SEPA
Strathallan House
Castle Business Park
Stirling
FK9 4TZ

14th Sept. 2023

Dear Ms Bunten,

A detailed response to SEPAs consultation on "*Detailed proposals for a risk-based, spatial framework for managing interaction between sea lice from marine finfish farm developments and wild salmonids in Scotland*" is provided following this letter. However, as part of our response, Salmon Scotland wish to provide an overview of the sectors position with respect to the Sea Lice Risk Framework (SLRF), thereafter proposing a collaborative, scientifically robust way forward, which includes a commitment to support the development of a proportionate and balanced regulatory framework for the protection of wild salmonids.

It is important to clarify the sectors position with respect to the potential impact that sea lice from salmon farms pose to wild salmonid populations. Our position is supported by current scientific understanding. Our sector acknowledges that, in theory, sea lice from farm-raised salmon may pose a potential hazard to wild salmonid populations. This potential hazard is based on biological theory surrounding the population biology of sea lice, as well as that of farmed and wild salmonids. However, whether there is any measured impact, and thereafter the scale of any impact, has not been demonstrated by empirical studies. There is a considerable body of science that investigates components of the theoretical relationship between farm-derived lice and impacts on wild salmonids, but we maintain that, especially within Scotland, there are no studies that demonstrate and quantify a direct impact, nor that separate any impact that might arise from salmon farms, from those of other pressures on wild salmonids. We also note that none of the studies provided as evidence within the SEPA consultation(s), nor within the Marine Directorate's "*Summary of Science*"[1] demonstrate a direct, empirical impact of farm-derived lice on wild salmonid populations in Scotland.

Notwithstanding this, we acknowledge the potential hazard that sea lice from farm-raised salmon may pose to wild salmonid populations, and fully understand our responsibilities to environmental protection. We take these responsibilities very seriously. It is the right thing to do to safeguard the environment, but moreover, our fish, their welfare and our entire business model are dependent on marine and freshwater environments of the highest quality. Regulation is a key part of environmental protection, but it is critical that regulatory controls are balanced and proportionate, are not overly precautionary, are based on robust and relevant science and, where possible, support economic development. SEPA's current proposal for a SLRF does not meet core principles and objectives of better regulation practice.

In addition to the lack of underpinning science relating to impact, it is apparent from the consultation and engagement meetings with SEPA and Marine Directorate modellers, that the current modelling framework is far from adequate for the detailed assessment of risk arising from farms. The current approach developed by SEPA provides an initial risk screening process, which is highly precautionary and, as stated by SEPA modellers, assesses lice at levels that are likely

[1] https://www.gov.scot/publications/summary-of-information-relating-to-impacts-of-salmon-lice-from-fish-farms-on-wild-scottish-sea-trout-and-salmon/

to be 4 to 5 times higher than those experienced in a “real world” situation. The consultation explains that following this initial screening, any application for a new farm or a farm expansion, within a higher risk area, must be supported by detailed modelling. But detailed models are currently not available, and it is acknowledged by all that significant work, over at least 4 to 5 years, will be required to develop current models such that they can be used, reliably, for detailed farm risk assessment.

We also note that the proposed measures to assess the effectiveness of the model and framework are wholly inadequate, focusing more on assessing compliance with licence conditions, than determining, with reliability, that the framework is protecting wild salmonids.

Finally, we must note the potential impact the framework will have on the health and welfare of farmed fish. Although we understand the proposed framework will not explicitly instruct farmers to treat fish against lice, in practical terms the SLRF will undoubtedly lead to an increased number of treatments with medicinal and physical controls. This will lead to impacts on farmed fish health, welfare and survival, and will introduce an unnecessary conflict with existing legislation that is set to protect farmed fish health and welfare. Further detail on this is provided in our detailed response, which follows this letter.

This all leads to the conclusion that the proposed model and framework are not suitable for implementation in a regulatory context.

Against this backdrop, our sector wishes to propose the following as a pragmatic and collaborative way forward:

1. **Model development**

Throughout the development of SLRF our sector has been clear, that we support the development of a properly constructed, tested, and validated model that accurately assesses the risks that might arise from the activities of Scotland’s salmon farms. The model must be properly developed using the best science and must thereafter be tested and validated over a suitable timeframe, prior to implementation. We maintain that the currently proposed approach has been rushed to meet political objectives, rather than to provide scientific rigour around regulatory decision making.

We therefore propose that the best way forward is a collaborative programme of work to develop a robust, validated model to assess the risks that might arise from salmon farms. This should be delivered through appropriately scaled pilot studies, with suitable model development, relevant data collection, and with model validation and calibration. Model development should be afforded the necessary time. From engagement with SEPA modellers we anticipate such work would take c. 4-5 years. However, crucially, this proposed model development must take place before implementation of the framework in a regulatory context. Model development after implementation will lead to unnecessary confusion and delays within an already complex farm consenting system.

We propose a Memorandum of Understanding (MoU) between SEPA, Marine Directorate and the salmon farming sector as a formal mechanism to manage this programme of work.

2. **Data**

The salmon farming sector understand that the development of a robust and validated modelling framework will require high quality data. This may include data relating to lice management on farms. We do not, however, believe that the development of a robust modelling framework requires data from all farms, noting that farm-level lice data has been published and in the public domain since 2018. Any data should focus on the proposed pilot studies (see point 1. above), as these are the mechanism through which a detailed and robust modelling framework will be developed.

We are committed to providing data on this basis, and, again, suggest that the provision of data should be managed through the proposed MoU.

3. Lice management in 2024

We strongly believe our sector's existing commitments and controls around lice management, including during spring, provide sufficient protection for wild salmonids. Excellent lice control can be evidenced from data that has been published since 2018. However, we understand from engagement with SEPA that they wish to ensure precautionary protection of wild salmonids during the coming (2024) season. Our sector is therefore willing to discuss, with SEPA, appropriate controls for those farms (or farm areas) where SEPA have evidence to suggest that current lice management strategies are not sufficient to provide protection during the 2024 salmon smolt migratory season. Such discussions should be on a farm-by-farm basis and should be supported by relevant farm management and wild salmonid stock data. Any subsequent commitments surrounding lice management must be cognisant of the legal responsibilities our members have, to protect the health and welfare of their fish.

The proposals outlined in this letter will require further discussion with SEPA and the Marine Directorate. But it is our firm belief that the development of a suitably robust SLRF must be completed through a collaborative approach which focuses on the delivery of a validated model, tested through piloting in a suitable location(s). Moving forward with the current, inaccurate, and over precautionary model would be premature, and would be open to both scientific and legal challenge.

We look forward to your consideration of our proposal.

Yours sincerely

Consultation Response

Salmon Scotland

Detailed proposals for a risk-based, spatial framework for managing interaction between sea lice from marine finfish farm developments and wild salmonids in Scotland

Executive summary

Salmon Scotland is the trade body representing the Scottish salmon farming sector. Our response to Scottish Government's consultation represents the views of the entire sector. Our full, detailed response follows this summary. It includes the following key points (provided in the order they appear within our response):

- ***We support the development of a properly constructed, tested, and validated model that accurately assesses the risks that might arise from the activities of Scotland's salmon farms.***
- ***We must state from the outset that we do not support the current proposal for a SLRF, as presented in the consultation document.***
- ***SEPA have failed to demonstrate risk of significant environmental harm to wild salmonids, arising from the activities of salmon farms.***
- ***We believe the only way forward is for a collaborative programme of work, to establish models that accurately and proportionately assess the risk that might arise from farming activities.***
- ***The models currently presented are insufficient to accurately assess the risks that might arise from salmon farms, in particular to a level suitable for farm consenting.***
- ***The proposed framework makes no consideration for farmed fish health, welfare and survival, and introduces a legal conflict where there is not one at present.***
- ***The modelling framework should be based on the assessment of gravid lice and not adult females.***
- ***We do not support the proposal to require salmon farmers to use automated lice counting technology.***
- ***We do not support any change to the current lice counting protocol adopted by Scottish salmon farmers.***
- ***The proposed model and overall framework includes numerous inputs that have not been fully explained or justified.***
- ***We urgently require SEPA to lead engagement with the salmon farming sector and local authorities to understand the implications of the SLRF proposals on planning obligations.***
- ***We do not believe there is any justification to base the regulatory controls for medium risk farms on controls set for the protection of farmed fish health, by FHI.***

- ***We believe there needs to be a wider discussion to establish statutory commitments, to ensure SEPA are meeting acceptable timeframes for the pre-application process.***
- ***SEPA should articulate why they need details of the measures a farmer will have to manage lice and how they will assess that information in relation to a CAR licence application.***
- ***SEPA need to clearly articulate what they consider as the lowest permissible lice limit for applications on farms in high-risk areas.***
- ***We strongly object to farms receiving a non-compliance for scenario's where, for legitimate reasons, is has not be possible to undertake a weekly lice count.***
- ***SEPA should clarify why they are proposing to undertake inspections for controls that are not specifically included within a CAR licence.***
- ***We have significant concerns with the proposals for environmental monitoring.***
- ***SEPAs assessment of the potential implications of SLRF falls short of expectation.***
- ***Further development of a dedicated SLRF for sea trout and for the Northern Isles should be delayed until a robust framework for the protection of wild Atlantic salmon has been developed.***
- ***SEPAs current timeframes for the development of the SLRF, and for its implementation are unrealistic and not achievable.***

1. Introduction

The process to develop a Sea Lice Risk Framework (SLRF) started in 2019 when SEPA and Marine Directorate (MarDir) first introduced their thinking around the development of a spatially adaptive framework to protect wild salmonids from the potential risks that might arise from salmon farms. Throughout this process, the salmon farming sector has been clear in its position, that ***we support the development of a properly constructed, tested, and validated model that accurately assesses the risks that might arise from the activities of Scotland's salmon farms***. Furthermore, we have committed to support SEPA and MarDir in the development of such a model, through a collaborative programme of work and through properly constructed pilot studies, which gather and use the most appropriate data, managed through an agreed Memorandum of Understanding (MoU). Our proposal to SEPA and MarDir is articulated in the cover letter that forms part of our consultation response.

SEPA aspire to introduce the framework "*from the end of 2023*". It is clear from the consultation document that there is considerable work still required to build a robust framework that will accurately and proportionately assess farms through to licencing, far more than can be achieved before the end of 2023. It is our firm belief that this framework is being rushed to meet political motivations rather than to provide something that based on robust science and evidence. This further supports our concern, that the implementation of SEPAs ill-defined proposals is a *fait accompli*.

Our consultation response will not consider the minutiae of the consultation document but will focus on the key issues we have identified, and those which further

evidence the need for the more appropriate way forward, as we have proposed in our cover letter. However, in considering the consultation document in its entirety, ***we must state from the outset that we do not support the current proposal for a SLRF, as presented in the consultation document***.

Herein, we provide our response to the key issues identified from the consultation document.

2. Demonstration of significant harm and proportionality

SEPA have failed to demonstrate risk of significant environmental harm to wild salmonids, arising from the activities of salmon farms.

The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) apply to any activity which has or is likely to have a significant adverse impact on the water environment. SEPA have failed to clearly articulate how they have assessed the risk that may be posed from farm-derived sea lice on wild salmonid populations, and how they have thereafter deemed that it has the potential to lead to significant environmental harm. Such an assessment must have taken place prior to the development of the framework. When challenged on this matter, SEPA have often cited an instruction to implement the framework from Scottish Government, rather than providing their own, independent assessment of need, with one official going so far as to state "*The question about whether there is science to evidence a risk is not a question for SEPA*"[2]. This is a worrying admission for a regulator who has responsibility for safeguarding the environment according to legal provisions. Furthermore, and as we articulated in our response to SEPA's first consultation, the consultation misrepresents the science in this area, and overstates the evidence of impact, in particular, in Scotland. By way of an example, the consultation (and first consultation) cites studies from Ireland and Norway (P6) as evidence of impact from salmon farms when those studies did not assess the relationship to fish farms.

We maintain that there are no studies that demonstrate and quantify a direct impact arising from the activities of salmon farms in Scotland, nor that separate any impact that might arise from those of other pressures on wild salmonids. We also note that none of the studies provided as evidence within the SEPA consultation(s), nor within the MarDir's "Summary of Science"[3] demonstrate a direct, empirical impact of farm-derived lice on wild salmonid populations in Scotland.

Any risk assessment framework must, therefore, be balanced and proportionate to the risks that might be posed from salmon farms. SEPAs proposals outline, in particular, screening models for the initial assessment of risk. These are, by SEPA's own admission, highly precautionary, with the models over estimating sea lice by as much as 4-5 times that which may occur in real world situations. This does not, therefore, provide a proportionate assessment of risk.

In conclusion, ***we believe the only way forward is for a collaborative programme of work, to establish models that accurately and proportionately***

[2] SEPA Engagement session: lice thresholds, 1st Feb. 2023

[3] https://www.gov.scot/publications/summary-of-information-relating-to-impacts-of-salmon-lice-from-fish-farms-on-wild-scottish-sea-trout-and-salmon/

assess the risk that might arise from farming activities. Such a programme of work must occur **before** any implementation of a framework, which is currently based on a flawed assessment of risk.

3. Models

The models currently presented are insufficient to accurately assess the risks that might arise from salmon farms, in particular to a level suitable for farm consenting.

The consultation is introduced as "*Detailed proposals for a risk-based, spatial framework for managing interaction between sea lice from marine finfish farm developments and wild salmonids in Scotland"*. However, the modelling proposals presented are far from detailed and only describe an approach to initial screening of farms. They do not describe the approach to detailed modelling that will be necessary to consent farms that are identified, from screening, as requiring further modelling. Indeed, the proposals also make it clear that the initial framework for screening farms is incomplete, with virtual smolt tracking models completed for just two of the Wild Salmon Protection Zones (WSPZ). Again, this demonstrates that SEPAs proposals are being rushed and have not been afforded the necessary time to be properly developed, before being presented for consultation. Given the early presentation of this incomplete screening approach, it is possible that the farms and areas that have been identified as a concern are not those where attention should be placed. This has, as a result, led to misplaced expectation from stakeholders surrounding where the greatest concerns lie.

During engagement sessions with SEPA, including with SEPA modellers, it has become apparent that the necessary work to develop and calibrate detailed models for full farm consenting will take at least 4 to 5 years. As a consequence, SEPA modellers are seeking to establish an "interim" approach, which is yet to be defined. This raises a number of key concerns:

- In the absence of a complete screening system, it is unclear whether the farms and areas identified as "high risk" are indeed those that will require more detailed modelling to support farm development. We would also note that current screening has assumed that all active licences are operational and stocked at any one time, scenario's that would not occur, and thus further questioning the reliability of the initial screening process used.
- Prior to the development of the more detailed modelling framework (or an interim "fix"), it is likely that farm developments will have to be put on hold pending the development of a suitable licencing approach, unnecessarily delaying farm and sector development.
- The deployment of an interim "fix" for detailed modelling will lead to farms being licenced sub optimally, thus requiring further development work when the comprehensive system is finally developed.

We firmly believe it is unacceptable to deploy, across our sector, a regulatory framework before it is complete and suitable for use in consenting farms. SEPA appear to be on a path where the modelling framework will be developed as and

when it is needed, rather than ahead of consenting applications – this is not acceptable. This is evidenced by their admission that virtual post-smolt tracking models will be developed for WSPZ when assessing farm development proposals (P22). We therefore, again, reiterate, that the most appropriate way forward is for a collaborate programme of work, to develop a robust and calibrated modelling framework and that, crucially, no implementation of an incomplete framework can take place before an appropriate modelling framework is developed.

4. Health and welfare

The proposed framework makes no consideration for farmed fish health, welfare and survival, and introduces a legal conflict where there is not one at present.

Although we acknowledge that the proposed framework will not explicitly direct salmon farmers to treat their fish, it is clear that to ensure compliance with CAR licence conditions arising from SLRF, it will be necessary for farmers to intervene more regularly with medicinal and non-medicinal controls for sea lice. Any intervention to treat fish (or any animal for that matter), comes with health and welfare consequences. Therefore, decisions to treat any animal require veterinarians and animal health professionals to assess the likely benefits and implications of treatment, with the ultimate goal of ensuring no unnecessary suffering and an overall benefit for animal health and welfare. The introduction of SLRF will add further pressure to the decision making of fish health professionals, who will now be required to consider the impacts of treatment on the many thousands of fish under their care, balanced against an unknown, unquantified, and theoretically assessed (through modelling) risk to wild salmonid populations. And there will be instances where there may be pressure to treat for lice when treatment may not be in the best interests of the fish. Although SEPA have provided assurances that there will be no regulatory action against companies that do not comply with their SLRF licence conditions, due to safeguarding the health and welfare of their fish, SEPA have also been clear that such action will nonetheless be recorded as a non-compliance against CAR licence provisions. We have previously explained, and SEPA are already fully aware of, the significant commercial implications of non-compliances against CAR licences, in terms of customer and retailer expectation. We also hope SEPA are fully aware of the potential implications of unnecessary treatment on the survival rates of farmed salmon, which remains a point of focus at present.

The introduction of SLRF will also introduce a conflict of law where one does not currently exist. The Animal Health and Welfare (Scotland) Act 2006, explicitly requires those who have animals under their care to safeguard animal health and welfare. This is primary legislation which places a direct responsibility on fish farmers and health professionals. The introduction of SLRF will lead to a conflict with the Animal Health and Welfare Act. Circumstances may therefore arise where a farmer must choose whether to contravene a piece of primary legislation, designed to protect the health and welfare of their stock, or the provisions of a CAR licence, which, in this case, has conditions set based on theoretical modelling of risk to wild salmonids that have not been demonstrated by empirical evidence.

Whilst we acknowledge conflicts of law already exist across the national regulatory landscape, the principles of better regulation, the Regulatory Reform (Scotland) Act (2014) and the Scottish Regulators Strategic Code of Practice were established with the ambition of avoiding further and unnecessary conflicts of law.

SLRF is designed with the express purpose of protecting the health and welfare of wild salmonids, through modelling and assessment of risk that is, currently, unquantified. It does so without any regard for the health and welfare of farmed fish, where the direct implications of actions are well documented. For this reason, we believe the SLRF modelling framework must be robust and reliable. Based on the proposals currently presented by SEPA, the framework is far from robust and thus, again, we call for a collaborative programme of development work, prior to the hasty implementation of an incomplete and untested regulatory framework.

5. On-farm lice counts

We have a number of specific points to raise with regards to SEPA's proposals surrounding the monitoring and use of lice count data, which is currently collected by farmers to assess farmed fish health.

Adult females v. Gravids: The proposed modelling framework is currently based on the use of adult female lice data, being a combination of both gravid and non-gravid female lice. During engagement sessions we have expressed our view that it is gravid lice that represent the relevant lice stage in terms of potential risks to wild salmonids, and that ***the modelling framework should be based on the assessment of gravid lice and not adult females***. We understand from engagement sessions that SEPA acknowledge and agree that SLRF should model gravid lice, but have flagged a minor concern around whether such data separating gravid lice from adult females is routinely collected by companies. It is our understanding that data on the numbers of both gravid and non-gravid lice is collected during fish health assessment, and thus this data will be available for use within the framework.

Automated lice counting: The consultation document proposes that lice monitoring should be automated as soon as practical and that high-risk farms will be required to implement automated counting technology within three years of issue of the permit. However, it is also clear from engagement sessions that SEPA have not assessed the viability or accuracy of currently available automated lice counting technology and thus deemed it to be appropriate, nor have they assessed the financial implications of deploying such technology. Salmon producers continue to assess this technology but as yet do not deem it sufficiently accurate for widescale use. This is demonstrated by the absence of such technology in operation across Scotland. We would also like to note to SEPA that the use of such technology will not negate the need for salmon farmers to manually sample their fish each week – when fish are monitored for lice, their wider health is also assessed (gills, fins, eyes etc.) and this remains a critical weekly task to ensure the health of our fish. In conclusion, ***we do not support the proposal to require salmon farmers to use automated lice counting technology***.

Counting protocol: SEPA intimate that the current approach to assessing the number of lice on a farm may not be suitable for assessing compliance to licence conditions

relating to SLRF. We strongly disagree with this position, and ***we do not support any change to the current lice counting protocol adopted by Scottish salmon farmers***. The sector has undertaken lice monitoring for many years as part of responsible fish health management. Fish health and welfare is our primary concern and therefore farmers have tailored their lice counting protocols to ensure the best assessment of lice on their fish, taking account of all relevant context (accuracy, fish health and welfare, practicality). There is nothing to suggest that current counting protocols are unsuitable for assessing compliance against SLRF licence conditions (noting also that companies are now counting significantly more fish and pens than defined as a minimum in the sectors Code of Good Practice).

6. Use of science

The development of a robust modelling framework must be underpinned by high-quality science. In particular it is vital that variables included within any model are set appropriately, and evidenced as such, with reasons to explain their inclusion and supported by an understanding of their reliability. Unfortunately, ***the proposed model and overall framework includes numerous inputs that have not been fully explained or justified***. SEPA must provide clear evidence to support the inclusion of any variable used within the model or framework. Although not a comprehensive list, some examples include:

- *WSPZs*: The initial consultation explained that WSPZs have been identified taking account of advice from Marine Scotland and fisheries managers. However, SEPA have provided no detail to demonstrate the defined process by which areas were delineated and how relevant local conditions (bathymetry, tides, freshwater inputs etc) have been taken into consideration. WSPZ delineation will significantly impact model outputs, and therefore the delineation has to be correct.
- *The 5km WSPZ for rivers discharging into open sea*: SEPA have provided no scientific basis for this distance.
- *Limit conditions based on 0.2 lice for farms deemed "considerable risk"*: how have SEPA determined this is suitable?

Again, we argue that only through a collaborative programme of work, to develop a robust modelling framework, can suitable metrics be established and agreed.

7. Other regulatory functions

The SLRF has connections with other regulators involved in the consenting and operation of farms, notably Local Authority Planning departments and the Scottish Governments Fish Health Inspectorate.

Local Authorities (LAs): The consultation document explains that Scottish Government has identified SEPA as the new lead body responsible for managing the interaction between sea lice from fish farms and wild salmonids, further stating that this will remove the need for LAs to require farm developments to be supported by Environmental Management Plans (EMPs). SEPA states that this is part of a series of changes that will simplify the regulatory landscape. However, we must clarify that

the introduction of SLRF will not remove the responsibility for LAs to consider wild fish interactions completely. Notably LAs will still have responsibility in Special Areas of Conservation relevant to wild salmonids and Freshwater Pearl Mussels and are still, ultimately, responsible for determining whether the controls SEPA have set are appropriate in a planning context (and can choose to implement different controls if they deem appropriate). There are also a number of questions in relation to EMPs, if and how they will be phased out (for new and existing farms), and what happens in respect to the current obligations on farmers under EMPs (i.e., wild fish monitoring). We do not agree that the regulatory landscape has been simplified and indeed the consultation document has left the sector with many more questions and confusion in respect of their planning applications. ***We urgently require SEPA to lead engagement with the salmon farming sector and local authorities to understand the implications of the SLRF proposals on planning obligations***. Such engagement must take place before any further development and implementation of SLRF. To note further, the sectors proposal for a collaborative way forward, through pilots, would allow for detailed engagement with LAs throughout the further development of SLRF.

Fish Health Inspectorate (FHI): We understand from the consultation document that SEPA are and will continue to engage with FHI regarding harmonisation of regulatory requirements around lice reporting. We have already articulated our position with regard to there being no need to change our current approach to lice counting (Section 5). We also note that SEPA propose to refuse any applications for "medium risk" farms where the proposed performance is higher than 2 adult female lice (times the fish number). This is on the basis that 2 adult females is the level set for increased monitoring under fish health legislation. We disagree with SEPA's position. As SEPA have articulated in engagement sessions, their primary remit is to protect the environment. As such, controls in relation to SLRF should be set on best available information to protect the environment, regardless of how those levels relate to other regulatory controls. The FHI controls are designed around farmed fish health which SEPA have clarified does not fall within their remit. Furthermore, and to clarify, the 2 adult females limit set by FHI does not require any action to reduce lice levels, it is in place to alert FHI of a changing situation on the farm, again, in relation to farmed fish health, with no relevance to wild salmonid protection. Specific action to reduce lice levels is only legally required when farms exceed 6 adult females per fish. We argue that regulatory actions from different regulators should only align where it is appropriate to do so. ***We do not believe there is any justification to base the regulatory controls for medium risk farms on controls set for the protection of farmed fish health, by FHI***.

8. Pre-application and application

It is accepted that, formally, pre-application for a CAR licence is voluntary and that applicants can, if they so choose, apply for a CAR licence without pre-application engagement with SEPA. However, as a result of the regulatory review process conducted by SEPA, many aspects of the application process that might previously have fallen within the formal "application" phase, have now been moved to "pre-application". Consequently, pre-application is increasingly becoming a formal and

unavoidable requirement of the application process. The introduction of the SLRF, with defined pre-application requirements, re-iterates that pre-application is no longer "optional".

We have no specific issue with a move to increased pre-application engagement as part of the overall consenting process, providing that licencing is as streamlined as possible, and that it is cognisant of the wider farm consenting landscape (as reviewed by Prof. Russel Griggs, with inefficiencies noted). However, there are currently no statutory timelines associated with the process of pre-application, which means that there are no legal checks and balances on the times taken by SEPA to undertake work that is critical for the development of a farm application. ***We believe there needs to be a wider discussion to establish statutory commitments, to ensure SEPA are meeting acceptable timeframes for the pre-application process***.

The consultation document states that during pre-application, developers should provide SEPA with details of the measures they have in place to control sea lice numbers. However, SEPA have also explained, during engagement sessions, that they will not include licence conditions that instruct farmers to intervene and treat their fish. They will also, according to the consultation document, not include licence conditions that require a farmer to have access to specific lice control tools (but plan to assess them at inspection - see also our comments in Section 9., covering Compliance). It appears that SEPA are placing responsibility for compliance to the lice load limit set within a CAR licence on the farmer concerned. We support this position, but we would also argue that SEPA, as environmental regulators, are not well placed to assess the suitability or efficacy of lice management tools, and question why SEPA require farmers to provide details of their lice management measures, as part of pre-application. ***SEPA should articulate why they need details of the measures a farmer will have to manage lice and how they will assess that information in relation to a CAR licence application***.

The consultation document explains that farms wishing to develop in the highest risk areas will have to demonstrate that they will not compromise the area lice threshold, with lice limits set through refined modelling. However, at no stage do SEPA articulate whether or not they would accept an application where the farmer commits to operate at zero lice during the sensitive period (thus not adding to the area lice load). Or, in fact, what they consider to be the lowest acceptable lice level (set through modelling or commitment), to support an application within a high-risk area. Within the document, SEPA articulate that applications using enclosed or semi enclosed systems will not be subject to lice related permit controls. But this leads to the logical conclusion that there will be alternative ways for a farmer, perhaps using existing methods, to maintain zero or close to zero lice during the spring season. For example, cleanerfish have been shown to preferentially consume gravid lice, and as such they may, alongside other measures, allow a farm to operate at or close to zero lice during spring. ***SEPA need to clearly articulate what they consider as the lowest permissible lice limit for applications on farms in high-risk areas***.

9. Compliance

The consultation document outlines that permits will include:

- Limits on the total number of sea lice permitted on a farm.
- Monitoring and reporting conditions.

During engagement sessions SEPA have stated that farmers will be required to demonstrate weekly lice counting and that in scenarios where a count has not been possible for legitimate reasons (e.g., due to weather, human health and safety, treatment etc.), no regulatory action will be taken. However, SEPA have also been clear that in such situations they will still record a non-compliance for the farm. ***We strongly object to farms receiving a non-compliance for scenario's where, for legitimate reasons, is has not be possible to undertake a weekly lice count***. In some scenarios operators will be unable to undertake a count not only for legitimate but also legal reasons (e.g., human safety). We firmly believe that it is not appropriate to set licence conditions that farmers cannot comply with. The reality of fish farming in Scotland means that there will, almost certainly, be situations during every production cycle where a count will not be possible. To receive a non-compliance for this is disproportionate and unnecessary to meet the end objective of environmental regulations. To note also, we have explained to SEPA previously, in separate engagement, the significant commercial implications of receiving a non-compliance against regulatory controls, with many retailers refusing to accept fish from farms that are deemed non-compliant.

We also note the absence of permit conditions relating to a farm having suitable measures in place for the control of lice. However, SEPA are requiring such information to be made available during the pre-application process (as discussed in Section 8) and are also proposing to include, within farm inspections, checks to ascertain whether sea lice management measures are in place. Again, we would question SEPA's expertise in being able to assess the efficacy and suitability of the different lice management measures that are available to salmon farmers. Furthermore, ***SEPA should clarify why they are proposing to undertake inspections for controls that are not specifically included within a CAR licence***.

10. Monitoring

We have significant concerns with the proposals for environmental monitoring.

We have repeatedly flagged concerns to SEPA, throughout the entire consultation process, that there is no comprehensive plan for a programme of rigorous environmental monitoring, that will assess and quantify the impacts of farmed salmon on wild fish, nor appraise the efficacy or need for SLRF. Any programme of monitoring must seek to separate the relative impacts of the various pressures on wild salmonids, as it is not appropriate to introduce a SLRF if it cannot be demonstrated that it is a) needed or b) effective in protecting against the activity (and thus risk to the environment) covered by a CAR licence. We also note that in other aspects of SEPAs regulation of fish farming, environmental protection is assessed against defined Environmental Quality Standards (EQS) that are established through empirical study. SLRF will assess against an EQS that has been set through desk based modelling and theoretical assessment.

It is, therefore, our firm view that further discussion on a proposed monitoring programme is urgently needed.

We will not detail all concerns but provide some examples, here:

- There remains no assessment of the baseline lice load within the environment, in the absence of salmon farming.
- Wild salmon and sea trout have very different life history strategies and thus should not be used as proxies for one another.
- Current and historical sea trout monitoring must be considered and analysed with caution. There are questions over whether samples sizes are always representative and whether fish with high lice burdens are disproportionately represented due to sampling bias.
- SEPA have not explained how monitoring will separate out any observed impacts from salmon farms, from those of other pressures. We should note that CAR licences are issued against specific activities (e.g., fish farming) to protect the environment from their impacts. As such, monitoring should focus on determining whether CAR licence controls, for that activity alone, are being effective. The current proposals look at the impacts of pressures on wild fish in combination, including activities that are not related to fish farming.
- We have significant concerns as to whether there is sufficient resource committed by SEPA, Scottish Government, others, to fully assess the impacts on wild salmonids.
- The role of existing EMPs into the future (and monitoring obligations therein), has not been clarified.
- Despite transparency in data relating to salmon farming activities (through sector reporting, Scotland's Aquaculture website etc.) there remains no comparable resource for information and data on wild fisheries management and protection. Such a resource is critical and would greatly support farming companies in preparing licence applications.

It is apparent that there are many unanswered questions and urgent action is required, with multiple stakeholders, to establish an appropriate environmental monitoring programme, in particular to appraise the SLRF. Again, such discussions can and should form an integral part of the further development of SLRF, which is best achieved through a collaborative programme of work to develop SLRF, through defined pilot studies, before implementation.

11. Impacts

SEPA have provided an initial analysis of the potential implications arising from the implementation of SLRF. However, at this late stage in the development of a regulatory framework, ***SEPAs assessment of the potential implications of SLRF falls short of expectation***.

SEPA have assessed different impacts/benefits for various stakeholders and scaled those impacts and benefits according to a three-point scale for each (i.e., ranging from +++ to ---). However, SEPA provide no detail to explain what each point on

the respective scales means in real terms nor how they have arrived at the assessment for each impact and stakeholder.

More worrying, however, is that despite years of development, ongoing uncertainty, and potentially significant impacts on our sector in the future, SEPAs appraisal suggests that SLRF will not lead to the greatest level of positive benefit for wild salmonid populations (see page 92).

It is also not clear why SEPA have chosen to undertake a comparison between the features of SLRF and Norway's regulatory system. Can SEPA explain why a comparison with Norway's regulatory system is relevant to the development of a SLRF designed for Scotland?

Aside from the structured assessment undertaken by SEPA, and the absence of a comprehensive assessment of business and regulatory impacts, we have some wider comments in relation to impacts and implications arising from SLRF.

SEPA's *aims are to ensure compliance with environmental legislation to protect the environment in ways that, as far as possible, also create benefits for human health and wellbeing and sustainable economic development* (P64-65). However, it is unclear from the consultation if and how SEPA have considered the wider opportunities for human health and wellbeing and sustainable economic development. We ask SEPA to clarify how they have addressed these important issues in their development of SLRF. In this regard we would note that farm raised salmon is acknowledged as a sustainable, low carbon protein source, with some of the best sustainability and environmental metrics of any fed-livestock. We would also note the considerable human health benefits that can arise from eating salmon, as not only an excellent source of protein, but also key vitamins and minerals, and omega three fatty acids. These have been shown to have considerable benefits for neurological development and heart health, amongst many other things. Indeed, Government recommends that consumers should eat at least one portion of oily fish, such as salmon, a week. In a country with well documented obesity, heart health and neurodegenerative disorders, as well as challenges around vitamin and mineral deficiencies, the benefits of foods such as farm raised salmon cannot be ignored when considering wider regulatory frameworks. It is important to balance environmental risks (which in this case have not been quantified, and thus can only be assumed to be low, negligible or non-existent) with the considerable wider benefits arising from eating farm raised salmon.

We have significant concerns with the potential impact of SLRF on long-term business confidence and investment within Scotland. As well as considerable uncertainty in the whole framework and process (which has been ongoing for 4 years), SEPA have proposed that screening models will be re-run each year, using lice data collected through licence reporting. However, SEPA have not articulated what they will do with the outputs of those model runs in terms of existing farms or ongoing farm developments. It is possible that each year some farms and areas will shift in their risk profile, purely as a result of re-running the models. What does this mean for those farms and development in those areas? How can businesses safely invest in new farms and in upgrading existing farms without confidence that the regulatory landscape for those farms will not change in the near future (or mid-way through a farm application). We should also note that some farm developments are specifically

targeted towards ensuring efficiency of production across a company's farming estate, including around lice and fish health management. Care is needed to ensure SLRF does not disincentivise improvements to existing farms, and impact wider benefits to Scotland's farmed fish health status and lice performance.

As detailed throughout our consultation response, it is our position that a full and detailed assessment of the impacts arising from SLRF should be properly considered within a collaborative programme of work, to further develop the framework, with such work occurring before any regulatory implementation.

12. Sea trout / Northern Isles

It is our view that, based on current scientific understanding and likely risk, ***further development of a dedicated SLRF for sea trout and for the Northern Isles should be delayed until a robust framework for the protection of wild Atlantic salmon has been developed.***

Scottish Government's summary of science makes it clear that no information has yet been published to provide a quantitative estimate of the impact of lice on sea trout populations in Scotland. SEPA have also stated (in their first consultation) that there is currently insufficient information with which to develop a dedicated framework for sea trout. Sea trout have a diverse life history, which can involve migration back into fresh water during their seawater residency. The drivers of anadromy in brown trout are also not fully understood. Taking all this collectively, and on the basis of assessing risk and best use of resources, we do not support SEPA's position of developing a dedicated framework for sea trout in 2024. We believe the protection that will be afforded as a result of a properly constructed framework for salmon will extend to protect sea trout, and that existing resource would be better placed ensuring that a salmon framework is scientifically robust, before working on a dedicated sea trout framework.

Following this train of thought, and on the basis of risk to wild salmonids, we do not support the expansion of work to develop WSPZ's and the principles of SLRF to the Northern Isles. Salmon are rarely recorded in Orkney and Shetland, and it is not appropriate at this time to develop a framework for sea trout.

Taking this collectively, we are of the firm view that resource would be better placed working with the sector, as proposed, on a collaborative programme of work to develop a robust SLRF for salmon on the west coast of Scotland and Western Isles.

13. Timeframe

The consultation document makes it clear that there is still significant work to be completed before the SLRF can be implemented and used for the consenting of new and existing farm developments. It is therefore clear that ***SEPAs current timeframes for the development of the SLRF, and for its implementation are unrealistic and not achievable.*** It is not acceptable to implement an incomplete framework and one that will not allow salmon farmers to undertake the necessary work to develop their farms through to licencing – this is the case with the SLRF as presented. It is most concerning that there remains no framework for the detailed /

refined modelling that will be required following initial screening and all evidence suggests such a framework will take up to 5 years to complete.

This leads to the only conclusion that SEPA must amend their current, unachievable development timeframes, to allow the development of a robust framework over a suitable timeframe that allows proper development of the necessary science. Once again, we argue that an appropriately planned collaborative programme of work, as outlined in our cover letter, is the only effective means by which to develop SLRF.

14. Conclusion

The salmon farming sector has always been clear, that we support the development of a properly constructed, tested, and validated model that accurately assesses the risks that might arise from the activities of Scotland's salmon farms. SEPAs current proposals for a SLRF fall significantly short of providing a robust framework and their timeframe for delivery is unachievably ambitious. We have offered a proposal to SEPA and the Marine Directorate, to work collaboratively on a programme of work, that will lead to the development of a properly calibrated and validated model, which supports the collection of the necessary data, and which properly appraises the wider impacts of the framework on business, communities and wild salmonid stocks. This approach is the only appropriate way forward.