by SEPA 22/02/22 - be undertaken, with reversion in the process to redefine aspects of the framework should the socio-economic assessment raise concerns.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p style="text-align: center;">Yes</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>First and foremost the principle of the framework must be considered in the context of recommendations from Griggs' Review of Aquaculture Regulatory Process in Scotland published by Scottish Government in February 2022. Key comments and recommendations from this report include:</p> <ul style="list-style-type: none"> • Scottish Government to set and own its policy in relation to the industry, developed from a Vision for Aquaculture in Scotland • A 10-year framework for the finfish sector to be created, with corresponding review of the regulatory and consenting process to follow <ul style="list-style-type: none"> • Independent review of science and evidence to ensure it is best available and up to date • Creation of a central science and evidence base to inform regulatory decision processes • Action on the above to take place within the next 12 months <p>As such it would seem appropriate that work on the framework subject of this consultation be paused and future progression be aligned with the wider-scale review recommended, as supported in principle by the Cabinet Secretary for Rural Affairs and Islands.</p> <p>As a very minimum the next stage of any process in relation to this consultation needs to clearly set out the intended scope of the framework as conveyed to us by SEPA 22/02/22 i.e. applying to development rather than existing operations. Clear communication is also needed from SEPA with regards to the draft status of the framework to prevent its misuse during consideration of current development proposals.</p> <p>As per our response to question 18 a full socio-economic impact assessment also needs to be undertaken. In order to enable this to take place we understand that more detail of any framework would need to be drafted, and this should be completed in close consultation with finfish operators.</p>

<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p style="text-align: center;">Yes</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>As per our response to questions 5 & 17 we strongly suggest that a life-cycle approach be taken for any framework aiming to protect wild salmon. This should include the further 11 pressures identified by Scottish Government, and could include barriers to migration and sub-optimal freshwater conditions (habitat condition and human activity) which are disrupters to wild salmon reproductive success.</p> <p>We would also like to see consideration of wider mitigation actions, which take into account a whole-system approach to wild salmon conservation. For example removal of barriers to migration or restoration of freshwater habitat to support breeding and juvenile recruitment. Such 'offsetting' measures could be considered particularly appropriate as pressures elsewhere in the aquatic system may be having greater, more fundamental impacts on wild salmon populations than sea lice risk in coastal waters. In a risk-based approach it is fundamental that these wider issues be identified, assessed and proportionately addressed so that successful conservation actions can be taken across the piece.</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p style="text-align: center;">Yes.</p> <p>Firstly, we wish to state that we do not support the proposed framework as we have significant concerns regarding the principles and evidence on which it is based. To participate fully in the consultation process we have answered the questions above, but to clarify that does not signify our acceptance of the proposed framework; indeed we find the questions presumptive and leading rather than neutral, and they fail to address the fundamental principles of the framework which should be part of the consultation.</p> <p>As captured elsewhere in our responses, the proposed framework must be considered in the context of recommendations from Griggs' Review of Aquaculture Regulatory Process in Scotland published by Scottish Government in February 2022 and supported in principle by the Cabinet Secretary for Rural Affairs & Islands. It would seem appropriate that work on the proposed framework be paused so that any future progression can be aligned within the wider-scale review of consenting for the finfish sector called for in the report. As the proposal stands we have significant concerns about duplication and further complication of the regulatory system, for example in relation to Fish Health Inspectorate functions, Marine Scotland policy and reporting requirements, and in relation to existing wild fish monitoring programmes and local stakeholder relationships.</p> <p>Of equal importance is the need for a system-wide approach to wild salmon conservation and proportionality in terms of actions being required by various sectors and stakeholders. As the proposal stands the finfish sector is very much being singled out as a focus for action, whereas there are a further 11 recognised pressures influencing wild salmon conservation status. The weighting of each of these pressures needs to be evaluated, at various scales, so that proportionate actions can be agreed. This achieves balance in a socio-economic sense as well as delivering greatest conservation impact. As a sector already contributing significantly to investigation of wild-fish interactions and conservation, the bureaucratic and restrictive nature of the proposed framework is both unjustified and ill-evidenced in terms of proven scale of impact from aquaculture activities.</p> <p>The framework proposal itself appears very early stage, lacking in critical detail and without assessment of impact on a key Scottish sector. The stated context of 'no deterioration' principle and proposed scope in relation to existing sites is simply not clear in the consultation documents.</p> <p>Finally, within the proposal there is huge reliance on modelling and the application of modelling outputs. While we accept the ever-advancing capability of such models – issues of modelling-expertise capacity and accessibility aside - the point remains that the proposed should be a risk-assessment tool rather than a binary process for determining whether development may proceed or not. Models are ultimately just predictive tools, and performance needs to be verified by real world measurements. Unlike NewDepomod and the Allowable Mixing Zone there is no apparent route for real world data to be fed into the proposed process. Furthermore, within the modelling / framework process the influence of individual metrics as assumptions or thresholds is amplified. As pointed out by the Evaluation Committee report for the Norwegian Traffic Light System (December 2021) sensitivity analysis is key and any science used needs to be sufficiently independently scrutinised in order that a framework is fit for purpose.</p> <p style="text-align: center;">In conclusion we feel that the principle, proportionality and detail of the proposed framework requires considerable revision, and that any progression should be in the context of wider regulatory review.</p>

Respondent Number	37	38
What is your name? - Name	██████████	██████████
What is your email address? - Email	████████████████████	████████████████████
What is your organisation? (if applicable) - Organisation	British Trout Association	River Doon District Salmon Fishery Board
Do you think that there are important areas for wild salmon post-smolt migration that we have not identified as wild salmon protection zones? - Q4 radio buttons	No	Yes
If yes, please identify these areas, explaining why they should be protection zones and the evidence to support this. - Q5 text box for information	please see written Response	<p>We understand that smolts emigrating from Ayrshire rivers have never been subject to research. Consequently, the direction these young salmon take and the rate at which they leave the proposed protected zones is unknown. Assumptions have been made that all smolts leave and will swim at the same rate as they head for open seas. The progression speeds of wild salmon post-smolts through the zones cannot safely be assumed at the rates indicated.</p> <p>Research elsewhere indicates a high degree of variability in the rate at which smolts progress to open seas. We reference and adopt the Response to the Consultation by Fisheries Management Scotland</p> <p>Consequently, we submit that it is necessary, adopting the precautionary principle, to extend the protection zones further into the Firth of Clyde, beyond the mouths of the Ayrshire rivers, until more data is available.</p>
Do you think that any of areas we are proposing as wild salmon protection zones should not be so identified? - Q6 radio buttons	Not sure	No
If yes, please identify these areas, explaining why they are not important for wild salmon post-smolt migration and the evidence to support this. - Q7 text box for information	please see written Response	

<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 text box information</p>	<p>please see our written response</p>	<p>We refer to the submission made by Ayrshire Rivers Trust ("ART"), who are the Scientific Advisers to the River Doon DSFB.</p> <p>Not all rivers in Ayrshire have been subjected to smolt migration/emigration research. Therefore, we understand that there is limited data available. However, adopting the precautionary principle, it is a reasonable assumption to make that what happens in one Ayrshire river may happen in all.</p> <p>We understand that, in 2021, ART captured salmon smolts as late as 16 June 2021, in the middle reaches of the River Ayr some 32km upstream of the estuary. We understand this emigration may likely have been delayed due to low water conditions experienced last summer.</p> <p>Whilst one may say that last year's low water conditions were perhaps some of the worst in recent times, due to climate change, we are experiencing increasingly dry springs on the west coast/Ayrshire rivers.</p> <p>In the circumstances, with this clear evidence, whilst we support the submissions made by Fisheries Management Scotland (and adopt the reasoning in their submission) for year round thresholds to be applied, we strongly propose that the proposed sea lice threshold period covering April and May is inadequate.</p> <p>We note that the aquaculture industry's own 'Code of Good Practice' defines the sensitive period for wild salmon as the 1st February to 30th June inclusive. We also believe this is inadequate, as there is demonstrable evidence from ART that smolts continue to emigrate from the Ayrshire coastline throughout June.</p> <p>We agree with ART's submission that, by extending the sensitive period to year-round, this would allow SEPA to set appropriate lice exposure levels/lice thresholds and better enable the industry to achieve compliance year-round.</p> <p>It would also allow post smolts from the southern west coast rivers (which include the River Doon) to migrate beyond northern protection zones safely.</p> <p>There seems little point in setting thresholds that apply only at peak smolt emigration times, when control measures to keep lice levels may be required in the period running up to and beyond the peak period. The principle of this proposition appeared to be accepted by SEPA in the discussions sessions organised by FMS, but we are responding to what is noted in the Consultation document, which provisions are inadequate to protect all wild salmonids i.e. salmon and sea trout.</p> <p>This is especially important, as SEPA appears to have taken a decision to exclude sea trout from these protections, which is contrary to the prevention principle and the UK's commitment to meet the North Atlantic Salmon Conservation Organization (NASCO) goal, namely "100% of farms to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms..."</p>
<p>Do you have any scientific evidence that should be considered to ensure the sea lice exposure threshold is effective in protecting wild salmon populations? This includes any evidence for a refinement of the threshold - Q8 File upload</p>	<p>https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/consultation/download_file?squid=question-2021-11-25-9063656368-filesubquestion&user=ANON-G44V9KEZ-8</p>	<p>Not Answered</p>
<p>Which groups and organisations do you think we should include on technical advisory groups to assist us with the development of the detailed working arrangements and methods needed to implement the framework? - Q9 text box for information</p>	<p>please see our written response ref the Prof Griggs report .</p>	<p>Fisheries Management Scotland and their members, including the District Salmon Fishery Boards, Trusts and others, such as the River Doon District Salmon Fishery Board. Ayrshire Rivers Trust (scientific advisers for a number of the DSFBs on the Ayrshire rivers). The Missing Salmon Alliance. Coastal Communities Network Scotland and their Members. Salmon & Trout Conservation Scotland. Other organisations representing members of the public and their rural communities affected by the impact of aquaculture e.g. angling clubs and organisations etc.</p> <p>We also recognise that representatives of the aquaculture industry should be invited to participate, but it is important that they are not seen to dominate any technical advisory groups, as they clearly have a vested interest in the detailed working arrangements and methods to be adopted to implement the framework. So, for example, we consider it is critical that the regulatory framework has to include frequent unannounced visits/inspections to fish farms, so that robust monitoring can be enforced.</p>

<p>Do you have relevant expertise or experience that you would be happy to share with us during implementation planning to help us develop modelling protocols? - 10 radio buttons</p>	<p>Possibly</p>	<p>Yes</p>
<p>If yes, please tell us about your area of expertise: - Q11 text box for information</p>	<p>please see our written response</p>	<p>Ayrshire Rivers Trust ("ART"), scientific advisers to the River Doon DSFB and a number of other DSFBs for the Ayrshire rivers, has expertise monitoring wild salmonids and extensive experience of netting fish. With their local knowledge of the Ayrshire Coastline, they may be able to contribute to gathering data and monitoring lice on wild salmonids.</p> <p>As a Board, we would support the gathering of relevant data and the monitoring of sea lice on wild salmonids in the Ayrshire rivers, particularly the River Doon.</p> <p>We consider this would be extremely helpful in determining the extent of protection zones to be implemented, in order to protect wild salmonids.</p>
<p>If you would like to be involved, are you happy for us to contact you by the email address you have provided? - Q12 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Do you have any suggestions for how SEPA could most efficiently and effectively assess compliance? - Q13 text box for information</p>	<p>please see our written response</p>	<p>Like the submission from our scientific advisers, Ayrshire Rivers Trust ("ART"), we are unclear from the consultation how SEPA intends to deliver this proposed framework and assess compliance.</p> <p>We strongly submit that reliance on the aquaculture industry to self-regulate would be entirely inappropriate. SEPA must ensure they are able to regulate effectively and take enforcement action at every failure.</p> <p>This should include unannounced visits and inspections by trained SEPA staff. Non-compliance is unacceptable and enforcement action taken in a consistent and transparent manner, without exceptions, by SEPA is critical to protect wild salmonids.</p> <p>We agree with the submissions made by Salmon & Trout Conservation Scotland that, if there are concerns regarding resourcing of such unannounced visits (critical to ensure compliance by the industry), then the industry should bear any such additional costs. If individual farms are found to be in breach of the regulatory regime, then SEPA should use its powers to the fullest - not just to bring the relevant farm into compliance as soon as possible (as the damage may already have been done), but to penalise their non-compliance, if necessary, by withdrawal of their CARs or Licences.</p> <p>We adopt the technical submissions made by ART and Fisheries Management Scotland regarding the importance of all female adult lice being used to determine thresholds, but this must also be supported by unannounced visits and inspections, with absolute thresholds being regulated proactively by SEPA. Again, this must be based on the preventative principle and in accordance with SEPA's regulatory responsibilities across their range of operation.</p>
<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 radio buttons</p>	<p>Not sure</p>	<p>Yes</p>

<p>Do you have any suggestions on how we should develop a monitoring plan to assess the effectiveness of the framework and what it should include? - Q14 text box for information</p>	<p>please see our written response</p>	<p>SEPA should consider using local expertise, independent of the aquaculture sector, to assist with monitoring and data collection. We refer to the technical submissions made by Fisheries Management Scotland and others who have technical expertise in this area.</p> <p>We also adopt the submissions of Ayrshire Rivers Trust that establishing base line data may still be possible within the Firth of Clyde prior to the planned expansion of the aquaculture industry within this area. This provides is an opportunity that has long been ignored by those coordinating sea lice monitoring further north on the west coast.</p> <p>We consider adopting such measures and being transparent in the sharing of data is essential to effectiveness monitoring of the framework; with proactive action being required by SEPA, where non-compliance is encountered.</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 radio buttons</p>	<p>Not sure</p>	<p>Yes</p>
<p>Do you think there are components that should be included in an effectiveness monitoring programme that you would be able to help deliver? - Q15 text box for information</p>	<p>please see our written response</p>	<p>We adopt the submissions made by Ayrshire Rivers Trust ("ART"), who are the scientific advisers to the River Doon DSFB.</p> <p>We understand the Ayrshire coastline has to date, never been included in any sea lice monitoring on sea trout, despite aquaculture facilities operating in relatively close proximity. With the planned expansion of aquaculture in the Firth of Clyde and North Ayrshire, this situation should be addressed and the entire Ayrshire coastline included within any wider monitoring strategies for all wild salmonids.</p> <p>While monitoring sea trout will not provide the same results as monitoring salmon within the marine environment, it may be possible to gather valuable data on lice levels occurring on wild salmonids. These data could be used to assess changes occurring and understand direct relationships between sea lice levels recorded on nearby aquaculture sites and those occurring on wild salmonids within the Firth of Clyde.</p> <p>The framework should be extended to include sea trout as soon as possible. Indeed, we would go far as to adopt the submission of Fisheries Management Scotland, that it is critical that sea trout are included in the monitoring of sea lice from the outset, rather than being effectively 'left behind' as SEPA proposes to develop the framework for Atlantic salmon only at this time.</p> <p>Ayrshire Rivers Trust ("ART") have experience of netting procedures and knowledge of the coastline where netting operations may be possible. This is something that ART may be able to assist with and are keen to do so, subject to available funding being identified and made available.</p>
<p>If you would like to be involved in the development of a monitoring plan, are you happy for us to contact you by the email address you have provided? - Q16 radio buttons</p>	<p>Yes</p>	<p>Yes</p>
<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 radio buttons</p>	<p>Yes</p>	<p>Yes</p>

<p>Are there other types of information that you think could usefully inform the adaptive development of the proposed framework? - Q17 text box for information</p>	<p>please see our written response</p>	<p>We agree with the submission by Ayrshire Rivers Trust (“ART”), scientific advisers to the River Doon DSFB, that a consistent approach to modelling sea lice dispersal should be adopted. We submit this should include adopting requirements that all adult female lice, rather than just gravid female lice, are used to inform the modelling.</p> <p>We also submit that the sea trout should be within the framework as soon as possible, preferably from the outset, as noted and recommended by Fisheries Management Scotland, as they require equal protection, as wild salmonids.</p> <p>As noted elsewhere, due to demonstrable changes in the behaviour of smolts, due to low water conditions caused by climate change, consideration of the impacts affecting different regions needs to be made in real time. Taking this into account when setting lice thresholds seems appropriate, as does extending the period of protection offered by increasing the lice threshold period year-round.</p> <p>We note that the industry and other stakeholders may already have well developed modelling approaches that could be integrated within the framework to allow faster implementation and protection of wild salmonids.</p> <p>However, (as the Fisheries Management Scotland submission concluded), it is the primary responsibility of SEPA (not the aquaculture industry itself) to develop a regulatory framework which “...must deliver on our International Commitments and meet the tests set out in the Salmon Interactions Working Group of being robust, transparent, enforceable and enforced.”</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18a radio buttons</p>	<p>Yes in a negative way</p>	<p>I'm not sure</p>
<p>Do you think the design of the proposed framework, or how it is implemented, could affect your community or business interests? - Q18b text box</p>	<p>please see our written response</p>	<p>Whether the framework has positive or negative effects on business and community interests will depend on how able SEPA, when applying the framework, are at delivering effective regulation and the protection of wild salmonids.</p> <p>Once the aquaculture industry is regulated under the new framework, there is an expectation that wild salmonids (particularly wild Atlantic salmon) are protected.</p> <p>However, in order to make that a reality, SEPA must ensure that it is able to regulate consistently and in a transparent manner, if public confidence in this new approach is to be achieved.</p> <p>We submit that, as noted in the Fisheries Management Scotland submission, in order for the public to have acceptance (in fact, better still, confidence) in the framework, it requires the public to be confident that the regulatory framework will be implemented rigorously.</p> <p>By necessity, we submit that requires to include unannounced visits to fish farms; and proactive action by SEPA, if non-compliance with the regulations is encountered.</p> <p>Our Board considers that the stakes are high, as our priority to conserve species which are widely acknowledged are in crisis.</p> <p>If the necessary protections can be put in place to protect wild salmonids from lice associated impacts, this will benefit the angling sector and rural economies for years to come.</p>
<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19a radio buttons</p>	<p>No</p>	<p>Not sure</p>

<p>Do you have suggestions how any potential negative effects could be reduced or avoided without compromising the environmental protection purpose of the proposed framework? - Q19b text box for information</p>	<p>please see our written response</p>	<p>see above</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20a radio buttons</p>	<p>No</p>	<p>Not sure</p>
<p>Do you have any suggestions how potential positive effects delivered or enhanced without compromising the environmental protection purpose of the proposed framework? - Q20b text box</p>	<p>please see our written response</p>	<p>see above</p>
<p>Do you have any additional feedback on the proposed framework? - Q21 text box for information</p>	<p>please see our written response</p>	<p>The manner in which the questions are framed can lead to somewhat disjointed responses. We trust that SEPA will take on board the relevant points we have raised in our answers, rather than ignoring them as a poor fit to the question in which they are included.</p> <p>We are also arranging to send a unified response to the aquaculture.regulation@sepa.org.uk inbox, which is based primarily on the Response prepared by Fisheries Management Scotland, which our Board supports, but with particular comments as we consider are relevant to the interests of our stakeholders in the River Doon DSFB and to the Ayrshire rivers generally.</p>