



Sea Lice Risk Framework – May 2023 SEPA Consultation

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

Loch Duart Ltd Response September 2023

Loch Duart Ltd (Loch Duart) are a salmon producer with Atlantic salmon production sites located across Sutherland, Skye and the Outer Hebrides. We have significant experience in fish production and sea lice management relevant to the development of any future framework and work closely with third-party modelling specialists. We have also established relationships with wild fish stakeholders through existing agreements and have significant experience of developing and implementing monitoring plans.

We would like to provide our comments to SEPA's consultation on the '*Detailed proposals for a risk-based, spatial framework for managing interaction between sea lice from marine finfish farm developments and wild salmonids in Scotland*' dated 31st May 2023, closing 15th September 2023.

Loch Duart will be providing a hybrid response to the consultation in the format of key issues of concern rather than focusing on the detailed questions as posed by SEPA within the consultation document itself. Reference will be made where necessary to the specific consultation questions however, it is felt that the questions posed by SEPA within the consultation were often overlapping and leading by nature. Loch Duart feel a hybrid response will avoid unnecessary duplication in individual answers to be provided.

Executive Summary

Loch Duart support the development of a properly constructed, tested, and validated model that will accurately assess the risks that might arise from the activities of salmon farming to wild salmonids. It does not however support the current proposal for a Sea Lice Risk Framework (SLRF) as set out within the consultation document.

Loch Duart would support the development of the SLRF through a collaborative programme of work between SEPA, industry and relevant stakeholders via targeted pilot studies. This would enable the collation of the most appropriate data available and permit the development of a spatially adaptive framework that will strive to protect wild salmonids in a manner which is measurable.

It is considered that the aspiration of SEPA to introduce the SLRF from the end of 2023 is inappropriate when it is clear there is still considerable work required to build a robust framework to accurately and proportionately assess salmon farms and their potential impacts to wild salmonids.

Key Concerns

Other Regulatory Processes

The inability of the industry to have had discussions with NatureScot, planners and SEPA prior to the closure of the present consultation means significant questions around the transition of the present framework remain – issues such as present management strategies included within the established wild salmonid EMPs.

It is not anticipated that the SLRF as proposed will remove the responsibility for local authorities to consider wild fish interactions completely. They will still have responsibility for the consideration of SACs relevant to wild salmonids and Freshwater Pearl Mussels (FWPM) during the planning process. Local authorities will also still be responsible for determining whether the controls SEPA have set, in regard to wild salmonid interests, are appropriate in a planning context. Therefore, it is unclear in its present capacity how the SLRF will aid in simplifying the regulatory landscape.

This is also apparent in the consideration of other existing Marine Scotland FHI controls, those primarily designed around farmed fish health. SEPA have clarified that fish health and welfare does not fall within their remit, but there is a sufficient argument to suggest that the SLRF has the potential to over-complicate the process of lice counting and reporting which is already in practice at sites. This demonstrates a level of disconnect between SEPA/the SLRF and multiple other regulatory legislations that are currently operational.

Fish Health and Welfare

The frequency of lice reporting and data requirements for the SLRF is unclear. There is a concern that the SLRF may require additional lice counts by operators to ensure permit compliance; but no scientific basis for why this might be necessary. Additionally, in order to deliver compliance with CAR licence conditions arising from the SLRF, it may also be necessary for farmers to intervene more regularly with medicinal and non-medicinal measures to control sea lice. Both will result in increased fish handling and therefore increased risks of secondary infections, disease outbreaks, increased medicinal use and mortality within stock.

Any level of intervention comes with significant health and welfare consequences to farmed fish. The SLRF in its present format appears to have overlooked this in its requirements for environmental compliance. Whilst it is understood that fish health is not within SEPAs remit, it is implicit that any future commitments to lice management must be cognisant of the legal responsibilities that the industry has to protect the health and welfare of their farmed stocks. Any activity that could compromise stock health and/or welfare must take this under consideration when implementing new guidelines.

Model suitability

The modelling proposals presented by the consultation are far from detailed and only describe an approach to the initial screening of farms. In the current format, the screening model is interpreted to be highly precautionary and is understood to significantly overestimate sea lice at farms to those that occur within a real-world situation. It is not apparent if existing industry supplied lice data, which has been publicly available since 2018, has been incorporated in its approach, and there also appears to have been no consideration of existing lice management strategies at sites or within management areas within the model's format.

The approach for detailed modelling that will be required to consent farms that are identified, from screening, as requiring further modelling has also not been established. It is however suggested that the onus will fall to the operator/developer to demonstrate potential effect. This approach is problematic. While SEPA advise that the technical work to improve and refine the sea lice screening process is ongoing, it would seem sensible that prior to the SLRF implementation, SEPA first needs to establish protocols and methods that have been proven replicable to minimise the possibility of technical issues. With the consultation suggesting that it will be the responsibility of individual companies to develop refined models independently for the purpose of area classification, it is anticipated that this scenario would be potentially unworkable for the sector and regulator alike. It would also come at significant cost to smaller operators. It is therefore implicit that any model that underpins decisions and regulatory frameworks must be properly developed using the best available science and within a suitable timeframe, and prior to regulatory implementation.

Timeframes

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. SEPA's current timeframes for the development of the SLRF, and for its implementation, are therefore considered unrealistic and not achievable. The timeline as suggested by the consultation is therefore unlikely to be delivered without some level of potential disruption to the development and consenting process for the industry.

Pre-SLRF Implementation Pilot Studies

Loch Duart support the call for a collaborative programme of work to establish a model that can accurately and proportionately assess the risk that might arise from salmon farming activities to wild salmonids. Targeted pilot studies would enable the collation of the most appropriate data available and permit the development of a spatially adaptive framework that will strive to protect wild salmonids in a manner which is measurable.

Smaller operator practicalities

Loch Duart are concerned that the development of the SLRF as proposed appears to penalise smaller operators. The scale of investment needed to develop the proposed models and introduce the proposed technologies (particularly as not yet fully developed) puts Loch Duart at a higher risk of failing to meet the proposed standards and not being able to develop its sites.

Detailed Responses

Question 1: Do you agree with our revisions to the WSPZ?

Loch Duart acknowledges that the initial consultation explained that WSPZs were identified based on advice from Marine Scotland and fisheries managers. While the importance of coastal waters to post-smolt stages of wild salmon and sea trout lifecycles is recognised, no further details have been provided to explain the defined process to identify and delineate WSPZs as proposed. Have important considerations of local conditions e.g. bathymetry, tides, freshwater inputs etc been taken into consideration during this process? The scientific basis for the 5km delineation of WSPZs that discharge into the open sea are also not provided.

WSPZ delineation will significantly impact model outputs. WSPZ delineation therefore needs to be robust and correct in its methodology. Additionally, the early presentation of the largely incomplete screening approach has potentially misplaced expectation from stakeholders surrounding where the

greatest risks lie. Without appropriate calibration of the model prior to framework implementation, it is possible that the farms and areas that have been identified as a concern are not those where attention should be placed.

A query is also raised as to whether the inclusion of freshwater pearl mussels (FWPM) in the WSPZs will unnecessarily complicate, duplicate and potentially disrupt research and monitoring activity currently established by the EMP process. Loch Duart operate several farms adjacent to FWPM interests and participate in monitoring that is specific to planning enforcement requirements. This work is undertaken in partnership with local fishery bodies to mitigate risk and better understand any potential interaction. Would such a process remain within local planning authority remit or be transferred under the umbrella of the SLRF if implemented? Are EMPs to be phased out and what happens to current obligations stipulated by EMPs? Or will we have to comply with both, at risk of being mutually exclusive? What will happen if they contradict each other?

Question 5: Do you agree with our proposed approach to developing a risk assessment framework for sea trout?

The 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 from salmon farms 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. On the basis of assessing risk, and the use of best resources, Loch Duart therefore consider that appropriate scientific evidence is not in place for SEPA to develop a dedicated framework for sea trout in Scotland within the timeframe proposed.

In the consultation, SEPA state they are exploring a model which has been developed by Norwegian researchers in relation to the assessment of the effect of sea lice from farms on the marine feeding time of sea trout in Norway. Responses from the previous consultation stressed how importing concepts and scientific thresholds from a separate country with a very different geography/bathymetry and salmon farming practices was problematic. By continuing in this vein, it only emphasises that there are significant knowledge gaps with regards to sea trout in Scotland. It is however necessary to fill these gaps with both Scottish studies and data, as opposed to replicating the Norwegian approach.

With regards to the application of the framework to Orkney and Shetland, there is no systematic catch data available for Orkney for sea trout and there is also a lack of data for Shetland when compared to the West Coast of Scotland. Without historical data on population trends in these areas it will be both difficult to assess the current health of sea trout populations, but also virtually impossible to evaluate the success of any future sea trout framework. An appropriate baseline to measure against simply does not exist and it should be within the remit of SEPA, MSS and central government to establish reliable data on sea trout abundance and behaviour. This should be prior to the expansion of work to develop WSPZ's and the principles of the SLRF to the Northern Isles. Again, SEPA's proposed timeframe for this is unworkable.

Question 8: Do you agree with the proposed workflow for pre-applications?

Loch Duart fully support early engagement between the developer, local communities and SEPA in the planning and consenting process and providing the licencing process is as streamlined as possible (especially in light of the Griggs review), have no issues with the increased pre-application engagement process.

There is however no currently indicated statutory timelines associated with the process of pre-application relevant to the SLRF. Subsequently, this means the necessary checks on SEPA to undertake work critical for farm development cannot be defined. The methodology and statutory commitments of the SLRF therefore are still needing to be established within the proposed framework to ensure SEPA are meeting acceptable timeframes for the pre-application and consenting process.

Question 11: Do you agree with our proposal for setting permit limits on the number of lice on a farm?

The proposed SLRF is currently based on the use of adult female lice data, the combination of both gravid and non-gravid female lice. It is Loch Duart's view that it is the 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.

Engagement between SEPA and the industry has also established that farmers will be required to demonstrate that weekly lice counting is occurring. In circumstances where this then does not occur: for reasons such as adverse weather, veterinary advice, withdrawal periods for harvest, it has been indicated that whilst no regulatory action will be enforced, the missed count will be recorded as a non-compliance. Loch Duart strongly disagree with this proposal. It encourages personnel to take unnecessary risks, be them with fish welfare, food safety, or personal safety, in order to avoid non-conformance.

Loch Duart strongly believes that to receive a non-compliance from SEPA on this basis is disproportionate and unnecessary to meet the end objective of environmental regulation. There also exists the potential for significant commercial implications in receiving a non-compliance against regulatory controls with our customers/consumers.

Question 13: Do you agree that it is proportionate to require enhanced sea lice counts at high-risk sites and that this should be delivered in due course via automated systems using artificial intelligence?

Loch Duart disagree that the sites and areas identified as "high risk" by the model should automatically require more detailed sea lice counts. No consideration has been given to existing lice management strategies in these areas, nor the work already being carried out through wild fish EMPs to assess farmed fish / wild fish interactions.

The SLRF as proposed intimates that the current approach to lice counts is not suitable to meet licence compliance/conditions. However, existing lice count protocols have developed over many years to ensure the best assessment of lice on farmed fish, taking account of all relevant contexts (accuracy, fish health and welfare, practicality and statistical mathematic principles). In many circumstances, operator counts also exceed those defined as a minimum within the Code of Good Practice. Welfare implications of increased counts and/or sampling must therefore be taken into consideration by the SLRF.

The consultation document proposes that lice monitoring should be automated as soon as practical and that at high-risk farms, automated counting technology will be required for implementation within 3 years of the permit issue. While this is a step to counter deep concerns that the SLRF will increase the need for stock handling due to counts, the viability or indeed accuracy of currently available automated lice counting technology is still subject to considerable question - as demonstrated by the absence of such technologies in operation at the present time. The financial

implications of deploying such technologies, especially to smaller operators within the industry, has also appeared to have not been considered by SEPA within the consultation. It is also important to stress that such technologies will not negate the need for salmon farmers to manually sample their fish for wider health concerns on a weekly basis.

Question 18: Do you agree with our approach to monitoring and reporting conditions and the way we have used the risk assessment matrix to identify where we will add lice limits to permits?

SEPA's regulation of other aspects of fish farming delivers the assessment of environmental protection against defined Environmental Quality Standards (EQS). Such EQS are derived by empirical study. The SLRF however will be assessed against an EQS that has been set through desk based modelling and theoretical assessment.

An appropriate baseline to measure the delivery and effectiveness of the SLRF simply does not exist. Data on population trends of wild salmon and sea trout, in addition to the current health of these, is highly variable in Scotland. It should be within the remit of SEPA, MSS and central government to establish reliable data in advance of the implementation of the SLRF. Critically, there is also the question of whether there are sufficient resources committed by SEPA, Scottish Government, and others, to fully assess the impacts on wild salmonids by aquaculture, and will the proposed SLRF timeline be able to actually facilitate this?

With no apparent assessment of baseline lice loads or separation of aquaculture impacts from other various pressures, it will not be possible to quantify the impacts of farmed salmon on wild fish or appraise the efficacy or need for SLRF. Loch Duart therefore consider that this is not appropriate for the proposed regulatory capacity of the SLRF and its immediate implementation as proposed.

Conclusions

Loch Duart support the development of a properly constructed, tested, and validated model that will accurately assess the risks that might arise from the activities of salmon farming to wild salmonids. It does not however support the current proposal for the SLRF as set out within the present consultation document.

Fundamental issues remain with the proposal such as the availability of robust baseline data relevant to the effects of aquaculture to wild salmonids that has been observed within the Scottish context, and a balance of future commitments in lice management being cognisant of legal responsibilities for the industry in maintaining the health and welfare of its farmed fish.

There is also the concern that the SLRF is focusing more on assessing compliance with licence conditions rather than determining with reliability of the framework to actually protect wild salmonids.

Loch Duart are also concerned that the development of the SLRF, as proposed, appears to penalise smaller operators. The scale of investment needed to develop the proposed models and introduce the proposed technologies puts Loch Duart at a higher risk of failing to meet the proposed standards and not being able to develop its sites.

Loch Duart support calls for a collaborative programme of research to be initiated in focused pilot studies. This is to develop a robust and validated model that can better assess potential risks arising from salmon farms. Appropriately scaled pilot studies would deliver this process, permitting suitable model development, data collection, and model validation/calibration. Crucially, this must take place

prior to the implementation of the framework otherwise, this could lead to unnecessary confusion and delays within an already complex farm consenting system.