Ms Catriona Graham
Marine Scotland
Scottish Government
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April 13th, 2012

Dear Ms Graham

Aquaculture and Fisheries Bill Consultation – Response to the Partial Business and Regulatory Impact Assessment

I am now enclosing the response to the above document from the Scottish Salmon Producers' Organisation.

As part of our response, we have expressed our dismay at the whole process of this consultation. That this is only a partial impact assessment is testament to the fact that this process has been rushed through in order to satisfy either the demands of politicians or perhaps the riparian owners, whose interests are represented by the wild fish angling bodies who have been lobbying outrageously for these proposals.

You will note that our headline cost evaluation to the industry of these proposals amount conservatively to around £700M over the next 10 years. This is a staggering amount and brings to the fore the lack of understanding portrayed in the original document which implies that these proposals are designed to ensure the long-term sustainable development of the Scottish farmed salmon industry. Nothing could be farther from the truth.

The depth of feeling within the industry to the proposed imposition of government interference and micro-management of its operations, coupled with the prospect of draconian, inappropriate legal sanctions to be applied to minor non-compliances in the industry, has created huge resentment towards the Government and, specifically, the Aquaculture Policy team. The documents published to date illustrate an obvious lack of knowledge and understanding of how industry operates and is managed.

We have therefore taken the opportunity, through all of our submissions, to come up with our own proposals which we believe are reasonable and appropriate. The exception to this is the proposed introduction of Strict Liability Offences, which has not been justified in any measure other than to make life easier for the Marine Scotland Enforcement Team. This is unacceptable when peoples' jobs are at stake and has resulted in the establishment of a campaign group from within the industry which intends to lobby hard against this proposal, both in the media and in the Parliament.

The SSPO has spent an inordinate amount of effort working in collaboration with Scottish Development International and Scotland Food and Drink to ensure the high profile of Scottish farmed salmon at trade events worldwide, extolling the virtues of the quality of our product, the environment in which we work and the standards of production we meet. This has resulted, in the last few years, in global record export figures, with Scottish salmon now being sold in 60 countries throughout the world. It is now Scotland's largest food export, with a value in 2011 of £400M. This success has been trumpeted by many Scottish Government Ministers and we are happy for them to reflect on it. However, our success has not come about by accident. It stems from significant investment in equipment, people and production

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standards. All of this has grown significantly in the last five years as represented in our 2011 Annual Industry Report which I have sent to you by separate post and can be consulted on our website at http://www.scottishsalmon.co.uk.

It is against this background that the industry, quite frankly, is aghast at these proposals which will undermine the significant progress made in recent years. Why, when we are accepted in 60 countries throughout the world as a premium product with the highest production standards, does our own Government seek to portray our industry as flawed, not legally compliant and apparently unable to manage environmental and production challenges? We have spent considerable time pondering this question as these proposals fly in the face of all recent pronouncements from Scottish Government on the need to reduce bureaucracy. An additional £700M in the next 10 years is hardly an attempt to reduce the costs of red tape.

We can only conclude that the Consultation proposals are a result of intensive lobbying by the wild fish campaigners. The problem with adopting other peoples' wish lists, as we have highlighted in our response, is that the arguments lack understanding and may also contradict the evidence of the real-life situation. This is all too apparent throughout this consultation and appears to reflect an inclination within Government to protect the rights of the salmon fisheries proprietors as the Bill passes through Parliamentary scrutiny

In addition, the general approach by the Scottish Government's aquaculture team has been disappointing. Since the Consultation began, open criticism of our stance from Government individuals has been evident. This is unprofessional and unhelpful.

In recent years, we have enjoyed a good working partnership with Government, which advocated a solutions-based approach. This all appears to have been lost since the formation of the new Government. Gone are most of the working groups on the MGA, gone is the original stakeholder review committee for the process of Audit and Review (which is severely delayed) and gone is an ongoing productive dialogue between Government and the Producers' Organisation, as exemplified by the appointment of a new Bill Team Leader who has yet to be introduced to us.

In conclusion, I will repeat that the industry is dismayed by the process of this consultation, with the lack of proper consideration of the industry's need for its sustainable development and by the style of its implementation. We cannot understand Government's motivation for a third aquaculture-related Bill in 5 years, when we are so highly regarded by our peers in international markets – in 2011, at ESE in Brussels, Scottish salmon was awarded the accolade of Best Farmed Salmon in the World.

For many reasons, including the demonstrable lack of understanding of our current production practices and processes within this Consultation, we must conclude that the overriding Government motivation for these policy proposals is to pander to the wild angling lobby and their strenuous campaigning efforts.

Yours sincerely,

[redacted]

SCOTT LANDSBURGH
Chief Executive

SCOTTISH SALMON PRODUCERS' ORGANISATION (SSPO)

AQUACULTURE AND FISHERIES BILL CONSULTATION: RESPONSE TO THE PARTIAL BUSINESS & REGULATORY IMPACT ASSESSMENT

Introduction

This Partial Business and Regulatory Assessment (PBRIA) has been published in connection with the Aquaculture and Fisheries Bill consultation (see below). Since the proposals that may arise from that consultation are still unknown, we accept that their impact cannot be fully assessed. Our comments which follow are therefore based on the PBRIA document, as published.

However, we would make a specific demand at this time that:

(a) a full Business & Regulatory Impact Assessment (BRIA) is undertaken once any proposals arising from the consultation have been formulated; and

(b) a BRIA is undertaken specifically in respect of the aquaculture sector (rather than as a generalised exercise, as has been the case here.)

Contrary to what may seem implied in the preamble to PBRIA (page 4, paragraph 12) and by the Ministerial Declaration and Publication (page 62), SSPO, which is the industry body for the largest sector of Scottish aquaculture, has not been involved in the preparation of the PBRIA. Moreover, our assessment is that the present PBRIA makes invalid assumptions and takes no account of the most important impacts that would or might arise from the proposed legislation. **Our analysis suggests that the proposals, including the one on Strict Liability that the PBRIA has not addressed (see Page 19 of this paper), will have an impact on the Scottish economy over 10 years of up to £700M (at current values).**

We consider this PBRIA is not well-founded and reliable. In sections that follow we have commented briefly on specific aspects of the document. However, we have first addressed some generic issues that are reflected in the PBRIA and in other areas of the Aquaculture and Fisheries Bill consultation to which it relates.

AQUACULTURE AND FISHERIES BILL CONSULTATION

As an industry organisation, with an understandable need to consult with its membership on proposed regulatory or other Scottish Government proposals, we have found Marine Scotland's handling of the Aquaculture and Fisheries Bill consultation particularly unsatisfactory.

In essence, the consultation has consisted of three documents published on different dates and in different places, but inter-dependent in their content. This has made it almost impossible to respond fully to the first (main) consultation because it suffers from missing information, elements of which are contained in, or hinted at, in the subsequent publications. We have outlined the detail of the process in Appendix 1.

Taken together, the three elements of the consultation will leave stakeholders with very deep concerns about the operation of the Scottish Government's supporting administrative and policy-making machinery. There will be concerns that the objectives of the consultation will be seen to have been substantially compromised by the way the consultation process has been undertaken and that decisions have been made before responses to the first stage of the consultation have been received.

We have no doubt that consultation responses would have been much better informed and their interpretation by Government more reliable, if all three consultation documents had been published together at the start. It would have been even better if the first, main consultation had contained the relevant evidence base that would have allowed the proposals to be properly examined. Additionally, that approach would have avoided wasting tens of thousands of pounds worth of stakeholder time and effort across Scottish businesses and organisations. For some small organisations, including some in the aquaculture sector, we believe the process followed will have been overwhelming, to a point where they have been disenfranchised in the democratic process. We believe that is a significant failure in the Scottish Government's consultation process, and one from which lessons should be learned

With this in view, **we recommend Marine Scotland commissions a study from the Sunningdale Institute to evaluate the Aquaculture and Fisheries Bill consultation and the lessons that may be learned from it.**

For our own part we have responded to each of the three documents that have been published. However, we have had to accept that our responses can only be made progressively, each influenced by the parts of the consultation as we have gained access to them. This may mean that in some parts of the consultation we have looked for further information which later we may have been able to glean, at least by inference, from the other documents.

As a specific example of this, in our response to the main Consultation we were concerned to understand why Marine Scotland was proposing a wholly unjustified and unexplained extension of strict liability and Fixed Penalty Notices from the sea catch fishing industry to aquaculture. We could find no evidence that would even vaguely provide support for these proposals (and none was presented). It is now apparent from the PBRIA that this hugely damaging proposal is based simply on a perceived administrative convenience of giving different types of Marine Scotland enforcement personnel access to a common set of non-compliance penalties across all industries (page 57, paragraph 1). There has, in fact, been no consideration of the relevance of the proposal to the aquaculture industry or of the consequences of the proposal.

GENERIC PROBLEMS

To place our later comments in context it would helpful to highlight initially some generic problems with the consultation and PBRIA. This will reduce the need for us to repeatedly make the same points in many sections of this document.

During our consideration of the almost 160 pages of the three consultation documents we have become conscious of an underlying theme, which we can best summarise as follows. The remoteness of Marine Scotland from the professional practice of salmon farming is of huge concern. Its policy makers and scientists are out of touch with the practical operation of the aquaculture industry; and their capability in everyday matters of fish-farm and food-industry business management is highly questionable. They have a preoccupation with centralised governmental control, apparently in the belief that this will lead to better industry management; in fact, all practical examples we can identify would argue the opposite case. They also have a disturbing conviction that theoretical approaches, untested in practice under industry conditions, should be imposed through regulatory legislation; in no other sector of the farming or food industry would research scientists agree with that approach. Rather, they would be concerned to evaluate their findings under farm conditions, recognising that factors related to scale, location of farms, farming systems and underlying biological variance, can in practice compromise even the most well researched theoretical concept. Finally, Marine Scotland has an unbalanced preoccupation with the potential for impacts of aquaculture on wild fish stocks whilst ignoring the well-established impacts of other types of human activity, including netting and rod angling, about which there can be no conjecture. We comment further on this in our response to the Strategic Environmental Assessment of the Aquaculture and Fisheries Bill Consultation.

This analysis leads us to three constructive recommendations, which we hope might be considered. These are that Marine Scotland should:

1. **actively engage in a programme of advanced training to better familiarise policy makers and scientists with the fish farming and food businesses;**

2. **invest in a number of experimental salmon farms which would provide test facilities for their scientists to undertake the development work necessary to take research into practice and provide practical facilities for knowledge exchange (KE) activities (this model is universally adopted by Scottish Government main research providers in other areas of farming); and**

3. **develop sound scientific risk assessment models for determining risks to wild fish stocks and population biodiversity arising from all aspects of human impact, including netting, rod angling, wild predator management policies, marine and land based engineering, industrial activity, sea fisheries activity and aquaculture.**

Responses to Sections of the PBRIA

Throughout the following sections please also refer to the relevant section of the SSPO response to the main Consultation.

Section 1: Pages 7-11

Proposals

- **Statutory requirements for finfish farmers to participate in Farm Management Agreements (FMAgs)**
- **Powers for Scottish Ministers to prescribe/direct 'appropriate scale' Farm Management Areas (FMAs) where appropriate**
- **Related provisions for independent arbitration**

SSPO Commentary on the PBRIA

- ***Objectives***
  The objectives are set out with no evidence base to support their assertions. The industry contests elements of the proposals; and there is support for this in the discussion and consultations of the Healthier Fish Working Group.

- ***Background***
  Paragraph 2: The background section appears to lack an understanding of the CoGP and its operation. The CoGP **requires** that farmers develop and implement farm management agreements. The CoGP also **requires** an FMS to be prepared where there is a single operator in an FMA or where an FMAg has yet to be finalised. The CoGP is an audited code and adoption is a requirement for membership of the SSPO. Where an audit inspection by the independent UKAS accredited auditor (FCI) records non-compliance, operators are notified and given 28 days to address the non-compliance or to put forward a time-defined plan for non-compliance to be achieved. Where a site was in continued contravention of the Code it would be delisted by FCI, and this would have significant economic penalties and potential impacts on supply contracts.

  Paragraph 3: Disease Management Areas designated by Marine Scotland have the primary purpose of managing disease during an outbreak of a transmissible disease such as ISA. They are not FMA.

  Paragraph 4: This sentence is misleading and addresses the wrong issue. Firstly, to the SSPO's knowledge there has never been a case where two companies operating in the same area under an FMAg have requested access to a formal arbitration process. SSPO believes that such a mechanism should be created but that is a reflection on better process rather than on any demand. Whilst formal arbitration has not been undertaken there has been facilitated resolution of disputes, including the development of harmonisation of systems to allow FMAg to be concluded. SSPO has been instrumental in that process.

- ***Rationale***
  Paragraph 5: On sanctions under the CoGP please see above.

Paragraph 8: Specific proposals on arbitration are made in our response to the main consultation document.

- ***Key Options***
  We are confused by this list of options since some of them have been ruled out in the main consultation and it is therefore unclear why they have been included here.

- ***Benefits, Recommendations and Costs***
  Paragraph 9: The stated benefits mainly depend on acceptance of the view that fish farms would be better run by Marine Scotland than by the farming businesses who own the farms. For the reasons we have set out in our introduction we strongly contest that view.

  What is proposed under the preferred option (c) has not been clearly outlined. However, on the basis that this differs from the *status quo* we can only assume that this implies the introduction of fines for any non-compliance that may be covered by the *Fish Farming Business (Record Keeping) (Scotland) Order* 2007, for example.

  If we are correct in that interpretation, we believe that Marine Scotland should be open and transparent about the fact it is proposing to introduce into statute a whole raft of new offences which will apply to aquaculture. These have nothing to do with a CoGP and are conceptually and culturally distinct from it. A CoGP is designed to promote continuous industry improvements and drive up standards; the Marine Scotland approach is quite the contrary and is designed to take a punitive approach to minor regulatory non-compliance, which we believe will drive it underground. We would view this as a wholly retrograde development that will be highly adverse in its impact on the development of the Scottish aquaculture industry.

- ***Summary of Anticipated Costs and Benefits***
  In its table Marine Scotland claims that there will be a benefit in 'Reduced environmental/public benefit risk'. We dispute that since we consider the opposite will be the case.

  Likewise, under costs, the table highlights 'Likely reduced business for audit bodies'. We believe this by no measure indicates the potential impact of what is proposed. Firstly, the whole of the CoGP development has been industry led but it is now being proposed to use it to penalise industry. In these circumstances there seems no logical reason why the industry would continue to develop and follow the CoGP, as it will be regarded as continuously increasing the opportunities for Marine Scotland to levy additional penalties.

  Therefore we believe the likely impacts will be as follows. There will be a collapse in the business of the relevant auditing bodies, amounting to some £0.5M per annum, and (we assume) a corresponding comparable cost increase in cost for Marine Scotland, if the same level of assessment is maintained.

Thus, in effect, the proposal will see a transfer of some £0.5M cost from the private to the public sector and will result in deterioration in the present level of compliance, and impedance of development of best practice in the industry.

SSPO Conclusions

We have indicated in our main response why these provisions are not required, are unworkable in practice, and will have thoroughly deleterious consequences.

Section 2: pages 11-16

Proposals

- ***To address the issue of unused fish farm consents, to ensure they do not act as a barrier to development and growth in aquaculture in Scotland***

Commentary on the PBRIA

- ***Objectives***

  We support the need to make full use of available marine resources for aquaculture, within the limits of available carrying capacity, biosecuriity control and sustainable business operation. However, as we have pointed out in our response to the main consultation document, Marine Scotland has a flawed understanding of the present position and the proposals that are made here are poorly-informed as a consequence.

  Speedy completion of the Audit and Review process on pre-2007 sites is the primary requirement to bring farm sites into the planning process and allow the market to operate. We have identified a modest number of orphaned CAR consents and legacy sites that require to be addressed but this should be perfectly possible within the existing legislative arrangements.

- ***Background and Rationale***

  Paragraph 5: There is confusion in the various consultation documents because of the interchangeable use of the terminology 'inactive consents', 'unused sites' and 'inactive sites'. Until Marine Scotland has a clear view of what it is talking about it is difficult to provide constructive responses (see our response to the main Consultation). There is actually no evidence that 'inactive sites' are constraining the development of new sites or the development of existing sites. However, if it were to be the case, it would be a matter that the market would quickly resolve once sites are transferred into the planning system. There is, by contrast, a need to seek improvements in the practical application of the Locational Guidelines system.

  Paragraph 6: It would be wholly inappropriate – and indeed tantamount to state sponsored theft - if the Minister was to seek powers to remove ownership of sites that have been acquired, sometimes at great cost, by the farmer to whom they now belong. The last sentence in this paragraph implies that Marine Scotland is failing to understand the provisions of the Town and Country Planning Acts.

- ***Key Options***

  a) The list of options misses out the most important one which is to speedily complete the Audit and Review process to allow the market to operate fully. It is incorrect to say that there is no industry-led solution. At present, the market is impeded by the fact that large numbers of sites are in limbo in regard to their planning status. This makes the due diligence evaluation of any purchase of sites almost impossible.

  b) Option (b) simply describes the existing provisions of the Town and Country Planning Acts.

  c) This is the present situation in respect of Crown Estate leases. There can be no justification for Marine Scotland to introduce new and additional taxes on fish farms.

  d) This represents state sponsored theft.

  e) The whole basis of the transfer of fish farming into the Town and Country Planning system was to make farms permanent so that their asset value could be properly recognised and used to underpin the financial stability of the industry. This proposal would therefore be wholly counterproductive.

SSPO Conclusions

SSPO welcomes the indication that Marine Scotland is prepared to discuss this issue with industry. From SSPO's perception the way forward needs to be based on:

1. Speedy completion of the Audit and Review process so that farms are moved into the planning system.

2. Some clarity in Marine Scotland's mind about what they mean by 'unused consents' and/or 'used sites' and 'inactive sites'. Most inactive sites relate to strategic industry operations either as part of a production cycle or fallow; as part of a biosecurity system; or as part of an emergency or strategic development programme.

3. There are a modest number of sites that relate to 'orphaned CAR consent' or 'legacy sites'. We believe that these can be dealt with administratively. But they are a small part of the total sites.

Section 3: Pages 17-19

Proposals

- ***Collection and publication of sea-lice data, and***
- ***Provision by business of additional surveillance, biosecurity, mortality and disease data.***

Commentary on the PBRIA

- ***Objective***
  Paragraph 1: The objective will not in any way be achieved through the measures that are proposed. The people responsible for fish health on farms are farmers and their veterinarians.

- ***Background***
  Paragraph 2: The belief expressed by Marine Scotland in this paragraph is unsupportable on any evidential basis.

  Paragraph 3: All the data collected under the Fish Farming Business (Record Keeping) Order is already available to the Fish Health Inspectors. The data represents the business data and records of the farm and it is owned by the fish farmer. What is the basis of a legitimate argument that it should it be published in a way that applies to no other type of business records in the UK? What is the purpose?

  Paragraph 5: On the basis of Marine Scotland's own catch data there is no evidence of any important impacts of fish farming on wild fisheries in Scotland. **If there are quantitative impacts of sea lice on wild fish stocks, we recommend Marine Scotland should make routine monthly surveys of abundance of larval forms of the salmon louse (*Lepeophtheirus salmonis*) around every part of the Scottish coast. This would establish the environmental, climatic and other factors influencing the prevalence and distribution of sea lice larvae. This would be a development that wild fish interests and fish farmers would find useful and worthwhile.**

- ***Rationale***
  The rationale set out here does not in any way align with the objective set out in paragraph 1. It appears that the proposal is being wholly driven by a small group of aggressive anti-fish-farming campaigners, who appear to be in denial about the national and international declines in salmon numbers and the impact of fishing; they are thus seeking, quite incorrectly, to implicate salmon farming.

- ***Key Options***
  There remains a need to justify any of these proposals in terms that relate to the objective given in paragraph 1.

  The "do nothing" option seems to ignore the fact that the industry has already implemented the recommendations of the Healthier Fish Group. It has established, at substantial cost, the most comprehensive Fish Health network that exists in any country of the world. It has published quarterly reports on sea lice numbers throughout 2011 and will publish an annual report in 2012.

- ***Summary of Anticipated Costs and Benefits***
  Option 1: already includes most of option 4. The best and most effective option to achieve the objective set out in Paragraph 1 would be to follow the industry's progress and its ongoing development of improved farm health information.

  Option 2: does nothing to achieve the objective as set out in paragraph 1. Fish Health Inspectors already have full access to the data for regulatory purposes and it is not their role to micro-manage farms throughout Scotland, as if they were part of a Nationalised Industry.

  Option 3: as for option 2.

  Option 4: We believe that the requirements to meet the objective set out in paragraph 1 will be fully met by the continuing development of the existing SSPO Fish Health database.

SSPO Conclusions

We believe options 2 and 3 will substantially adversely affect the risk profile of aquaculture investment in Scotland. Based on the average level of investment over the past four years, of £33M, we estimate that there could be an investment reduction of some 30%, or £10M per annum as a result of the proposal (see Appendix 2, point 1). However, this would also have an ongoing annual loss of potential production effect of some £7M per annum (see Appendix 2, point 2).

Section 4: pages 20-21

Proposals

- ***Temporary or permanent reductions in biomass consents, to help manage sea lice in particular problematic areas/circumstances***

Commentary on the PBRIA

- ***Objective, Background and Rationale***
  Paragraph 1: As set out the objective is*: 'To provide powers for Ministers to determine lower levels of permitted biomass in a fish farm/site where there are concerns about the effective management of sea lice and their impacts, thereby ensuring that fish health and welfare and the potential wider impacts of sea lice are considered alongside environmental impacts'.*

  It seems reasonable to assume that once enabling powers have been granted they will be used, and that prospect raises huge questions and potentially massive cost implications. In our response to the main consultation we have already highlighted the facts that: (a) existing CAR regulations and animal health and welfare laws give SEPA and Marine Scotland complete control over any farm in circumstances that it contravenes the law: (b) that we can see no way that the application of these measures could be implemented without a complete multi-factor risk analysis of the

area in which the farm is located; (c) that there is no evidence that the effects that the proposal is intended to address exist, indeed at a regional level the evidence is to the contrary.

Paragraph 2: Refers to their being 'a risk of imbalance between what is consented and what is necessary to ensure appropriate sea lice management and to mitigate potential impacts'. This sentence appears to suggest that Marine Scotland is focusing on hazard management rather than risk management and that approach is clearly scientifically unsound. Farmed salmon do not create sea lice; the parasites are derived from the environment, and are natural parasites carried by wild fish, which are a primary source of infection. The role of farmers and their veterinary advisers is to manage the environmental challenge and minimise impacts on fish health. That is not something that can be done by someone without the practical knowledge, skills and experience. The proposal thus has enormous legal and financial risks for the regulatory agencies which seem not to have been recognised.

- ***Costs and Benefits***
  We consider that the supposed benefits to the private sector or public sector shown in the Summary table are completely unsupportable on the basis of any evidence that has been provided. What is proposed suggests an external interference in farm management that will involve both the farmer and the regulatory agency in protracted and costly legal disputes.

  We are unable to detect the way that the 'potential wider impacts' would be assessed since they reflect hazards rather than risks, and do not provide any basis that would stand up to scrutiny under legal challenge. They could only be applied in circumstances where all other activities which might be considered as hazards to fish stocks had been taken into account, including suspension of fish netting and rod angling.

  The suggestion that a reduction in biomass 'could' make a site non-viable will be manifest almost immediately as a reality. Most Scottish farm sites are already modest size in terms of economic viability. Therefore constraints on biomass would inevitably lead to sites becoming non-viable

SSPO Conclusions

It is difficult to assess the total impact of this proposal since the basis on which the proposal would be put into effect is unclear. At face value, the proposal appears to be highly damaging to fish netting, angling and fish farming businesses without any scientific basis of assessment being available to justify the measure or defend it on a legal basis.

Our assessment is that it has no quantifiable benefits and that the reduction in biomass or closure of one fish farm because of non-viability will have a private sector cost of £25M per annum (see Appendix 2, point 3). There will also be a substantial cost to the public sector in legal expenses, in dealing with compensation claims and unemployment costs for personnel

who have been made redundant. These costs are difficult to estimate. Additionally, we are unable to estimate the economic impact of the closure of wild fisheries that will be required.

Section 5: pages 22-24

Proposals

- ***Enabling powers for Ministers to place controls on wellboats:***

  Details to be decided but could include, for example:

  - ***satellite monitoring of wellboat movements (as for fishing vessels)***
  - ***additional controls on discharges, whether at sea or on land (for example to sea lice filtration/destruction requirements);***
  - ***remote monitoring of wellboat activity, including fish movements and discharges.***

Commentary on the PBRIA

- ***Objectives***
  Paragraph 1: As we have indicated in our response to the main consultation we are fully supportive of improved systems for wellboats, covering both movements and improved equipment (not simply limited to sea lice filters). However, we are doubtful whether providing Ministers with additional powers is helpful in achieving those ends or whether there is any need or purpose in public sector investment.

  Commercial systems are already available for tracking wellboats and are being considered for certain wellboat activities, such as open or closed valve operation. SSPO companies are already in discussion with each other and with their wellboat operators as to how most quickly to implement these systems. In this area we do not think a public sector involvement is necessary since the practices will be quickly driven by the market.

  On filters and equipment, again developments are taking place but will necessarily be longer term. Contrary to what is indicated in the PBRIA we understand that retrofitting of some existing wellboats will not be possible and that the introduction of new technology will be possible only as new vessels become available. We believe that it is important for industry and the Scottish Government to engage with the process of establishing new standards for wellboats, including discussions with international interests, such as Norway. But we believe this may not require new legislation at this stage.

- ***Summary of Anticipated Costs and Benefits***
  It is difficult to quantify with certainty whether the operation of wellboats is presenting issues. We therefore agree with the view that it is difficult to identify the absolute value of any benefits. However, industry is already moving to require tracking and activity monitoring, which will be available on a commercial basis. Likewise, there is clear pressure from the industry for wellboat providers to introduce filtration systems

as soon as is feasible. We believe that the £6M cost for this indicated in the PBRIA is a substantial underestimate. However, the developments will take place under the pressure of market demand from the salmon growers.

SSPO Conclusions

We agree with the underlying objectives of the proposals but we question whether new enabling powers for Ministers are needed to put them into effect.

Section 6: Pages 25-26

Proposals

- ***Additional controls on facilities processing farmed fish (salmonids)***

Commentary on the PBRIA

- ***Objective, Background and Rationale***
  In our response to the main consultation document we were unable to respond on this proposal since we were unable to determine the perceived issue that Marine Scotland was seeking to address.

  The perceived issue is now clearer but it is still entirely unclear whether it is a problem in reality and, even if it is, whether there is any need for new, additional legislation to address it.

  Given the fact that the proposal is based not on any evidence but on 'representation by some in the industry' we would recommend that the first step is for Marine Scotland, in conjunction with SSPO, to establish what types of filtration and treatment equipment are installed at each of the processing plants in Scotland (of which there are very few). If there are any plants that do not have equipment that fully meets the microbiological discharge standards (and this might require some testing), the company should be made aware of the fact and requested to undertake the necessary upgrade over an agreed period.

  If, on the basis of the survey and testing programme, it is possible to identify the equipment specifications required, these can be included in the CoGP. Then any new installations that are made will be to the correct standards

- ***Summary of Anticipated Costs and Benefits***
  Until it is objectively established that there is a problem, it is impossible to determine whether there will be any benefits. Likewise costs cannot be assessed until it is established (a) if there is a problem with any plant and (b) what equipment or operational changes will be required for it to be fully addressed.

SSPO Conclusions

We are generally not supportive of additional legislation where it is not required. We believe that legislation on processing plants should be generic; otherwise there are endless complexities and complications when legislation gets changed. In this particular case we can see no reason why the perceived issue cannot be investigated and, if there is actually a problem, it can be addressed by communication with the plant or plants concerned. There appears to be no need for additional legislation.

Section 7: pages 27-29

Proposals

- ***Regulation of all seaweed farming through Marine Licensing arrangements***

Commentary on the PBRIA

- ***Objectives and Recommendations***
  As indicated in our response to the main consultation we think that seaweed farms require to be brought under a regulatory regime.

  We believe that in the longer term Scotland will develop multi-trophic aquaculture involving combinations of finfish, shellfish and seaweed farms. On this basis it is important that all three types of aquaculture are brought under the same planning regime.

  Thus, we consider the selection of *Option 2, Marine Licensing* is illogical and will cause added complexity to marine planning, unless all three forms of aquaculture are brought together for planning purposes.

SSPO Conclusions

The proposal put forward is unsustainable in logic unless there is an associated consideration to change the planning permission arrangements for finfish and shellfish aquaculture. On balance we believe there will less disruption if seaweed farms are brought under the Town and Country Planning Acts.

Section 8: Pages 30-32

Proposals

- ***Powers for Ministers to introduce controls to help prevent the spread of potentially commercially damaging native species***

Commentary on the PBRIA

- ***Objectives***
  As indicated in our response to the main consultation we are wholly in support of creating measures to deal with *M. trossulus.* However, we have reservations about creating open-ended enabling powers for Ministers. The notion of controlling native species to safeguard farm species has considerable attractions in some cases. However, the consultation (and the SEA associated with it) places emphasis on increasing biodiversity; controlling native species could be seen as substantially conflicting with that objective.

- ***Recommendations, Benefits and Costs***
  On the basis of the information provided the choice of option 2 rather than option 3, and the related comments and figures look difficult to justify. Why should the private sector costs be twice as high under 2 and why should the benefits be so much higher? Since only *M. trossulus* has been identified what other species are being included in the calculations?

SSPO Conclusions

We remain unconvinced of the argument in support of adopting open-ended enabling powers for Ministers, and the case has not been made at any stage of the consultation, so far.

Section 9: Pages 33-35

Proposals

- ***Give Scottish Ministers powers to determine a threshold (lower than that set out in the industry code) for the incidence of sea lice on farmed fish above which remedial action is required.***

Commentary on the PBRIA

- ***Background and Rationale***
  Paragraph 1. We are deeply disappointed and fundamentally concerned that, more than five years after it was introduced, Marine Scotland still appears not to understand the philosophy and provisions of the CoGP for Scottish finfish aquaculture. The CoGP is designed to provide for continuous improvement in Scottish fish farming. It is therefore written to set out 'standards' where *standards* are relevant and can be applied, and to set out guidance where there is a need for local interpretation and adaptation to circumstances. This recognises that no farming system can be operated successfully by predetermined prescribed rote; there must be customisation of operational procedures to the conditions that apply under local circumstances.

  Paragraph 2: On sea lice management the CoGP says:

3.4.3.6. suggested criteria for the treatment of sea lice on individual farm sites are:

- An average of 0.5 adult female *L. salmonis* per fish during the period 1 February to 30 June inclusive.
- An average of 1.0 adult female *L. salmonis* per fish during the period 1 July to 31 January inclusive.'

There are a number of points we should make about these figures. Firstly, treatment *guidance* levels are well below sea lice levels that would represent an infestation that would have clinical consequences for farmed fish. They are therefore overtly precautionary in their approach and are well below the levels that are typically reported on salmon and trout in areas of Scotland, both outwith and within fish farming areas.

Secondly, they are levels that are set taking into account both the outward migration of smolts and the inward migration of sea-wintered fish. The latter create a significant risk of sea lice infestation to salmon farms in some locations.

Thirdly, they are *guidance*, which all farms will interpret to meet local conditions and circumstances, including: wild fish considerations; climatic and bathometric conditions; and the range and cycle of use of treatment products available.

As two very simply examples of this last point, in areas where there is a perceived sensitivity about low populations of outward migrating smolts, treatment triggers of less than 0.5 average adult females are already in use. Likewise, in areas where there is perceived problem of infection from inward running fish, treatment may be delayed to levels above 1.0 average adult lice, so avoiding the issue of re-infestation of clean farm fish from the wild fish population.

Paragraph 3: We are in complete agreement with the statement of 'the need to get the balance right' – and the evidence is that such an objective is being achieved by the farming skill and environmental responsibility of Scottish fish farmers. We can see nothing in the present proposals that would help or support the underlying objectives. No evidence has been put forward by Marine Scotland to substantiate the premise that we currently do not have the balance right. We therefore have to assume that this proposal is a direct response to the lobbying efforts of the wild fish campaigners, who also have provided no evidence to support their claims. Indeed the opposite will be the case since the approach will lead to inappropriate or injudicious use of fish veterinary medicines which is likely to lead to a more rapid development of resistance in their target species.

Unconsidered is that the proposed measures could only be justified if all other means to reduce well-established risks to fish stocks, including netting and angling, had been exhausted by suspension of the activities.

- ***Summary of Anticipated Costs and Benefits***

  We completely reject both the claimed private and public benefits of Option 2. They are not supported by any evidence or credible analysis. Rather we believe that the effect of the proposal will be the opposite of that intended; and it will add cost to the

industry by reducing the efficacy of treatment with sea lice therapeutants. Assuming that this might amount to a 10% reduction in efficacy we calculate that will increase costs to the industry by £3M per annum (see Appendix 2, point 4). We are unable to estimate the cost of closure of fisheries to netting and angling.

An additional cost to the industry of £25M could result if a Minister took the exceptional step of reducing biomass in an attempt to exert control over sea lice levels.

SSPO Conclusions

We consider this is a poorly-conceived and poorly-informed proposal that will significantly increase costs to fisheries and aquaculture businesses without any private or public benefit.

Section 10: Pages 36-42

Proposals

- ***Introduction of a Technical Standard for finfish farm equipment for businesses operating in Scotland***

Commentary on the PBRIA

The industry found it very odd that this section of the consultation was included in the Chapter on 'Fish Farming and Wild Salmonid Interactions'. This seems to imply some strange perception that fish farmers are not concerned to safeguard the containment of their fish and that there is evidence that escaped fish have had a significant impact on wild salmon. It therefore should be said that, so far as Scottish salmon farming is concerned, both these perceptions are wholly incorrect and without foundation (see our response to the main Consultation).

SSPO Conclusions

The industry is broadly in support of the proposals here and is working actively to take them forward through the Improved Containment Working Group. Our main point of concern is that new standards will need to be phased in over an appropriate period to allow industry adjustment to their requirements. At this stage it is not possible to assess the costs of these developments.

Section 11; Pages 43-44

Proposals

- ***Additional powers for Scottish Ministers to take or require samples of fish from fish farms, for genetic or other analysis, for tracing purposes.***

Commentary on the PBRIA

As indicated in our response to the main consultation we are not in support of this proposal, which appears misguided in concept and unnecessarily costly.

- ***Summary of Anticipated Costs and Benefits***
  The purported private sector and public sector benefits are wholly unfounded and are unrealistic. They are much more effectively provided through the ongoing developments of technical standards (see above).

SSPO Conclusions

We do not consider this proposal has practical merit or significant utility. We believe it is unnecessary and of unjustified cost to the public purse. Industry would not be prepared to invest in the proposal.

Section 12: Pages 45-47

Proposals

- ***Modernising the operation of District Salmon Fisheries Boards***

SSPO Conclusions

Please see our response to the main consultation.

Section 13: Pages 48-50

Proposals

- ***Enhancing the management of wild salmon fisheries***

SSPO Conclusions

Please see our response to the main consultation.

Section 14: Pages 51-53

Proposals

- ***To strengthen existing management and conservation measures under the Salmon & Freshwater Fisheries (Consolidation) (Scotland) Act 2003.***

SSPO Conclusions

Please see our response to the main consultation. We consider that Scottish Ministers are presently abrogating their responsibilities in regard to the conservation of salmon and that national conservation policies should be developed and adopted.

Section 15: Pages 54-56

Proposals

- ***To introduce powers to amend the licensing regime for the introduction of fish to freshwater***

Commentary on the PBRIA

- ***Objectives, Background and Rationale***
  Introduction of eggs and fish into open fresh waters represents a substantial potential risk to wild fish and farmed fish. EU Directive 2006/88/EC on *Animal Health Requirements Aquaculture Animals and Products Thereof, and on the Prevention and Control of Certain Diseases in Aquatic Animals* was intended to regulate that risk through the creation of fish health inspection safeguards and controls on the introduction of fish into open waters. Because of Scotland's failure fully to implement the Directive, there is a regulatory *lacuna* that potentially places Scottish fisheries and farmed fish at risk.

- ***Key Options and Summary of Anticipated Costs and Benefits***
  This section of the PBRIA is not fit-for-purpose. We strongly recommend that EU Directive 2006/88/EC be implemented in full and proper regulatory assurance be provided by Marine Scotland to safeguard wild and farmed fish – as in the case in England and Wales.

  This requires the implementation of Option 2, which we would strongly recommend. The suggestion that this in some way would unnecessarily hinder the DSFBs is simply unsustainable. Many DSFBs or fishing clubs already buy stock from commercial sources for which appropriate health checks are mandatory.

  The benefits of Option 2 would be that risks to wild fish and farmed fish populations would be controlled. This is not a benefit of Option 3.

  Not considered in the evaluation is the cost of a significant national fish health breakdown, which would be huge – potentially running into tens of millions of pounds.

SSPO Conclusions

This section of the PBRIA requires serious and immediate reconsideration; Option 2 is the only option that is supportable within the spirit and terms of the EU regulations.

Section 16: Pages 57- 61

Proposals

- ***Provision for Fixed Penalty Notices for marine offences and an increase in maximum penalty allowed – changes to section 25 and 27 of the Aquaculture and Fisheries (Scotland) Act 2007***

Commentary on the PBRIA

- ***Objectives***
  Paragraph 1: We discussed this proposal very fully in our response to the main Consultation. At that time we could not see any reason why the consultation was

proposing to extend strict liability and Fixed Penalty Notices (FPNs) to the aquaculture sector. (**We note that strict liability has not been considered as part of the PBRIA**).

We now understand from Paragraph 1 that the reason for the extension is simply to create an administrative simplification for Marine Scotland in that all its Enforcement Officers would then have a 'common set of options to deal with non-compliance'. We confess that, in the limits of our range of arguments for the introduction of regulatory measures, this is the most indefensible reasoning that we have ever encountered.

However, even if the reasoning is disregarded, there is clearly a consultation and PBRIA Option that would give the same result which has been totally ignored. This would be to bring the sea catch fishing industry, which is no larger than the aquaculture industry, and is declining in size, in line with the provisions of the aquaculture sector: namely to move from the present strict liability and FPN regime to a system that is more rational and defensible in law. Moreover, since the evidence we have presented indicates that strict liability and FPNs have been a complete failure in reducing the levels of non-compliance in sea fishing industry, and have in fact habitualised non-compliance, there would be a *prima facie* argument for this approach.

Either way, quite contrary to Paragraph 3, the introduction of strict liability and FPNs in aquaculture would not have benefits but would be hugely damaging.

- ***Background, Rationale, Summary of Anticipated Costs and Benefits***
  The proposals and analyses that are presented in the PBRIA are entirely naïve in their understanding of the food sector and of Scottish salmon sector in particular. Whereas Marine Scotland appears to consider the proposals are a minor adjustment to create administrative convenience for its Enforcement Officers, we see the proposals as hugely damaging to the 'Scottish Farmed Salmon' brand and the Scottish industry. Therefore the proposals have no benefits and huge potential costs.

  At present the 'Scottish Farmed Salmon' brand will guarantee that our producers find a place in any market of the world and will be sold at a premium of around 16p per kilo. Based upon 2011 production figures, loss of this premium could equate to a reduction in aggregate value of £25M per annum (see Appendix 2, point 5).

  The introduction of FPNs will set in motion either a raft of legal actions as companies decide to defend their reputations, or, as smaller companies fail to be able to meet that financial burden, FPN notices will become common for minor non-compliances. Since the established evidence is that Marine Scotland is error prone, legal confrontations seem inevitable.

  Meanwhile, whatever the outcome, the 'Scottish Farmed Salmon' brand will be damaged and our premium will be eroded. Additionally, this will mean that smaller farm sites become unviable, at a further possible cost.

SSPO Conclusions

From an industry standpoint we have a very clear view: if there is some minor error of non-compliance it should be addressed through normal audit procedures or by an improvement or enforcement order from a regulator. If there is serious deliberate and illegal non-compliance it should be subject to detailed investigation, a case presented to the Procurator Fiscal, and the offender prosecuted to the full measure of the law. We believe anything less than this represents an unacceptable regulatory approach with significant unintended consequences. We consider that introduction of FPNs will lead to lax standards in the investigation enforcement of regulations, and a progressive habitualisation of the offences concerned. We believe that FPNs have no place in the Scottish food industry.

Appendix 1: Summary of the stages in the consultation on the Aquaculture and Fisheries Bill

Firstly, the initial main 'Aquaculture and Fisheries Bill Consultation Document' (published 12 December 2011 with submission deadline 2 March 2012) was set in very broad terms which were almost entirely lacking in detail and supporting evidence. As a consequence, it was difficult, in some cases impossible, to determine the specific problem that the consultation was seeking to address and to respond in a fully informed way to the questions that were posed. The general impression of the document was that Marine Scotland was canvassing broadly to gather opinions on which proposals for legislation might be based.

Secondly, the present document, the Partial Business & Regulatory Impact Assessment (PBRIA) (published 9 February, but not on the Scottish Government consultation website, with extended submission deadline of 13th April) contains very specific proposals, in some cases adding small but important elements of detail that are essentially to get some (although incomplete) understanding of the earlier consultation document. This present document thus gives two clear impressions: (a) that responses to the first consultation document are going to be ignored even before they have been submitted; and (b) that Marine Scotland are either making up policy 'on the hoof' by adding flesh to the initial half-considered proposals as things go forward or alternatively the relevant sections of Marine Scotland are simply not in effective internal contact.

Thirdly, the Environmental Assessment (Scotland) Act 2005 Aquaculture and Fisheries Bill Consultation Document Environmental Report (published 22 February, but not on the Scottish Government consultation website, with submission deadline 2 March, but now extended to 13 April – personal communication from Marine Scotland) appears as if as an afterthought. However, it again contains information and insights which were missing from but essential to understanding the first consultation document, and additionally contains some modifications of the Marine Scotland proposals which are not previously mentioned in any of the earlier documents.

Appendix 2: Costing Rationale

1. (Page 9) The rationale behind this figure is that this will inhibit site development investment. Over the last 5 years, according to the 2011 Annual Industry Survey, this investment represents approximately £30M per annum on average. In order to prudently establish a figure, we estimated there could be a reduction of around one third of this spend. This, therefore, would make the reduction in new additional site equipment approximately £10M per annum.

2. (Page 9) The annual loss of potential production is established by assuming that, due to the significantly higher investment risk, there will be cancellation of future developments as per the Draft National Marine Plan. Coupled with the higher investment risk, the proposed Bill sends out unsupportive messages to stakeholders, planners and regulators. New development will, therefore, be severely curtailed. According to the Marine Plan, there is an aspiration to grow the industry by a further 60,000 tonnes by 2020. This represents additional production averaging 6,500 tonnes per year, which equates to approximately 4 new sites p.a.:
    a. £2M development investment per site (including planning
    b. £1.5M biomass investment per average site
    c. Total = £3.5M per site x 4 = £14M per annum

    Production output is every 2 years: therefore, we have prudently reduced the total to £7M p.a.

3. (Page 10) The reduction in biomass or closure of one fish farm because of non-viability could have a private sector cost (value to the economy) of £25M per annum

4. (Page 16) Sea lice treatments are currently estimated to cost the industry £30M p.a. A 10% reduction in efficacy will therefore cost the industry an additional £3M p.a.

5. (Page 19) Loss of premium due to reputational damage.
    The wholly negative messages being sent out by this proposal could well result in the loss of the Scottish "premium" in domestic and international markets. We are informed that this represents around 16p/kilo. Based on 2011 figures, this equates to around 155,000 tonnes x 16p/kilo = £25M p.a.

i.e. a total likely (not exclusive) industry cost of approximately £70M p.a.

Scottish Salmon
SSPO

Ms Catriona Graham
Marine Scotland
Scottish Government
1B-North
Victoria Quay
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EH6 6QQ

16th March 2012

Dear Ms Graham

ENVIRONMENTAL ASSESSMENT (SCOTLAND) ACT 2005

AQUACULTURE AND FISHERIES BILL CONSULTATION DOCUMENT

ENVIRONMENTAL REPORT

We refer to Marine Scotland's invitation to offer comments on this Report and attach herewith a detailed analysis which sets out our concerns about this paper and its connection with the proposals made in the A&FB consultation document.

The Environmental Report was published on 22nd February this year, some nine weeks after the publication on 6th December 2011 of the consultation on proposals for a new Aquaculture & Fisheries Bill. Given the nature of the information contained in the Environmental Report, we were extremely surprised to learn of Marine Scotland's decision to publish these documents separately. The Environmental Report contains information material to the A&FB consultation and we feel these documents should have been published simultaneously to allow respondents to have all of the necessary information available to them at the outset. Whilst we have responded to the SEA by the extended deadline of the 13 April, we have not revisited our original submission to the main consultation, since that has now been published on the Scottish Government's website.

We note that the focus of the Environmental Report is on the potential effects of the provisions proposed in the A&FB consultation on the Biodiversity of Fauna based on the Good Environmental Descriptors from the Marine Framework Directive. This states that considerations should be of whether: '*Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions*.' We believe that in the context of the SEA this approach gives rise to a range of issues, centring on the fact that there is currently no assessment of the upper boundary of biodiversity for salmon or sea trout under the environmental and habitat conditions which prevail in Scotland (and elsewhere in the Northern Atlantic region), and no indication of how close we are to this upper boundary. Additionally, throughout the SEA there is an absence of any baseline data or evidence that supports the assertions that are made.

By way of background to our comments on the detail of those elements of the Environmental Report which we believe to be flawed and with which we take issue, we wish to make a number of points concerning proportionality and the general thrust of the Report as it relates to the A&FB consultation.

With regard to the Atlantic salmon, it is apparent that by far the most significant factors influencing the success of this species relate to global climate change and its effects on the productivity of the deep oceanic environment. Evidence that the Atlantic salmon has been in decline across its range for many years is now overwhelming, and many of the patterns that have emerged in recent years strongly reinforce the scientific predictions of Friedland, Reddin and others of over twenty years ago. With regard to sea trout, we are aware that the river dwelling, loch dwelling and migratory ecotypes of the Brown Trout have been included within a great many Local Biodiversity Action Plans throughout the UK, providing very strong indications that the Brown Trout and particularly its migratory form, the Sea Trout, is subject to significant environmental pressures totally unrelated to aquaculture throughout Scotland and across its range in the UK. It strikes us as ironic that the consultation and the Environmental Report should place such emphasis on aquaculture in the face of clear and overwhelming evidence that the abundance and distribution of both salmon and migratory brown trout are being significantly affected across their range by large scale environmental change. There has been no attempt to place the SEA assessment into the context of the range of factors that affect wild fish stocks and, as result, the SEA fails in the most basic respects.

Turning to the content of the Environmental Report and the way this attempts to establish links between the aquaculture-related proposals in the A&FB consultation and implications for the health of farmed fish and the protection of wild salmon and migratory brown trout: the impression, repeatedly conveyed throughout the Report, is that none of the proposals in the A&FB consultation will have negative environmental consequences and, therefore, the consequences of the proposals will, therefore, be positive. We disagree with this and illustrate by example in underlined comments below, and fully in the attached analysis.

In setting out our views, we feel obliged to point out that all Atlantic salmon and sea trout in Scotland are part of actively exploited, and potentially over-exploited, fisheries. There are thus fundamental differences in approach to the protection of salmon reared in aquaculture and those in the wild which are the subject of exploitation through angling. In contrast to aquaculture, where salmon are owned throughout their lives and the farmers and veterinary surgeons responsible for their care are legally and ethically bound to adopt a broad spectrum of responsibilities to ensure good fish health and welfare, salmon and sea trout anglers only own the fish once they are caught. Each year, the policy of catch and release now implemented widely results in many tens of thousands of wild Atlantic salmon and sea trout being subjected to pain, stress and extraordinarily poor welfare conditions which, if encountered on a salmon farm, would render the owner of the farm liable to prosecution, fines and possible imprisonment. This occurs across Scotland, including in areas designated as Special Areas of Conservation for salmon. In the context of protection of the biodiversity of wild salmon and migratory brown trout, it strikes us that these wild fish might be better protected if their exploitation (which is carried out for the pleasure of the angler and to enhance the financial income of the proprietor), were to be regulated in a way which proscribed deliberate injury, the unnecessary imposition of pain and stress, and required the use of fishing methods which eliminated significant risks to their survival.

3.16: Reasonable Alternatives

Each year over the period 2005 to 2009, around 55,000 wild Atlantic salmon and 16,500 migratory brown trout were captured and killed in commercial fisheries (employing rod and line and netting) in Scotland. Additionally, in each of these years around 50,000 wild Atlantic salmon and, 11,300 migratory Brown Trout, were caught and released. It is impossible to calculate precisely how many of the caught and released fish survived and how many were able to spawn after their traumatic ordeal, but it is reasonable to assume that the figure was less than 100%. Such practices have a demonstrable and significant effect on biodiversity, yet this issue is completely ignored in the A&FB consultation and in the Environmental Report. In creating proposals which, it is argued, will enhance the protection of wild Atlantic

salmon and migratory brown trout, Marine Scotland has signally failed to grasp the opportunity to construct mechanisms which would have demonstrable effects - such as the creation of national salmon and sea trout conservation programmes; the establishment of scientifically robust conservation limits for Scottish rivers and lochs within and outwith designated conservation areas; the creation of mechanisms to define Total Allowable Catch limits for fishery areas; and requiring the recording of fishing effort for rod and line fisheries to improve the reliability of stock estimates.

On this matter, we take the view that the statement in the SEA that there are no alternative measures to those proposed is incorrect. There clearly are alternative measures which can be taken to protect biodiversity through the use of regulation, which may involve curtailing the exploitation of wild Atlantic salmon and sea trout populations. These would both benefit the levels of salmon and sea trout stocks and would eliminate increasingly indefensible practices in the treatment of sentient wild fish.

5.0 et seq: Farm Management Areas

Regrettably, paragraph 5.1 attempts to rewrite history and constitutes an example of the way in which industry good practice is misunderstood and sometimes represented. Farm Management Areas (FMAs) and the Farm Management Agreements (FMAgs) which normally accompany them were not "originally established in Scottish waters in 2000 to manage ISA". They were, in fact, established over twenty years ago by industry to deal with the management of a bacterial disease (Furunculosis), and the rules and conventions surrounding FMAs and FMAgs were subsequently formalised in the CoGP. ISA zones were defined through predictive modelling of the potential spread of ISAv off the host via currents and tides. The ISA zones published periodically by Marine Scotland Science are specific to ISA and are not "used as the basis of an integrated management strategy for controlling disease and sea lice in fin fish aquaculture areas and limiting the potential impacts on the wider marine environment". These functions are, in fact, delivered through a number of different strategies set out in the CoGP. The FMAs used by industry are set out at http://www.thecodeofgoodpractice.co.uk/farm/farms-introduction.

Paragraph 5.9: Responsibility for the management of FMAs and FMAgs must rest with those who participate. Marine Scotland Science officials have no practical experience of managing FMAs, whilst farmers and their vets have more than two decades' experience, both in FMA management and in dealing with events caused by naturally occurring pathogens and parasites within such areas. With the exception of ISA, where officials are able to exercise significant powers (especially in imposing movement restrictions and ordering the destruction of fish shown to be infected by the ISA virus) Marine Scotland contributes little to the day to day management of fish health (nor should it do so) other than applying and enforcing movement restrictions where powers to do so exist. In relation to "significantly challenged wild salmonid populations" and "evidence of connectivity between sites", any decision to act to enforce decisions on FMA boundaries would inevitably be based either on precautionary speculation or unverified / unvalidated modelling of pathogen or parasite movements which are, in any case, highly likely to be site-specific.

We disagree with the analysis in this paragraph for the foregoing reasons and because there are no consequences or penalties for Marine Scotland if errors are made in decisions on FMA boundaries which result in poorer farmed fish health, unnecessary economic damage to those concerned, or demonstrable effects on wild fish.

Paragraph 5.11: A facility to deal with the functions described in this paragraph is already available in the form of the SSPO's Health Management System, which incorporates the Sea Lice Management System. All marine producers in the SSPO (over 98% of Scotland's production) subscribe to this System and participate in information and data exchange. There is no justification for duplication of effort, or public sector involvement or interference

with this excellent and established facility. Neither is there justification for the expenditure of public money or for the recovery of monies from industry to pay for something that already exists and functions effectively. The proposed involvement of MS is alarming in the extreme, particularly in light of the claims made in the Environmental Report that such involvement would "reduce the risk of unacceptable sea-lice burdens and the spread of disease (with a consequent reduction in the use of therapeutant)" (*sic*) and furthermore that "This would likely have additional benefits for the marine environment and wild salmonid populations". Where is there any basis of evidence for this? Marine Scotland has no track record of successfully managing such initiatives, and the proposal is founded entirely on hypothesis and conjecture.

Paragraph 5.13: The Report fails to identify the number or proportion of operators who conduct their operations outside the provisions of the CoGP. We estimate that fewer than ten of the 250+ currently operational sites fall into this category. We are unaware of how informed MSS FHI are on this issue, and believe it is important that they need to be in order to conduct their activities using a risk-based approach. The proposals are, therefore, wildly disproportionate in relation to the scale of the issue to be resolved.

In conclusion, the stated purpose of the Strategic Environmental Assessment is "to integrate environmental factors into the preparation of the Bill, by identifying potential environmental effects and measures for their mitigation, and ensuring that this information is made available when decisions are made." The Environmental Report presented for comment on 22nd February 2012 fails to fulfil that purpose. Analysis of relevant and publicly available Scottish data reveals that a number of the conclusions in the SEA are unsupported by the evidence and of limited value in considering the proposals for the Aquaculture and Fisheries Bill.

Yours sincerely,

SCOTT LANDSBURGH
Chief Executive

SCOTTISH SALMON PRODUCERS' ORGANISATION (SSPO)

RESPONSE TO THE:

ENVIRONMENTAL ASSESSMENT (SCOTLAND) ACT 2005 AQUACULTURE AND FISHERIES BILL CONSULTATION DOCUMENT ENVIRONMENT REPORT

INTRODUCTION

The Aquaculture and Fisheries Bill consultation has essentially consisted of three documents, inter-dependent in their content. *The Environmental Assessment (Scotland) Act* 2005 report on the consultation, to which we have responded here, provides the last part of the consultation process.

We have responded to the document 'as published'. However, we should note that the main Consultation document did not always indicate firm proposals, rather it raised possible options; the Partial Business and Regulatory Impact Assessment (PBRIA), contains 'favoured proposals' but not in all cases; and the Strategic Environmental Assessment (SEA) has addressed some of those proposals but, in some cases, has changed them slightly from those contained in the main Consultation or PBRIA.

As its starting point, the SEA has accepted the claims made in main Consultation document and the PBRIA, some of which we have contested. Therefore, we consider that, in parts, the SEA is based on questionable premises. Additionally, with respect to sections relating to aquaculture it has limitations in methodology (particularly in regard to locally relevant baseline data) and therefore its analysis and conclusions are misleading.

As stated in the Introduction (paragraph 1.3): *The purpose of the SEA is to integrate environmental factors into the preparation of the Bill, by identifying potential environmental effects and measures for their mitigation, and ensuring that this information is made available when decisions are made.* **The present SEA document does not fulfil that purpose; on an analysis of relevant Scottish baseline data several conclusions in the SEA are unsupportable on the basis of evidence and of limited value in considering the proposals for the Bill.**

In this response we have sought to avoid repeating points which we have made in our earlier two submissions, other than where repetition is essential to allow understanding of the points we wish to make. However, as appropriate, we have made reference to our previous responses.

BILL CONSULTATION DOCUMENT AND APPROACH TO ASSESSMENT (Sections 2.0 and 3.0)

These sections set out broadly described proposals in the Consultation and the specific areas that have been scoped into the SEA assessment. In this response we have focused mainly on those areas.

We are unclear about the reasoning reflected in **paragraph 3.5.** We agree with the conclusion of the screening and scoping report that provision of sea lice data has no significant environmental effects. However, **we are at loss to understand how it has subsequently been included on the basis of 'importance of sea lice counts in identifying treatment efficacy and/or failure', since this is clearly not the case.**

The Healthier Fish Working Group was clear in its deliberations and recommendations that it was not Marine Scotland's role to usurp the powers of the Veterinary Medicines Agency (which is the statutory body that has responsibility for the efficacy of veterinary medicinal products in the UK). Therefore, its conclusions and recommendations were that fish farmers would record situations where there was evidence of apparent failures in the effectiveness of veterinary medicines and, in addition to the voluntary requirement to report to VMD under the Suspected Adverse Reaction Scheme (SARS) scheme, there would be a mandatory as distinct from a statutory requirement to report to Marine Scotland. This proposal was subject to consultation and supported by industry.

What the SEA now seems to be saying is that Marine Scotland proposes to establish wholly new legal powers to undertake evaluations of veterinary medicines: that is not its statutory role or responsibility, and it is professionally not qualified to undertake this task.

Our view is that the inclusion of 'provision of sea lice data' in the SEA takes the scope beyond that which is provided for by the consultation document**. We therefore conclude that it should be regarded as an error in the SEA document.**

Scope of Environmental Topics and Methods (Paragraphs 3.7 - 3.15)

Paragraph 3.8: We note that that the assessment has been scoped on the basis that the provisions would result in:

- 'the improved control of sea lice and pathogens'; and
- 'improved wild salmon and freshwater fisheries management'.

On these points we make three comments:

1. No aspect of the consultation proposals has any consideration of pathogens.

2. The assertion that the proposals will provide for improved control of sea lice rests on the claim that Marine Scotland's personnel (who have limited expertise or experience in fish farm management and no professional veterinary qualifications) are in a better position to manage fish farms than qualified, highly experienced fish farmers and their professional fish veterinarians. This assertion, flies in the face of natural reasoning, and is impossible to justify. We refer to our responses on the main Consultation document and the PBRIA for more detailed discussion of this.

3. The Consultation document and the proposals arising from it make little comment (and will have no impact) on 'improved wild salmon and freshwater fisheries management'.

Paragraph 3.8 and Table 4: The SEA is focused on the Biodiversity of Fauna (Table 4, based on the Good Environmental Descriptors from Annex 1 of the Marine Framework Directive). This states that considerations should be of whether: '*Biological diversity is*

maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.'

It is clear from this statement that the requirement is that the proposals should have no adverse effect. This 'absence of adverse effects' is also the main thrust of the Environmental Assessment (Scotland) Act 2005, although SCHEDULE 3, paragraph 69(d) of that Act makes provision for information in the Environmental Report to include '*positive and negative effects'*.

We therefore note that **paragraph 3.8** states that the proposals (by inference as they relate to aquaculture) have been '*considered to have potential benefits for wild salmonid populations, specifically Atlantic salmon and sea trout'*. This statement, which in terms of paragraph 3.8 above should be interpreted in terms of *'distribution and abundance of species'*, thus seeks for the later sections of the SEA to show:

a) that the *status quo* is having an adverse effect on distribution and abundance of species which would be removed by the proposals, i.e. there is an existing adverse impact that will be alleviated; and

b) that the '*potential benefits'* on distribution and abundance of species will occur, or have a high probability of occurring, in practice.

We therefore note that our later responses show that, with regard to the proposals, the SEA provides no evidence on either of these points.

Reasonable Alternatives (Paragraph 3.16)

The proposals that are contained in the consultation have been justified mainly in terms of '*potential benefits for wild salmonid populations, specifically Atlantic salmon and sea trout' (see above).* The assertion in this paragraph is that there is no alternative to the proposals.

However, both Atlantic salmon and sea trout in Scotland are part of commercial fisheries, exploited in estuaries (mainly through netting) and in rivers (mainly through commercial game angling). This is the case even in areas where there are special designations such as Special Areas of Conservation (SAC's) in which Atlantic salmon are a designated feature.

Over the period 2005-09, each year, some 55,000 Atlantic salmon and 16,500 sea trout were caught and killed in Scotland. Additionally, each year, some 50,000 Atlantic salmon and 11,300 sea trout were caught and released with a significant, but difficult to estimate, rate of mortality, and an unmeasured impact on spawning success. The exploitation of these fisheries has clear and significant effects on biodiversity. Moreover that exploitation is being permitted under circumstances where:

a) there are no national level Atlantic salmon or sea trout conservation programmes in place;

b) there are no scientifically established stock conservation levels for any Scottish rivers, either within or outwith designated areas;

c) there are no scientific controls to set Total Allowable Catch (TAC) limits; and

d) whilst netting effort is restricted and recorded; there are only very cursory limits on rod fishing and fishing effort is not recorded.

Contrary to the SEA statement, there are clear and obvious alternative measures that could be taken: namely regulate, and where necessary curtail, the exploitation of wild fisheries to safeguard fish populations and the biodiversity.

INTERACTIONS BETWEEN AQUACULTURE AND WILD SALMONIDS (Section 4.0)

This section of the document methodologically fails to fulfil the requirements of the Environmental Assessment (Scotland) Act 2005 and the Scottish Executive's Strategic Environmental Assessment Tool Kit (1) (see Appendix 1). **Specifically, the SEA has not gathered and presented baseline data directly relevant to the matters and proposals under consideration as they relate to the circumstances in Scotland.**

Relevant Data for Atlantic Salmon (Paragraphs 4.12 – 4.13)

Paragraph 4.12: Contrary to what is stated, *the salmon population* is not measured, nor are the figures *based on effort.* Rather, the figures are based on *fish catches as obtained by survey returns submitted to Marine Scotland***.** Thus the figures are for *declared catches* and do not directly measure population or stocks.

There are a number of ways that declared catch figures can be represented or interpreted. The most straightforward, and arguably the most reliable, approach is to use the total catch recorded by all methods (which we have adopted here). An alternative is to calculate Pre-fisheries Abundance (PFA) where the number of the fish caught at estuarine netting stations and the numbers of fish caught by rod in the river are elevated to a higher 'assessed stock' level. This may be done by computer modelling (2). It is also sometimes attempted by summing the netting catch plus a scaled up value of the rod fishing catch. For example, this approach might assume an 'efficiency of rod fishing' of 0.15 (i.e. 15% of all fish entering the river are assumed to be caught). However, the efficiency of rod fishing varies with fishing effort, actual stock levels and other factors; this undermines the reliability of estimates of these types of PFA calculations.

Whichever approach is used to represent catch numbers, it is only meaningful if it takes account of 'catch and release' fishing, which in Scotland is now a predominant form of rod-fishing. Against this background, the presentation of information in Figure 3 is misleading since it is based solely on 'catch and retain' fishing. This massively underestimates the fish catches and compromises the use of catch data as an index that might reflect fish populations. For example, if there is 100% 'catch and release' the SEA approach would conclude there are no fish in the river, despite the obvious fact that many fish are being caught.

Revising the information to take account of catch and release fishing provides a very different picture to that represented in the SEA. This shows that whilst total salmon catches have declined since the late 1960s (Figure 1a) the change has been associated

predominantly with a reduction in salmon netting. By contrast, catches from rod fishing have increased progressively over the period of recording since 1952 (Figure 1b). Thus in 1952-57 rod catches averaged 41,323 per year, whilst in 2005-09 they were 84,856, a more than doubling of catches over the period.

It is also important to note that the decline in netting catches directly reflects the decline in netting effort (man months of netting effort), rather than being a direct reflection of a decline in salmon stocks and lower catch per unit of effort. The reduced netting has resulted partly as a consequence of the impact of market-competition from salmon farming on the viability of netting businesses, and partly as a result of netting stations being bought for closure by rod fishing interests.

Sea Trout (Paragraph 4.14)

The points in respect of salmon are also relevant to sea trout; the data given in the report require to be adjusted to reflect 'catch and release' fishing. The relevant data is given in Figures 2a and 2b. These show that, in the case of sea trout, the reduction in total catch over the period is quantitatively largely accounted for by the reduction in netting but, in contrast to salmon, sea trout rod catches have also declined throughout the period.

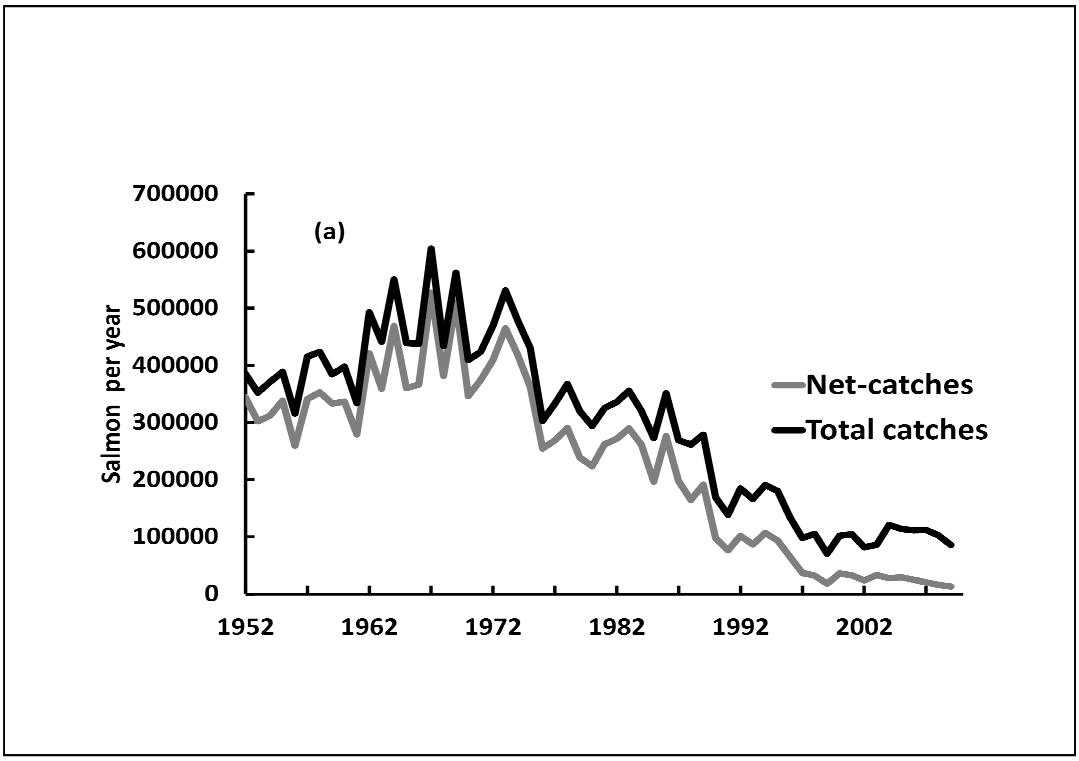
The SEA indicates that there are significant differences in the catch trends between east coast and west coast fisheries, with the east coast rod catches indicating no long-term trend and the west coast catches showing a trend of decline. However, analysis of the east coast total catch and west coast total catch data show that they are highly correlated statistically (R^2=0.86). This points to the fact that the difference in rod catches between the two fisheries relates to the relative pattern of change in netting versus rod catching in each, and the effects of reduced netting in 'releasing' additional fish for rod fisheries. Thus, for example, in 1952-55 east coast net fisheries accounted for an average of 83.9% of total catches but in 2005-09 this figure had reduced to an average of 31.2%; by comparison the corresponding figures for the same periods in west coast fisheries were 50.55 and 9.6%.

Indeed, analysis of District Salmon Fisheries Board regions throughout Scotland both on the west coast and the east coast show a consistent pattern; reductions in rod caught sea trout over the years are least in regions where there was a significant netting sector, the decline of which has 'released' fish to the rod fisheries.

Reasons for Catch Declines (Paragraph 4.15)

There is no debate about the reasons for the decline in wild salmon and trout catches being potentially multi-factorial. However, the NASCO (2006) reference quoted is quite old and does not represent the most up to date position. It is now recognised that the main contributors to reductions in Atlantic salmon populations are encountered during its period of marine residence (1). They are evident in a reduction in the number of returning spawning salmon and a poor condition of many of the salmon that do return.

Figure 1. Analysis of Scottish Atlantic salmon catches 1952-2009: (a) annual total salmon catches by all methods and catches by netting; (b) annual rod fishing catches with trend line shown. (In (a), Total salmon catches include catches by all methods including: fixed engine netting; net and cobble; rod, 'catch and retain'; and rod, 'catch and release'. In (b), Total rod catches include 'catch and retain'; and 'catch and release'.



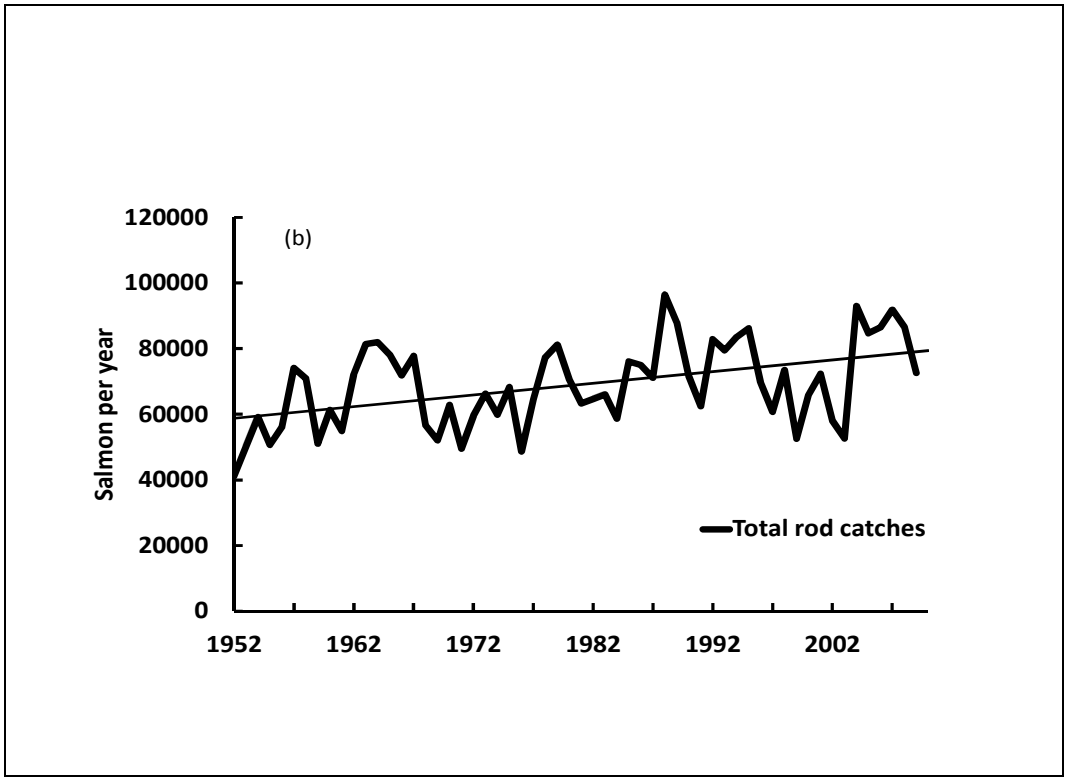
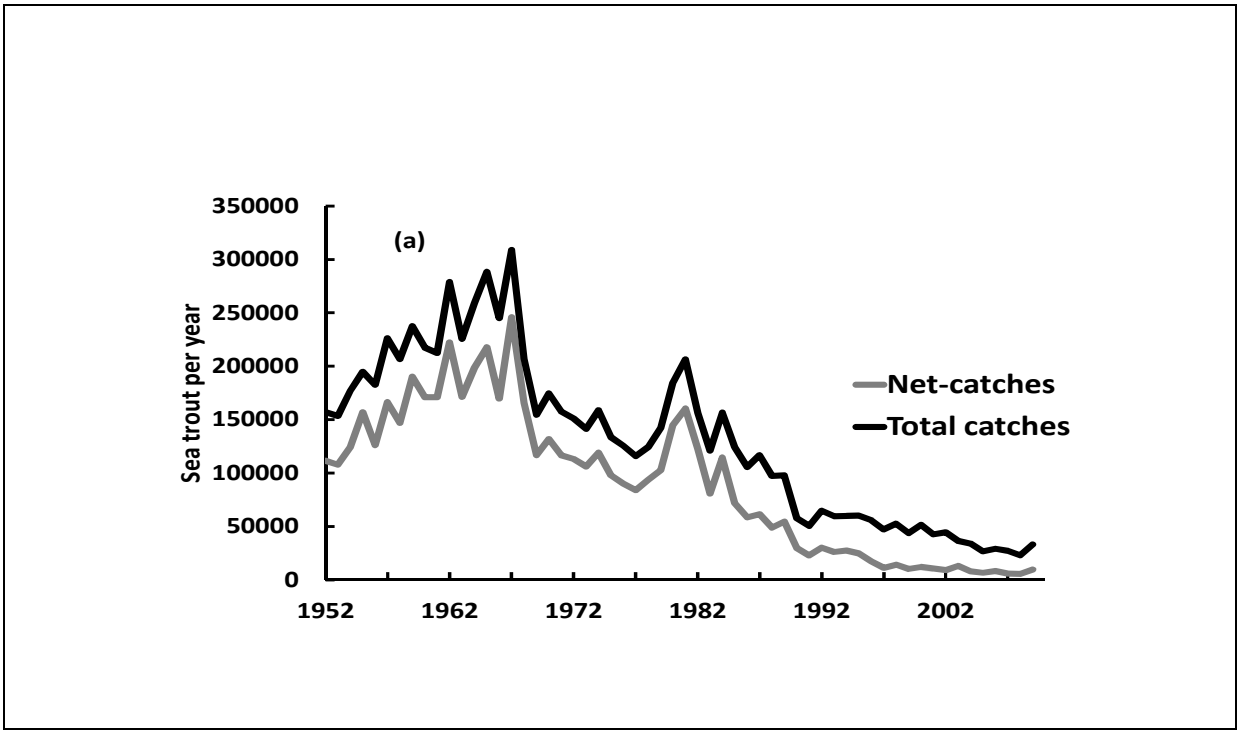
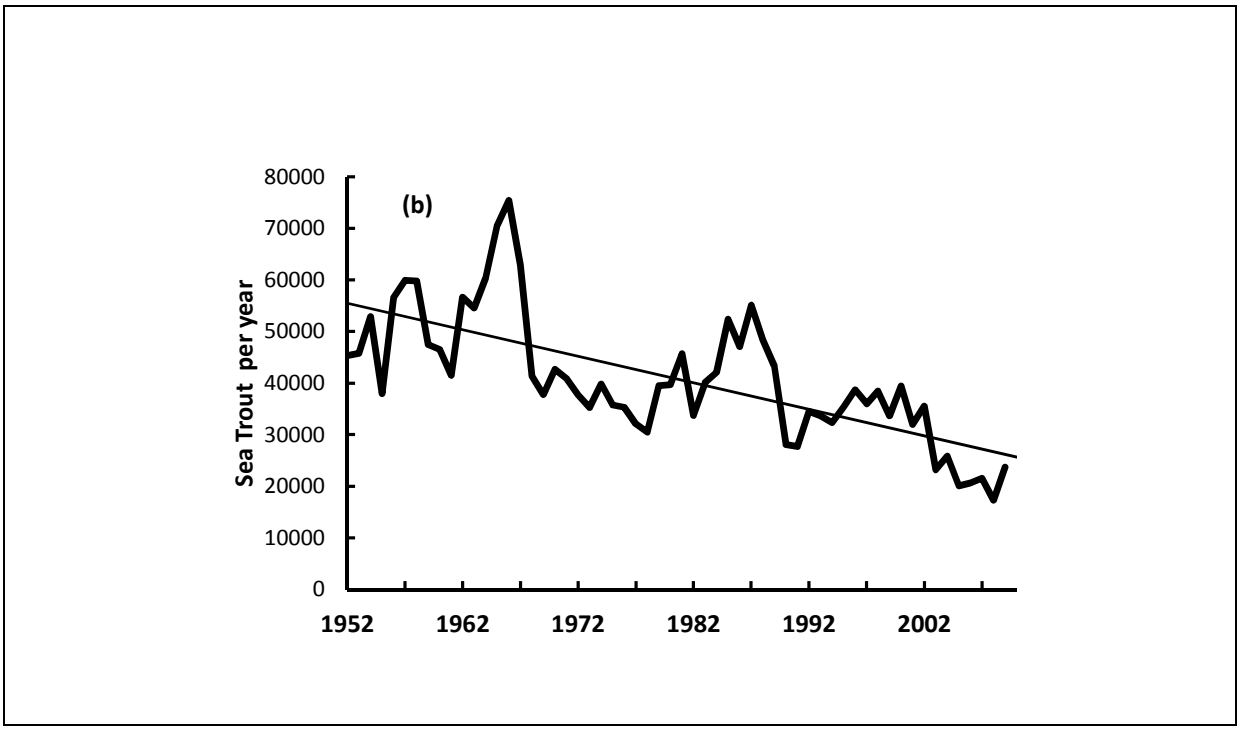


Figure 2. Analysis of Scottish Atlantic sea trout catches 1952-2009: (a) annual total sea trout catches by all methods and catches by netting; (b) annual rod fishing catches with trend line shown. (In (a), Total sea trout catches include catches by all methods including: fixed engine netting; net and cobble; rod, 'catch and retain'; and rod, 'catch and release'. In (b), Total rod catches include 'catch and retain'; and 'catch and release'.





Also, there has been scientific progress in trying to quantify the impact of selective factors on the marine mortality of Atlantic salmon. In three recent studies in Ireland (3, 4, 5) outwardly migrating salmon smolts have been treated with a veterinary medicine providing approximately 9 weeks of protection against sea lice infection. These studies are not able to separate influences of sea lice derived from salmon farms and sea lice acquired more generally from wild fish sources. However, they do allow comment on the total impact of coastal sea lice infestation.

These studies, in total comprising a total of 33 paired observations, show that in the vast majority of cases (94%) any reduction in mortality attributable to sea lice is small. The most interesting of the studies (3) were undertaken over the period 2001-2008 when repeated observations were made at a single site where the marine mortality increased linearly year on year from 89.72% to 97.98% over the period of the study. Over this period the average impact of sea lice on mortality was measured as 0.86%.

Wild Salmonid Interactions with Finfish Aquaculture (Paragraph 4.16)

Attention is drawn to the location of salmon farms as being on the west coast of Scotland, Western Isles, Orkney and Shetland. However, they are in fact rather more specifically located since for mainland Scotland they are solely located: on the north-west coast; bordering the Minches and Malin Sea; and in the Clyde region (6). There are no marine fish farms in the Solway region.

No information is provided on the locations of the main Scottish wild fisheries. But catch data (Table 1) shows that the main wild salmon and sea trout fisheries are not, and have never been, in the areas where salmon is farmed. Thus, there is very little scope for salmon farming to have any nationally important impact on wild salmon or sea trout fisheries because the main fisheries and farming areas do not coincide in their location.

Table 1. The distribution of wild salmon and sea trout total catches between regions of Scotland where salmon are farmed and where they are not. Figures are averages for periods 1952-1979 and 1980-2009. Commercial salmon farming in Scotland began in 1980.

Species	Periods	Farmed Areas (% of Total catch)	Non-farmed Areas (% of Total catch)
Atlantic salmon	**1952-79**	**11**	**89**
	1980-09	**10**	**90**
Sea trout	**1952-79**	**15**	**85**
	1980-09	**14**	**86**

The term ‘interactions’ in the title of this section correctly implies a two way process. Therefore it should be noted that wild fish are the initial primary source of sea lice infections of farmed salmon and that farming systems are designed to protect against infestations from inward migrating wild fish, as well as providing protection for outward migrating smolts.

Sea Lice (Paragraph 4.17- 4.23)

Paragraph 4.19: Not only do sea lice occur naturally on wild salmon and sea trout but they are endemic to marine living salmon and sea trout in all parts of the UK, both within and outwith salmon farming areas. Whilst there is evidence that sea trout will return to fresh water as an adaptive behaviour to reduce sea lice burdens, wild fish populations are not 'cleansed' of sea lice because some fish adopt this mechanism; multi-year sea trout are a recognised vector of sea lice transfer within the wild population.

The paragraph omits to say that, as distinct from wild salmon or sea trout, farmed salmon are genetically selected (now including for sea lice resistance) and are therapeutically treated against sea lice infestation. It is well documented that sea lice levels on farmed salmon may be lower than those on inwardly migrating wild salmon or marine resident sea trout.

Paragraph 4.20: There is no evidence to show that farmed fish are a more important contributor than wild fish to the total sea lice in the maritime environment. Rather the data that exists suggests that the contribution of sea lice to the maritime environment depends on the number of fish and their level of infestation with copepodid (egg) shedding sea lice. This applies whether the fish are farmed or wild.

Paragraph 4.20: The statement that 'there is a strong correlation between sea lice levels on fish farms and in the local environment' attributed to Penston and Davies (2008) is a misquotation of the findings of the paper. Additionally, the statement fails to make a key point reported in the paper, namely: 'No correlation was found between mean copepodid densities in the water column and the numbers of gravid *L.salmonis* on wild salmonids –'. There is no question that sea lice from farmed fish (as distinct from wild fish) can contribute to the sea lice copepodids present in the environment. However, it has been shown that there can be substantial infestations on inwardly migrating wild salmon and locally resident sea trout when there are no significant levels of sea lice on adjacent salmon farms. There can be issues of sea lice infestation in wild salmonid populations where sea lice levels on fish farms are well controlled or even where there are no fish farms at all.

Paragraph 4.22-23: These paragraphs make three linked points. Firstly, through the quotation from the WWF report it is established that there is no sound scientific evidence that sea lice from fish farms exert detrimental effects on wild salmonids. However, they are a recognised hazard in risk management terms (Appendix 2); thus a precautionary risk management should be adopted.

Secondly, it is indicated that '*sea lice of farm origin can present, in some locations and for some host species populations a significant threat'* but no generalised risk is identified. Rather sea lice are identified as a hazard and therefore presenting a potential risk that needs to be managed (Appendix 2).

Thirdly, whilst it is indicated that a precautionary risk management approach should be adopted, this is already the approach in Scotland under the operating systems used and the requirements of the CoGP.

We consider the text should have been clearer and more explicit in stating these points.

Paragraph 4.22: This paragraph also states in its opening sentence that the extent to which wild populations may be affected by sea-lice is not clear. In the sense that sea lice are an endemic parasite in wild salmonids, and there is no 'non-parasitised' population to act as a comparison, this statement is self-evidently true. However, in juxtaposition to the paragraph that follows it can be taken to imply that there is an effect of sea lice from farmed fish but its scale is not clear.

We would point out that the risk of sea lice to wild salmon is specifically in respect to infestation of out-migrating smolts. We therefore draw attention to our discussion above, which shows that coastally acquired sea lice have only a very small effect in increasing the marine mortality of Atlantic salmon.

Escapes

Paragraph 4.25-4.26: We have commented in our earlier submissions that the fish farming industry in Scotland has a major focus on minimising fish escapes because they represent an important loss to the industry, as well as a potential hazard to wild fish.

We are very surprised that in this section there is such a focus on data from Norway. It is well established that the level and pattern of escapes of farmed fish in Norwegian fjords is quite different to that experienced in Scotland. An experimental, simulated escape involving 678 fish in Scotland reported that no fish were later recovered in Scottish waters. By comparison a corresponding release of 597 fish in Norway resulted in 7% being recovered within 150 km of the point of release (7).

Marine Scotland Statistical Bulletins on Scottish salmon and sea trout catches (8) have consistently reported the proportion of farmed fish caught by netsmen and anglers to be 1% or less of total catches. Thus, at the levels recorded, there is no possibility that escaped farmed fish will significantly influence the genetics of the wild population. However, significant genetic changes are likely to result through the routine management practices and angling patterns in wild fisheries, which have created a selection pressure for 'fitness' over a period of hundreds of years. This, by its nature must reduce genetic diversity.

Paragraph 4.26. No one would question that there is potential for inter-breeding between escaped fish and wild fish to change the genetic characteristics of the offspring. That is simply stating that two fish of the same species but selected under different breeding pressures could breed and that the offspring would be of mixed genetics. However, the statement that: '*This can pose a significant risk to the genetically distinct wild populations found in Scotland's rivers through effects such as reduced local adaptation of wild stocks'*, is presented without any evidence. The reference that is quoted (8) offers no significant study to show that escapes in Scotland have impacted on the genetic diversity of the wild population. There is in fact no evidence that demonstrates that escapes from Scottish salmon farms have led to impacts on the genetics of the wild salmon stocks, indeed the research evidence is to the contrary.

FARM MANAGEMENT AREAS (Section 5.0)

Paragraph 5.1: It is a minor point, but farm management areas were first established and used by the salmon farming industry in 1991 in Loch Sunart. They were established by Marine Harvest, McConnell Salmon and independent farmer Les Hinds. This is well remembered in the salmon industry since it was a landmark event.

Proposals, Paragraph 5.7: We have commented fully on this proposal in our two previous submissions. We fully endorse the need for binding FMAg and a system of dispute resolution. However, we believe there are significant legal and operational issues with the approach proposed. We have identified potential solutions for discussion with the Scottish Government.

Potential Effects and Environmental Impact, Paragraphs 5.1-5.6: In its 'potential effects' the SEA simply describes the benefits of the existing FMA and FMAg system. It does not address the consequences of the proposals that are made.

Status Quo, Paragraph 5.13: We have addressed the operation of the FMA, FMAg and CoGP systems in our earlier responses. In terms of the SEA, the claimed benefit to wild salmonids is wholly speculative; there is no evidence that wild salmon populations are being put at risk by the operation of the present system.

SEA-LICE, MORTALITY, DISEASE AND PRODUCTION DATA (SECTION 6)

Current Situation, Paragraph 6.1-6.2: It should be stated for clarity that Marine Scotland already has powers to inspect all aspects of animal health and fish farm management which are described under statute. Thus**,** what is described in the proposals does not relate to Marine Scotland's access to information in any circumstances where they require it. Rather it relates to a proposal to legally compel farmers to publish their farm business records. As correctly identified in **paragraph 3.5**, this measure has no significant environmental benefit, and it should therefore have been screened out of the SEA.

Proposals and Effects Paragraph 6.3: We note that the proposals as set out here go beyond those described in the main Consultation document. However, we have already addressed them in our previous responses. What is slightly clearer in the SEA is that Marine Scotland seems confused about its role in relation to the governance structure of farming businesses operating in a legally regulated business economy.

So far as it concerns the SEA, we note the statements:

- 'The improved management of fish mortality, disease and sea lice treatment in particular, will be of benefit to the wild salmon population' (**Paragraph 6.4);** and

- At present finfish farm operators collect data but this is not subject to overview and coordinated action. There is a risk that continuing the *status quo* will undermine efforts to control sea lice and pathogens, with associated risks to wild salmon populations.' (**Paragraph 6.6**)

These are assertions that are made without any supporting evidence and against natural reasoning. They are speculative claims which are unrelated to the proposals (i.e. to publish farm records). They depend on the acceptance of two propositions: (a) that present systems have an unmanaged risk to wild fish – and as we have seen there is no evidence of that; and (b) that Marine Scotland is more capable of managing fish farms that the highly professional companies who currently do so. Contrary to the SEA's supposition that there are no significant negative effects of the proposals, they will significantly damage Marine Scotland's reputation and further reduce its effectiveness in working with the aquaculture industry.

BIOMASS CONTROL (Section 7)

Proposal, Paragraph 7.4: Since the SEA still doesn't specifically set out the detail of the proposal, it is impossible to assess whether it has correctly assessed the situation or not.

Potential Effects, Paragraph 75-7.7: These paragraphs don't make sense and appear to be based on a notion that fish farming is an activity without normal systems of management or management intervention.

Status Quo, Paragraph 7.8: Since no continuing risk to wild fish populations has been identified (see earlier sections), what is the basis for suggesting the measures will create improvement?

WELLBOAT CONTROLS (Section 8)

Current Situation, Paragraphs 8.1-8.6: It is difficult to see how this narrative relates to the proposal?

Paragraph 8.6: The intention in paragraph 8.6 is not clear. Is it being proposed that there should be different statutory standards and regulations for discharge from well-boats and from net-pens operating at the same site? This appears illogical and compounds the present confusion between CAR discharge licences and Marine Licences (formerly FEPA licences).

Proposal, Paragraph 8.8: The decision to separate the different elements of this proposal under screening and scoping is difficult to understand. However, we have considered both aspects in our response to the main consultation. We are supportive of the continued innovation in wellboat technology, although we have reservations whether the present legislative proposals are the way to facilitate development.

Continuing Status Quo, Paragraph 8.11: Since the evidence indicates that present systems do not have an impact on wild fish populations there is no basis for claiming there would be benefits arising from the proposals.

FARMED FISH PROCESSING PLANTS (Section 9)

Proposals, Paragraph 9.7: We have commented in our PBRIA response that, until there is some evidence that there is a problem to address, consideration of additional legislation is premature. Additionally, we note a change in emphasis in the SEA, in that it now appears to be considering special legislation that would apply only to plants processing farmed fish. We consider this inappropriate in biosecurity terms. If there is a problem to address, and until

investigation has been carried out we are not sure there is, all fish plants with a potential discharge to the sea should be included in the consideration.

Status Quo, Paragraph 9.10: Until some investigation has established that there is a problem to be addressed this assertion is wholly speculative.

SEA LICE (Section 10)

Current Situation, Paragraph 10.1-10.6: We have discussed this proposal at some length in our previous responses. Essentially we find it ill-founded in concept and lacking scientific understanding of sea lice management in practice.

Paragraph 10.4: We concur that the number of sea lice treatments that is currently available on the market in the EU is relatively small. We would therefore welcome any action that Marine Scotland could take to address this issue, either through research into new technologies or through initiatives to provide access to new products available in other jurisdictions outwith the EU.

Proposals, Paragraph 10.7: We note that the proposal set out is different from that contained in the earlier documents. We have already fully discussed the proposals in our earlier responses but for completeness we note the following key points:

1. It is the farmer of the fish, and no other, who is legally responsible for fish health and welfare.

2. The thresholds in the CoGP are guidance thresholds. They are intended to be interpreted by the farmer as part of his local management process. Depending on circumstances, treatments may be made below and above the suggested treatment thresholds.

3. There is a need to establish conservation limits and related TAC controls on wild fisheries so that evidence-based conservation programmes can be introduced where necessary.

Potential Effects, Paragraph 10.8: There is no evidence to support this contention which appears to be based on a theoretical perception of sea lice management.

Mitigation, Paragraph 10.9: This comment reflects a lack of understanding of the issue of resistance to veterinary medicines, which is highlighted in paragraph 10.4. Development of resistance becomes an increasing problem in any situation where veterinary medicines are used under less than optimal conditions. This is exactly what would result from the proposals.

Paragraph 10.10: Since there is no evidence of present negative effects on wild fish catches, what is the basis for claiming that the proposals will improve matters?

ESCAPES (Section 11.0)

Current Situation, Proposal and Potential Effects Paragraphs 11.1 – 11.8: Salmon farmers place great emphasis on containment of their fish. As we have indicated in our previous responses, there is broad industry support for the development of a Scottish

Technical Standard and, subject to considerations about its introduction, we regard the proposals as beneficial. We would, however, caution that standards (and even an inspection regime) are not sufficient to minimise escapes. Operator training and continuing professional development are key considerations and have been areas where industry, through the SSPO, has been active.

Status Quo, Paragraph 11.10: As we have indicated above, there is no evidence of significant interbreeding between wild and farmed salmon having taken place in Scotland. The risk of significant genetic impact of escaped farmed fish appears to be small compared to other likely effects arising from selection pressures on the wild population.

SALMON AND FRESHWATER FISHERIES MANAGEMENT (Section 12.0)

We have commented on these proposals in our earlier responses. We have nothing specific to add to the SEA consultation.

LICENSING THE INTRODUCTION OF SALMONIDS (Section 13.0)

We have previously expressed our view that the present Marine Scotland arrangements for dealing with the introduction of wild salmonids into open water is in contravention of the Directive 2006/88 EC. The present procedures create an unacceptable risk of spread of disease to the wild and farmed fish populations in Scotland.

SUMMARY OF ENVIRONMENTAL EFFECTS (Section 14.0)

We have already pointed out above that the claims for positive environmental benefits for most of the proposals in the Bill are impossible to support on the basis of the evidence available. Since current statistical evidence is that fish farming in Scotland is not having a measurable negative impact on wild salmonid catches, it is not possible to predicate with any confidence that the proposals will lead to improvements in catches. Additionally, several of the proposals appear to be designed to transfer responsibility and decision-making from specialist fish farmers to provide Marine Scotland with greater powers to control day to day farm operations. We view that as likely to have negative impacts, on farm management and environmental management.

Appendix 1: Bibliography.

(1) Scottish Executive (2006) Strategic Environmental Assessment Toolkit,

http://www.scotland.gov.uk/Resource/Doc/148434/0039453.pdf.

(2) Chaput, G (2011) Overview: Status of Atlantic salmon (*Salmo salar*) in the North Atlantic and Trends in Marine Mortality, NASCO Salmon Summit, La Rochelle, France, http://www.nasco.int/sas/salmonsummit.htm.

(3) Jackson, D, Cotter, D, OMaoileidigh, N, O'Donohoe, P, White, J, Kane, F, Kelly S, McDermott, T, McEvoy, S, Drumm, A, Cullem, A and Rogan, G (2011) An evaluation of the impact of early infestation with the salmon louse *Lepeophtheirus salmonis* on the subsequent survival of outwardly migrating Atlantic salmon, Salmo salar L., smolts. Aquaculture, 320, 159-163.

(4) Jackson, D, Cotter, D, OMaoileidigh, N, O'Donohoe, P. White, J, Kane, F, Kelly, S, McDermott, T, McEvoy, S, Drumm, A and Cullen, A (2011) Impact of early infestation with the salmon louse *Lepeophtheirus salmonis* on the subsequent survival of outwardly migrating Atlantic salmon smolts from a number of rivers on Ireland's south and west coast. Aquaculture, 319, 37-40.

(5) Gargan, P G, Forde, G, Hazon, N, Russell, DJF and Todd, C D (2012) Evidence for Sea lice induced marine mortality of Atlantic salmon (*Salmo salar*) in Western Ireland from experimental releases of ranched smolts treated with emamectin benzoate. Can. J. Fish Aquat. Sci., 69, 343-353.

(6) The Scottish Government (2011) Scotland's Marine Atlas, p. 145.

(7) Hansen, L P and Youngson, A F (2010) Dispersal of large farmed Atlantic salmon, *Salmo salar*, from simulated escapes at fish farms in Norway and Scotland. Fisheries Management and Ecology, 17, 28-32

(8) Ferguson, A, Fleming, I A, Hindar, K, Skalla, O, McGinnity, P, Cross, T and Prodohl, P (2007) Farm Escapes. In Atlantic Salmon: Genetics, Conservation and Management (Verspoor, E, Stradmeyer, L and Neilsen, J Eds.) Chapter 12, 557-398, Blackwell, Oxford.

Appendix 2: Risk Management in Aquaculture.

FAO Fisheries and Aquaculture Technical Paper 519, 'Understanding and Applying Risk Analysis in Aquaculture' (29) provides a comprehensive guide on all relevant aspects of hazard identification, risk assessment, risk management and risk communication in respect of aquaculture. For the purpose of this response, it is only necessary to define the three technical terms that are used in our comments and recommendations. Specifically, it should be noted we have commented using the following, well defined terminology.

Hazard – A hazard is the inherent property of an agent or situation of being capable of having an adverse effect on something. Hazard identification is the very first step in any process of risk assessment.

Risk – Risk describes the probability and severity of an adverse effect or event occurring as a result of the risk source (i.e. the hazard).

Risk Management – Risk management is the process whereby a risk is eliminated or reduced to a point where it is not quantitatively important within the system criteria that are set.

Thus, whilst sea lice and escapes from fish farms present a hazard to wild fish under some conditions, farm management of sea lice and effective containment of fish reduces the risk to a level that is not quantitatively important. All farms in Scotland operating under the CoGP are operated in a way designed to manage risks to wild fish. The evidence supports the conclusion that this is effective.