

**Salmon and Trout Conservation Scotland response to SEPA consultation<sup>1</sup> - Proposals for a risk-based spatial framework for managing interactions between sea lice from marine fish farm developments and wild Atlantic salmon in Scotland**

**The proposals fall far short of what is required because they:**

**ignore the damage already caused by fish farming to wild salmon populations in Scotland,**

**fail to recognise the urgency of the situation faced, that populations of wild salmonids are at critically low levels (as per the SIWG), and that “urgent” (per the REC and ECCLR Committees) and “swift” (per SIWG) action to provide enhanced and effective regulation is needed, adopting the precautionary approach (per REC and ECCLR Committees);**

**fail to recognise or apply the principles laid down in the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021, in particular, the precautionary principle as it relates to the environment and the principle that preventative action should be taken to avert environmental damage;**

**fail completely to deal with impacts on sea trout, a UK Biodiversity Action Plan priority fish species;**

**fail to address the continued impacts of existing farms, instead being politically focussed on facilitating the expansion of fish farming;**

**fail to deal with impacts on wild salmon beyond a very short time window (April/May);**

**fail even to attempt to meet the NASCO objective that “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” to which Scotland is signed up;**

**are vague in delivery, built on largely untested models and numerous assumptions on the interactions between farmed-derived lice and wild fish;**

**rely excessively on self-monitoring, self-assessment and indeed, self-design of both the regulatory tools and models by the fish farmers themselves;**

**are very far from the “robust, transparent, enforceable and enforced” regulatory system that the SIWG sought; and**

**in any event, would take years to develop and implement properly, with outcomes remaining extremely uncertain, therefore not providing any prospect of effective regulation in the foreseeable future.**

---

<sup>1</sup> <https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/> - closes 14<sup>th</sup> March 2022

## Introduction

- 1) As background to this response, SEPA is referred to S&TCS' Review of the Report of the Salmon Interactions Working Group, May 2020, at <https://salmon-trout.org/2020/05/11/review-of-the-report-of-the-salmon-interactions-working-group/>
- 2) S&TCS notes at para 10.2 of SEPA's consultation paper, that the purpose of SEPA's proposals is concerned with "*ensuring a sustainable future for Scotland's wild salmon populations and its aquaculture industry*".
- 3) However, nowhere in the world has the goal of sustainable open-cage salmon farming actually been achieved. On the contrary, the growth of intensive open-cage salmon farming has always coincided with the collapse of wild salmon runs. It is no coincidence that the only remaining abundant wild salmon runs are in Alaska, with no salmon farms, and Russia, with hardly any salmon farms.
- 4) Wild salmon populations in the aquaculture zone in Scotland are in a parlous condition.
- 5) Sea trout fisheries too have suffered a decline in the aquaculture zone and SEPA's interpretation - that catches appear to have stabilised since the 1990s - is not supported by the data.
- 6) There is very strong evidence to associate these declines with open-cage salmon farming, particularly sea lice produced by the farms. See <https://www.salmon-trout.org/wp-content/uploads/2018/01/Thorstad-Finstad-2018-Impacts-of-salmon-lice-NINA-Report-1449-2.pdf>:

*"In sum, the combined knowledge from scientific studies provides evidence of a general and pervasive negative effect of salmon lice on salmonid populations in intensively farmed areas of Ireland, Norway and Scotland"*.

See also "Status of wild Atlantic salmon in Norway 2021"

<https://www.vitenskapsradet.no/Portals/vitenskapsradet/Status%20of%20wild%20Atlantic%20salmon%20in%20Norway%202021.pdf>

*"The impact of salmon lice is most severe in western and middle Norway.... Many wild salmon populations in these areas have been heavily impacted by salmon lice for many years, and are now in a very poor state. Several threats impact these populations, including escaped farmed salmon, but heavy salmon lice burdens is likely the reason that they are not able to recover"*.

- 7) Given this, an extremely robust and precautionary regulatory system is required to protect all wild salmonids.
- 8) S&TCS is therefore extremely disappointed at the proposals brought forward by SEPA, which are:

- a. based on a false premise that damage has not already occurred to wild salmon populations in Scotland (SEPA still describing this as a 'risk' or a 'hazard'),
  - b. partial in scope (failing to deal with impacts sea trout, or with the continued impacts of existing farms or with impacts beyond a very short time window (April/May)),
  - c. inadequate in precaution (failing even to attempt to meet the NASCO objective that "*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*").
  - d. vague in delivery (failing to set out in detail what is proposed, leaving much to some as yet undefined future date by mechanisms unknown);
  - e. built on self-regulation (with SEPA relying on self-monitoring, self-assessment and indeed, self-design of the regulatory tools and models themselves, other than screening models, by the fish farmers themselves); and
  - f. unlikely to be in force until fully 5 years after the Environment Climate Change and Land Reform Committee concluded that the "status quo is not an option".
- 9) Further, S&TCS is alarmed to read (at para C.23 – the last paragraph to Annex C of the consultation) that SEPA has not yet developed nor designed strategies for what it describes as "effectiveness monitoring" of the proposed framework.
- 10) If SEPA does not yet know how it will judge the effectiveness of the new framework it is proposing, then it must, at the very least, before any implementation occurs, consult the public on what effectiveness monitoring should be applied.
- 11) Even as against the flawed proposals brought forward by SIWG in 2020, what SEPA now proposes is very far from the "robust, transparent, enforceable and enforced" regulatory system that SIWG sought (see SIWG, 1.2).

### **The nature of impacts on wild salmon**

- 12) At paragraph 2.3, SEPA states that "*substantial impacts on marine survival of wild Atlantic salmon resulting from sea lice from finfish farms have been demonstrated in Ireland and Norway*".
- 13) It is extraordinary therefore that SEPA can only state that sea lice from Scottish farms pose a "*risk*" or "*hazard*" to wild salmon populations.
- 14) It is illogical to hold to a position, as SEPA does, that the impacts demonstrated in Ireland and in Norway will not also have occurred and still be occurring in Scotland.
- 15) To describe this as a risk or a hazard, which has not yet materialised, is unacceptable. All fishery science and evidence point in the direction of damage having already been caused and still being caused by farm-derived sea lice, from existing farms, to wild salmon populations.
- 16) There is very strong evidence to associate these declines with aquaculture, particularly sea lice produced by the farms. See <https://www.salmon->

[trout.org/wp-content/uploads/2018/01/Thorstad-Finstad-2018-Impacts-of-salmon-lice-NINA-Report-1449-2.pdf](http://trout.org/wp-content/uploads/2018/01/Thorstad-Finstad-2018-Impacts-of-salmon-lice-NINA-Report-1449-2.pdf):

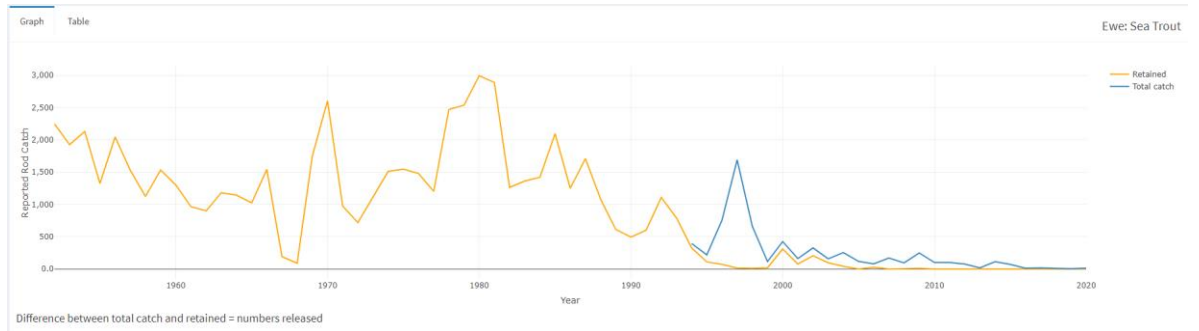
*“Results from scientific studies on the impacts of salmon lice on Atlantic salmon and sea trout are summarized here. Considerable evidence exists that there is a link between farm-intensive areas and the spread of salmon lice to wild Atlantic salmon and sea trout. Several studies have shown that the effects of salmon lice from fish farms on wild salmon and sea trout populations can be severe; ultimately reducing the number of adult fish due to salmon lice induced mortality, resulting in reduced stocks and reduced opportunities for fisheries. Depending on the population size, elevated salmon lice levels can also result in too few spawners to reach conservation limits”.*

*“Salmon farming increases the spread and abundance of salmon lice in marine habitats, and thereby the risk of infection and mortality among wild salmon and sea trout in areas with fish farms. These facts are both verified by field monitoring of salmon lice on wild fish and by the fact that salmon lice on wild fish in farm-intensive areas have lice with the same resistance to chemicals as used in farms. Wild fish in farm-free areas generally show low lice levels. In farm-intensive areas, lice levels on wild fish are typically higher, but variable. With the expansion of fish farming, marked salmon lice outbreaks on salmonids have been reported from Canada, Ireland, Norway and Scotland”.*

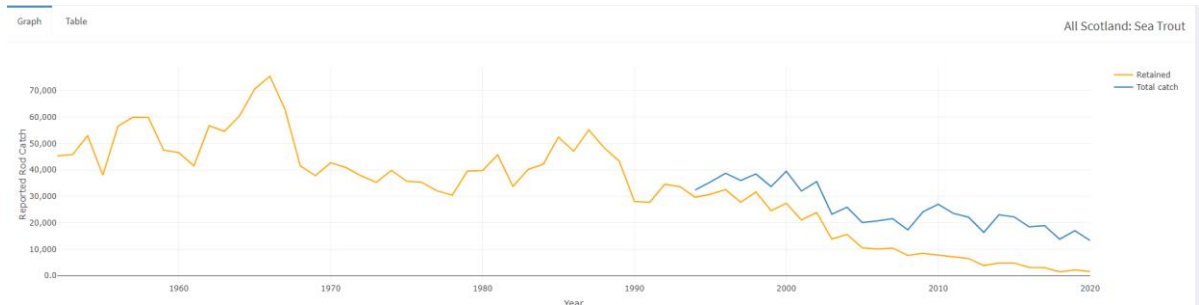
*“In sum, the combined knowledge from scientific studies provides evidence of a general and pervasive negative effect of salmon lice on salmonid populations in intensively farmed areas of Ireland, Norway and Scotland”.*

### **A complete failure to protect sea trout**

- 17) Although at para 9.2, SEPA states that *“there is very limited information on the status of sea trout populations in Scotland”*, and it is true that official recorded catches 1950s to 1980s are notoriously unreliable, sea trout were so plentiful that very often they were not recorded. There was also a significant netting industry up until the 1970s and 1980s.
- 18) Catch data from the great sea trout fisheries of the west Highlands and Islands is available and shows a steep decline.
- 19) For example, Loch Maree (Ewe system), suffered a collapse in catches (and size of mature sea trout/multi-spawners) following the arrival of local salmon farms – see <https://www.salmon-trout.org/wp-content/uploads/2017/09/Loch-Maree-collapse-A-Walker-report1.pdf>.
- 20) The sea trout data that SEPA references at <https://scotland.shinyapps.io/sq-salmon-sea-trout-catch/> in fact suggests that SEPA’s interpretation is incorrect - catches do not “appear to have stabilised since the 1990s”.
- 21) See, for example, the Ewe system. This graph is taken from the Government dataset.



22) The same Scottish Government dataset for All Scotland shows a continuing decline:



23) In Ireland, a similar picture emerges. Data from the Newport research station with regard to sea trout since the early 1970s shows a decline from late 70s once salmon farms opened in Clew Bay<sup>2</sup>.

24) It is astonishing, therefore, that SEPA's proposals state, at para 9.1, that "we are not proposing to define protection zones for sea trout" and, at para 9.3, that "a different framework may be needed for sea trout to the one we are proposing".

25) There is a vague promise of future proposals "once sufficient knowledge is available".

26) SEPA ignores the fact that there is over 20 years of Marine Scotland Science research/data (with numerous papers published) on the impacts of lice on sea trout. See <https://www.gov.scot/publications/aquaculture-interactions-shieldaig-field-station/pages/introduction/>

27) As the Chair to the SIWG stated in the very first words of his Foreword to the SIWG Report in 2020, "populations of wild salmon and sea trout are at critically low levels".

28) Further the SIWG Report noted that "at an early meeting the SIWG acknowledged the potential hazard that farmed salmonid aquaculture presents to wild salmonids (Atlantic salmon and sea trout) and agreed to examine measures to minimise the potential risk".

29) Therefore, SEPA's proposals represent a complete failure to deal with the damage caused by fish farming to sea trout populations that occur all year round, and therefore to respond properly to SIWG.

<sup>2</sup> <https://oar.marine.ie/handle/10793/1672>

- 30) S&TCS believes this failure is entirely deliberate and indicates that the Scottish Government does not wish to deal with sea trout, for fear of jeopardising the continued expansion of existing farms and establishment of new farms.
- 31) By the time SEPA gets round to dealing with the sea trout issue – and there is no indication in the proposals when that might be - it is highly likely that the industry will be considerably bigger than it is at the moment with damage to sea trout populations increased across the board.
- 32) The political direction from Scottish Government is not SEPA's fault, but this is an entirely unacceptable way to proceed and does not deserve support either from within or from outside SEPA.

### **A failure to deal with the damage from existing farms**

- 33) At para 6.1, SEPA states that *“our initial and overriding focus will be to implement the proposed framework to protect wild salmon populations against harmful increases in infective-stage sea lice concentrations. We will do this by assessing the risk to wild salmon when determining applications for proposed new farms and for proposed increases in the number of fish farmed at existing farms”*.
- 34) We are deeply alarmed at paragraph 6.3 to read that SEPA states *“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”*.
- 35) At paragraph 6.4 SEPA states that it will *“work over the longer term to identify any wild salmon protection zones where the densities of infective-stage lice resulting from the operation of existing farms is posing a hazard to wild salmon populations”*.
- 36) Not to deal with existing farms first, and as a priority, is unacceptable.
- 37) Even the flawed SIWG proposals concluded that
- “for sites where best scientific evidence indicates that an existing site presents an adverse impact on wild salmonids:*
- In the first instance, tighter regulatory standards should apply (see section 2 below);*
  - The consenting regime should be amended to enable efficient relocation of existing biomass to a suitable alternative location, within a spatial planning and area management framework.”*
- 38) SEPA states that the delay is 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. Some of this information will be provided through the implementation of the proposed framework”*.
- 39) But, for existing farmers, the very limited changes that the proposed framework will introduce for existing farms, laid out in para 6.2, state that

*“permits for all existing farms that can contribute to infective-stage sea lice in wild salmon protection zones would be changed to enable inclusion of conditions that:*

*(a) appropriately control the factors determining the number of juvenile sea lice emanating from the farms so that those numbers cannot significantly increase without prior authorisation;*

*(b) require sufficient information to be provided about the operation of the farms to enable calculation of the number of juvenile lice hatching from lice on the farms’ fish and the resulting infective-stage sea lice concentrations in wild salmon protection zones. This is needed to assess the additive effect of a development proposal on infective-stage lice densities in the protection zones.”*

- 40) Condition a) largely repeats what is supposed to be existing practice under the Aquaculture and Fisheries (Scotland) Act 2007 as amended, the Code of Good Practice, and the Scottish Government Sea Lice Policy – that farms have satisfactory measures in place to control lice. If they do not, in theory at least, they are already supposed to face regulatory scrutiny requiring changes.
- 41) Condition b) purports to require information from existing farms, but the information – fish numbers and sea lice counts - is either already required to be kept and reported by fish farms under The Fish Farming Businesses (Record Keeping) (Scotland) Order 2008 or has been routinely recorded by FHI inspections for very many years.
- 42) In effect, SEPA’s proposed conditions are a mere reiteration of existing regulation and practice. The information is there already.
- 43) Overall, the proposals indicate that existing farms are not to be subject to the new regime for an undefined period. This is unacceptable.
- 44) SEPA states, tellingly, at para 6.3 that *“our proposed initial focus reflects the Scottish Government’s stated priority, which is for a new framework for considering the risk to wild salmon from sea lice when consenting finfish farm developments”*.
- 45) This deliberately deprioritises the sea lice already damaging wild salmonids emitted from existing farms.
- 46) If SEPA, as it often states across all its functions, is genuinely to apply a risk-based approach to its regulation of fish farming, then the clear and obvious risk that it has, as a priority, to address, prior to considering or facilitating any expansion of the industry, is the operation of existing farms.
- 47) It is difficult to have any confidence in the proposals, when it is existing farms and not those proposed for expansion or new farm developments being proposed by the industry, that overwhelmingly cause the current damage being caused to wild salmonids – or if SEPA prefers, present the overwhelmingly greatest risk or hazard to wild salmon and sea trout.

- 48) To postpone dealing with existing farms to some later date merely reflects the priorities of Scottish Government (that the industry be allowed to expand at all costs), priorities which it appears are being imposed upon SEPA from above.
- 49) It is deeply regrettable that SEPA has been unable to argue as it knows it should that the operation of existing farms needs to be dealt with at first, ideally while there is a moratorium in place on any further expansion of existing farms or establishment of totally new farms.

### **Limiting the threshold to April/May**

- 50) In relation to the proposal that wild salmon sea lice thresholds operate only during April and May, SEPA needs to consider why the industry' own Code of Good Practice has a reduced 0.5 lice threshold per farmed fish for the period of February to June.
- 51) The proposed April/May period does not fully reflect the variability in smolt run timing or duration across Scotland including the impact of weather and temperature that varies from year to year.
- 52) Further - quite apart from the failure to address sea trout - SEPA is reminded that the inevitable time period between sea lice levels rising on a farm, to alterations being made to on-farm practice, to treatments being planned and given, leading to sufficient reductions in adult female sea lice numbers actually being achieved, to this being reflected in a reduction in sea lice infective pressure potentially at some distance from the fish farm concerned, is a multi-step process, and will run into the many weeks and months.
- 53) The April/May window during which the thresholds apply is therefore far too short and unlikely to enable sufficiently timely reductions in sea lice pressure on wild salmon to be achieved in time to protect smolt runs.
- 54) By the time breaches of thresholds are noted in wild fish by 'real world' monitoring, messages are relayed back to fish farm operators, changes to farm practices are debated and/or brought in, adult female lice numbers brought back under control, and infective pressure in the sea lochs sufficiently reduced, many weeks will have passed during which period emigrating wild smolts will have been harmed and likely killed.
- 55) On the wild salmon sea lice thresholds to be applied, SEPA states that "*at or below the threshold, although the risk to some individual wild salmon post-smolts would not be zero, the vast majority would not experience a harmful number of sea lice attaching to them*".
- 56) SEPA is asked to note, yet again, that Scotland needs to meet the objective of the 2009 North Atlantic Salmon Conservation Organisation (NASCO) 'Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks' that "*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*".
- 57) SEPA statement in para B1 is incompatible with Scotland's commitment to the NASCO objectives, as what is being proposed will not ensure that those objectives are met.



## Map of proposed wild salmon protection zones

- 58) The wild salmon protection zones being proposed are mainly restricted to estuaries.
- 59) This ignores the likelihood of cumulative impacts when smolts pick up lice as migrate north up the coast past farms including those outwith estuaries.
- 60) As just one example, there is no protection zone around the Clashnessie Bay site in west Sutherland. It is almost inevitable that smolts will have to navigate past this farm, which is likely on the basis of the 2021 experience to be releasing billions of lice larvae over a significant distance for many months on end.
- 61) Shetland (with its generally high on-farm lice numbers) is excluded. If (and it is entirely possible, perhaps likely) salmon smolts from east and north coast rivers swim within 30km or so of Shetland, then they will get infested with lice. That is not dealt with at all by these proposals.
- 62) S&TCS notes that the map of zones also includes protection zones in Ayrshire and Dumfries and Galloway, all associated with rivers. This would seem to suggest that salmon farming will soon be permitted along an extensive new section of coast which includes some sheltered sea lochs (Loch Ryan, Luce Bay and Wigtown Bay) as well as the Solway.
- 63) Is further expansion there being proposed and, if so, by whom?

## Self-regulation

- 64) Para 1.4 describes how finfish producers helped “*shape and refine the framework*”.
- 65) The approach of SEPA appears to be to allow the requisite models to be constructed, and that modelling to be conducted by fish-farm operators (para C.8)
- 66) Fish farmers will be allowed to practice self-monitoring and, indeed, to undertake the modelling, monitoring and any consideration of impacts on wild fish outside the fish farms (paras C.14 and C.17).
- 67) In respect of modelling, S&TCS is clear that SEPA should develop its own models and apply them itself to data it gathers.
- 68) It should not allow or rely on the industry to conduct its own modelling or assessments. The risks of what can best be described as ‘modelling failure’ are obvious.
- 69) SEPA should carry out its own wild fish and on-farm sea lice monitoring.
- 70) SEPA should also carry out rigorous, frequent and unannounced inspections of fish farms.
- 71) If more resources are necessary, SEPA should raise licence charges on fish farmers to pay for any resources SEPA needs.

- 72) SEPA has powers under the Water Environment (Controlled Activities) (Scotland) Regulations, with the approval of Scottish Ministers, to make a charging scheme to cover the costs of any services provided in the course of carrying out its functions.
- 73) Indeed, in making a charging scheme, by law, SEPA must secure that the amounts recovered by way of charges prescribed by the charging scheme are, together with any grants paid to SEPA, the amounts that SEPA needs to recover to meet the costs and expenses which it incurs in carrying out its statutory functions.
- 74) That is the normal model of regulation, with a regulator raising charges from the regulated bodies, so that it can recover all the costs of the regulatory system required.
- 75) S&TCS notes that at para C.18, SEPA refers to "*sophisticated analytical methods*" to quality assure data. Pursuant to the Environmental Information (Scotland) Regulations 2004, S&TCS requests any information held by SEPA on what those methods are and how they will operate.
- 76) However, in the light of recent failings by substantial fish farm operating companies in Scotland to provide accurate and on-time information to regulators including SEPA itself, the overwhelming reliance of self-regulation is concerning.
- 77) To re-iterate, if a more regulator-driven approach creates a demand for resources for SEPA, then SEPA has the necessary powers to amend its charging regime to ensure that it has those resources, so that it can apply regulatory controls that are independent of fish farmers.
- 78) Only in that way can SEPA hope to win any public confidence in the system being proposed.
- 79) This is a question of trust and overwhelmingly, SEPA must recognise that the public simply does not trust fish-farm companies, and for very good reasons.

### **Public involvement and consultation**

- 80) In relation to on-going consultation on implementation of the proposals, S&TCS notes throughout the consultation that, for example at paragraph 7.2(a), SEPA will identify arrangements "for ensuring all relevant parties are appropriately consulted", presumably with SEPA deciding who is 'relevant'.
- 81) There is a further example, at paragraph 8.6, where SEPA states that "once the framework is implemented, we will establish suitable arrangements to ensure we can get early views and advice on the operation of the adaptive approach going forward".
- 82) SEPA is reminded that there needs to be open consultation and not just with selected participants who are likely to support the adaptive management process being proposed.

- 83) SEPA should not be considering limiting any relevant consultation to those it considers to be relevant parties, but should be consulting the wider public on all aspects of the proposals and their implementation.
- 84) The process of coming to these proposals has already been characterised by behind-closed-doors negotiations between parties considered 'acceptable'.
- 85) The propensity of Scottish Government, Marine Scotland and now it appears SEPA to identify only those parties that it considers 'relevant' is a dangerous one and will exclude parties from the proposals, who are perhaps considered not so welcome, because they are more opposed, or less likely to accept the failings or to support the compromises and omissions in SEPA's proposals.
- 86) If SEPA wishes to get a balanced and wide view of the arrangements it puts in place then it must consult widely, including with the general public, who have increasingly expressed their views that regulation of fish farms is inadequate and indeed that open-net fish farming should end.
- 87) Opposition to open-net fish farming is a legitimate view held by an increasing number of what SEPA calls its stakeholders. It is a view that SEPA needs to take into account in all its decision-making process, irrespective of its own position or that of Scottish Government, and it must not exclude or ignore the views of those parties merely because they question the proposals SEPA brings forward. That applies whether the proposals relate to the new regulatory system overall or to farm-specific decisions to be made under that new system.