TRANSPORT AND THE ENVIRONMENT COMMITTEE

AGENDA

9th Meeting, 2002 (Session 1)

Wednesday 20 March 2002

The Committee will meet at 9.30 am in Committee Room 1, to consider the following agenda items:

1. **Item in Private:** The Committee will consider whether to take agenda item 3 in private.

2. **Subordinate Legislation:** The Committee will debate the following motion—

   S1M-2776 Bruce Crawford: That the Transport and the Environment Committee recommends that nothing further be done under the Scotland Act 1998 (Agency Arrangements) (Specification) Order 2002.

3. **Aquaculture Inquiry:** The Committee will consider possible areas of questioning for witnesses on its inquiry into aquaculture.

4. **Aquaculture Inquiry:** The Committee will take evidence as part of its inquiry into aquaculture from—

   Patrick Fothringham, Professor David Mackay, Jeremy Read and Andrew Wallace, Salmonid Fisheries Forum.

   Richard Luxmoore and Alastair Davison, Scottish Environment Link.

   Matt Dalkin and Dominic Counsell, Scottish Natural Heritage.

   Jeremy Hooper, Tesco.

   Ian Burgess, Co-operative Retail.
The following public papers are relevant for this meeting:

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Meeting No: 9th Meeting, 2002

Meeting Date: 20 March 2002

Author: Note by the Assistant Clerk

Introduction – SI 2002/261


2. This instrument was laid under a negative procedure, and the time limit for Parliamentary action expires on 15 April 2002. The Committee is required to report on the instrument by 25 March 2002. A motion for the annulment of the Order has been lodged and the procedure for considering this motion is outlined below.

Details of the instrument

3. This instrument specifies functions in relation to the non-statutory domestic emissions trading scheme for the purposes of including them in an agency arrangement so that they may be carried out by a Minister of the Crown on behalf of Scottish Ministers, allowing the scheme to operate UK-wide.

Subordinate Legislation Committee

4. The Subordinate Legislation Committee considered the instrument at a meeting on 26 February 2002, and agreed that no points arose on the instrument. In its 13th Report, 2002, the Committee determined that the attention of the Parliament need not be drawn to the instrument.

Motions for Annulment - Procedure

5. The motion for annulment reads: “That the Transport and the Environment Committee recommends that nothing further be done under the Scotland Act 1998 (Agency Arrangements) (Specification) Order 2002”.

6. The member lodging the motion will be invited to speak to the motion and then formally move it. A debate of up to 90 minutes is permitted on the motion (Rule 10.4.2). The member of the Scottish Executive or junior Scottish Minister in charge of the instrument, plus the member lodging the motion for annulment, are
entitled to attend the Committee meeting and participate in the meeting for the purpose of debating the motion. However, only members of the Committee can vote on the motion.

7. The Transport and the Environment Committee has adopted the practice of holding an informal session before the formal debate on affirmative instruments to raise technical points of clarification or other questions. This practice was also adopted on previous occasions that the Committee considered a motion for annulment. It allows the Minister’s officials to participate in the informal discussion before the formal debate, which they cannot participate in.

8. During the formal debate, after the member who has lodged the motion for annulment has spoken and formally moved the motion, the Minister is invited to respond, followed by other members of the Committee. Members may address questions directly to the Minister, but should do so on a member to member basis, not as members questioning a witness. The debate can last a maximum of 90 minutes.

9. After other speakers have contributed, the Minister will be given an opportunity to respond to points raised in the debate, and then the mover of the motion can make any concluding remarks.

10. The mover of the motion will then be asked whether he or she wishes to withdraw the motion, or press it to a decision. If the member wishes to withdraw the motion, the Committee will be asked if any member objects. If any member of the Committee objects, the question on the motion must be put.

11. If the question is put to the Committee (either by the mover of the motion or another member), and the motion is agreed to, the Committee has recommended annulment and the Bureau must then lodge a motion for the whole Parliament to consider under Rule 10.4.4, proposing that nothing further is to be done under the instrument. The Committee is still required to report on the instrument.

12. If the question on the motion is put to the Committee and is disagreed to, the Committee has decided not to recommend annulment. Although this means there will be no debate in the Chamber, the Committee must still report to the Parliament on the instrument.

13. The Committee’s report on the instrument to the Parliament might usually involve recording the results of the Committee’s debate on the motion.

Recommendation

14. The Committee is invited to debate and report on Motion S1M-2776 which recommends that nothing further be done in relation to the Instrument.

Alastair Macfie
Assistant Clerk to the Transport and the Environment Committee
March 2002
Submission from the Salmonid Fisheries Forum

1) What the respective roles of the Executive and the aquaculture industry should be in taking forward the future of aquaculture in Scotland.

Government has two inter-linked roles to play in terms of the future of the aquaculture industry. It must ensure that the impact of the Industry, on the environment itself and on others whose interest depend on the environment, is minimised. This demands the achievement of an effective regulatory system. With this in place, Government can then be in a position to carry out a secondary role of promoting and supporting the Industry.

There is general acceptance that there have been past shortfalls in the achievement of this regulatory responsibility. Indeed, these shortfalls led to the setting up of the Inquiry, and they have been well rehearsed in the previous evidence of a number of witnesses. As the Committee has recognised, the opportunity now exists to remedy this situation, and it is essential that current legislative and administrative possibilities should be exploited to the full in order to achieve this.

The Tripartite Working Group has shown that real progress can be made in satisfying the common interests of Government, the aquaculture industry, and wild fish and fishery interests. For example, the need for streamlined and effective regulation is well recognised by the industry. Much has been achieved on a voluntary basis, but the deficiencies of agreements which have no sanction, and which do not apply to the whole of the industry, nor cover the entire area affected by aquaculture, are self-evident. We will be prepared to discuss these deficiencies in more detail at the hearing.

The aim must therefore be to underpin and strengthen the current limited voluntary agreements in order to make them fully effective, in the joint interests of all three parties involved, and for the overall benefit of the environment.

2) How the aquaculture industry can increase its competitiveness in the international marketplace.

We do not believe that wild fishery interests are well placed to answer this question. However, it gives rise to a serious note of caution. Given the apparent decline in profit margins, and the increasing competitiveness of the comparatively cheap high volume production achieved by Norway and Chile, there is likely to be an understandable desire by the Scottish industry for a marked increase in production in order that it may itself attain greater economies of scale. Until it is feasible to assess accurately the “carrying capacity” of Scottish coastal waters for salmon or other aquaculture, we consider that the precautionary must argue strongly against any significant general increase in production, either overall or locally.
3) How the industry can best achieve environmental sustainability in the future.

The members of the Salmonid Fisheries Forum have read the Transport and Environment Committee’s Report on Phase 1 of the Inquiry with interest, and welcome the care with which the Committee has considered the issues. There can be no question that an integrated and effective implementation of many of the Committee’s considered recommendations should greatly strengthen the environmental regulation of the Industry. We would encourage the Committee to apply as much pressure as possible to this end.

In the evidence that we gave to the Committee in the first phase of the Inquiry, we touched on many of the questions affecting the environmental sustainability of the Industry. We would like to reiterate that we believe that the only hope of achieving sustainability lies in ensuring that a comprehensive regulatory system is put in place that covers all environmental issues, that is flexible enough to be made to work effectively as technology and knowledge advances, and that has sufficient force to ensure compliance. The achievement of sustainability requires that difficult questions be asked when necessary, and that difficult decisions be taken.

For those concerned with wild fish, the greatest single threat to the interests that we represent remains that presented by sea lice. That issue must be addressed if the Industry can be said to have an environmentally sustainable future. We have focussed on this particular issue, but most of the arguments for the way that it should be tackled are equally applicable to the other potential environmental problems presented by the operation of salmon aquaculture.

We welcome the fact that the sea lice issue has been considered so fully in the Committee’s report. However, there are two areas that we believe would benefit from further consideration. We are pleased to note that the Committee supports the proposal that sea lice should be considered in the determination of assimilative capacity and note that the Committee has taken a view on the way in which it believes the lice burden should be handled. We would stress that effective regulation both of sea lice levels and of the methods of minimising those levels is an essential component of the determination of assimilative capability.

In this context, we note the view of the Committee that the sea lice issue should not be managed by SEPA but should be dealt with under Fish Health legislation. We still contend that it would be best if this particular environmental aspect were managed by a single regulator; it is in our view essential that a balanced view should be taken so that the net impact on the environment of both sea lice and chemical therapeutants can be assessed objectively. However, we believe that the debate would benefit by an examination from a different angle.

We suggest that there are two elements in a system for the control of sea lice. The first is to implement proactive measures with the purpose of preventing the problem from reaching danger level. The second is the reactive action to deal with the problem when that situation arises. Historically, the louse problem had only been addressed by
the treatment-based approach. However, the work that has been carried out through the development of Area Management Agreements has shown that managing the process of fish farming in order to reduce levels of lice is extremely effective. The Committee has acknowledged in its report that synchronised production, fallowing and disease treatment are crucial management tools in the context of sea lice control. We believe that this approach should be supported so that it becomes the principal way in which lice are controlled. In order for this to happen it will be necessary to incorporate the mandatory application of the appropriate Best Available Techniques (BAT) into the regulatory regime. If this were the case, then SEPA would be able to act as regulator without a conflict of interest. The Fish Health organisation could then come into play to serve as a backstop, in dealing with sea lice infestations if they became established despite this employment of best practice.

We believe that this dual approach would present an acceptable solution. We would invite the Committee to consider strengthening its view that the best way of ameliorating the problems of sea lice, and other related issues, is through regulating the process of fish farming, and not simply through regulating discharges of pollutants, including sea lice, into receiving waters. To this end we would suggest that the Committee should recommend that provision should be made for SEPA to attach conditions to consents, which would require that BAT should be employed with regard to lice management and other potential problems. We would also argue that there must be a means of enforcing these conditions. There could then be supporting regulations, under Fish Health legislation, to deal with the situation of lice problems that arose despite adherence to these conditions.

For and on behalf of:

Patrick Fothringham (Director) Salmon and Trout Association (Scotland)
Jane Wright (President) Scottish Angler’s National Association
Andrew Wallace (Director) Association of Salmon Fishery Boards
Jeremy Read (Director) Atlantic Salmon Trust
Sarah Bayley (Secretary) Association of West Coast Fisheries Trusts
Dear Tracey,

Transport & Environment Committee’s ‘rolling’ inquiry into aquaculture

Scottish Environment LINK’s Marine Task Force¹ are pleased to be able to submit evidence to the Transport & Environment Committee’s ‘rolling’ inquiry into aquaculture.

Individual member bodies of the LINK Marine Task Force will be responding with detailed comments to the Committee’s consultation. On this basis, we do not propose to provide any additional commentary on the three questions raised by the Committee:

- What the respective roles of the Executive and the aquaculture industry should be in taking forward the future of aquaculture in Scotland
- How the aquaculture industry can increase its international competitiveness in the international market place
- How the industry can best achieve environmental sustainability

However, we recognise that, as requested in the call for written evidence, this second phase of the inquiry is to focus on the Scottish Executive’s aquaculture strategy. Hence, we attach as an Annex to this letter a copy of the Marine Task Force’s written submission to the Executive’s consultation on the aquaculture strategy. We note that the Committee’s questions cover very similar ground to the questions posed in the Executive’s consultation on the strategy.

¹ Scottish Environment LINK is the liaison body for voluntary sector environmental organisations in Scotland, the member bodies of which are supported by around 500,000 people.
I hope that the Committee find this submission of use. Please pass on our support for their perseverance with this important inquiry.

Yours sincerely

Darren Kindleysides, RSPB Scotland
Convenor, LINK Marine Task Force

On behalf of the Scottish Environment LINK Marine Task Force:
Friends of the Earth Scotland
Hebridean Whale and Dolphin Society
Marine Conservation Society
National Trust for Scotland
RSPB Scotland
WWF Scotland
Strategy for Sustainable Scottish Aquaculture
Initial views of the Scottish Environment LINK Marine Task Force

What follows is a short consideration of the points raised in the SEERAD consultation launched on the 30 October 2001

Scotland has an aquaculture industry:

- what are its costs/benefits and what is their objective measure?

As with so many industries that rely on the natural environment, the true environmental and social cost of aquaculture is often hidden. The environmental cost and lost opportunities for other sectors, loss of amenity, loss of wildness and landscape integrity are hard to quantify, but must be brought into the forward planning of the industry.

- where does the balance of economic, social and environmental "need" lie?

The idea of that environmental aspirations can be traded off against social and economic factors ignores the central message from the environmental movement in Scotland. What is called for is sustainable development, the maximising of economic, social and environmental sides to the sustainability equation. To achieve this, the use and practical application of ‘carrying capacity’ is essential.

What purpose does the Scottish aquaculture industry serve?

- how can it help to meet growing market demand at a time when catches of other species are declining (the so-called "fish gap")?
- how can it help the diet & health of the nation?

These questions can not be answered outside the context of a debate about the sustainability of marine fisheries. The real question is “what is the most sustainable way of filling the fish gap?”.

Is it appropriate to look on an aquaculture industry, which is based on the rather inefficient conversion of fish-meal and oil into more fish flesh, as the best way of meeting market demand for bulk fish flesh? Alternatively, is the radical reform of the Common Fisheries Policy (CFP) to deliver recovery and sustainability of our marine fisheries the more sensible answer to the fish gap?

The development of the strategy presents the Executive with the ideal opportunity to hold the long overdue debate into the future roles of wild fisheries and aquaculture in supplying Scotland’s demand for fish. This debate is needed urgently, particularly in light of the predicted expansion of white fish farming and potential conflicts with white fisheries.

How is each sector of the industry placed to compete internationally both now in the longer term (5-10 years)?

- how can the industry diversify?
- how might it otherwise increase competitiveness?

For the last 20 years, the Scottish salmon farming industry has tried to compete with Norway and Chile to produce cheap, bulk salmon for the global market. Scotland’s resources are limited and not as well suited to large scale industrial farming as the main competing countries. In addition, the environmental problems faced by many parts of the industry are a result of the race to industrialise. The aquaculture industry in Scotland is now faced with the opportunity to re-
assess the type of product it is trying to develop. For example, experimental developments into organic rearing of salmon have shown the ready market for high quality premium product.

**If the industry is to be sustainable (both in its own economic terms and environmentally):**

As noted above, sustainable development isn’t an either/or between economic and environmental factors. In the long term, it is development that maximises economic and social benefits by respecting the environment.

- what factors (e.g. impact on fish stocks used for fish meal) need to be taken into account?

We note the following factors as being of most importance:
- Sustainability of feed products used.
- Impacts of nutrients and chemical pollutants discharged.
- Impact on the natural environment from cage siting and operation.
- Conflict with other marine users and local communities.
- Impacts on wild fisheries of escapes and disease transfer.
- Impacts of predator control on populations of predator species.

- what further growth would be compatible with our environmental aspirations?

Ultimately, the capability for further growth has to be determined and potentially capped through a detailed consideration of the carrying capacity of Scotland’s marine environment to the demands that aquaculture places upon it.

- what level of environmental pollution would be regarded as “acceptable” - can we devise a measure?

The assessment of carrying capacity must examine the capacity of our coastal waters to bear levels of pollutants. This must be done in light of the Water Framework Directive. This Directive, which is to be implemented through the Water Environment Bill in Scotland, will provide a framework for ensuring that diffuse and point source pollutants do not compromise the ecological status of coastal water bodies. Where any activity, including fish farming, has resulted in reduction in the ecological or chemical quality of a coastal water body, action may be required under the Directive to tackle the source of the pollutants to restore the quality of that water body. For this reasons, it is imperative that the development of this strategic framework is being fully informed by, and is informing, the development of the Water Environment Bill.

- what can Scottish coastal waters (however defined) sustain?

This must be subject to urgent research and assessment. Until we have a workable, precautionary assessment, the presumption must be in favour of refusing any further development that will place additional burden on the marine environment.

- how might environmental impacts be reduced?

We note the following priorities for reducing environmental impacts:
- Relocation of farms from inappropriate sites based on assessment of carrying capacity, revised Locational Guidelines and conflict with sensitive sites such as those designated for their nature conservation interest.
- Improvement to the system of EIA.
- Introduction of ‘process’ driven regulation for fish farming.
- The creation of Regional Aquaculture Management Groups to develop comprehensive forward looking Aquaculture Framework Plans.
What should be the criteria for locating fish farms:

- should farms be sited further offshore?

Relocating farms offshore will reduce the local impacts of the industry. However, simply adding further new sites offshore could add to the already significant nutrient loading on Scotland’s inshore marine environment and may cause competition for space and conflict with other marine sectors. Hence, we suggest that offshore farms are used to encourage the location of farms away from more enclosed, sensitive and inappropriate sites.

- should they be land-based (anywhere in Scotland)?

Potentially. Land-based sites/closed-system aquaculture allows for the strict control of discharges to the environment. Closed-system aquaculture must be developed strategically, but it does appear to offer real opportunities for small-scale sustainable aquaculture.

- should they be otherwise re-located (and if so, when and under what conditions)?

Farms that are sited inappropriately, eg in environmentally sensitive areas, should be subject to environmental assessment and, if necessary, relocated to a more environmentally robust location. In some circumstances, it may be necessary to revoke licences entirely.

Aquaculture will be bound by the terms of the new Water Framework Directive:

- what will be the Directive’s impact on the industry?

The Water Environment Bill is a not to be missed opportunity for reforming the regulation of the industry. The Bill must include measures to expand the remit of SEPA, eg to allow them to regulate for the processes associated with fish farming. The Bill also presents the chance to implement the long awaited transfer of planning powers from Crown Estate to local authorities.

- on what basis will aquaculture be expected to co-exist with other water users?

To co-exist with other water users, it is important that aquaculture is integrated at the site level and in terms of forward planning into three frameworks:
- River Basin District Management and sub-basin management planning under the water Framework Directive.
- Formal forward planning for the aquaculture industry through fully resourced local authorities.
- Integrated Coastal Zone Management initiatives. ICZM provides the basis for managing and balancing competing uses of coastal waters and resources. The aquaculture sector have been involved in the ongoing development of the Scottish Coastal Forum’s ‘Scottish Coastal Strategy’. We encourage the Executive to ensure the aquaculture strategy fits with this Coastal Strategy.

What should be the role of the public sector:

- can it be both regulator and sponsor?
- should it continue to be investor?
- what should it be?

We would expect the Government and statutory bodies to ensure that future fish farming development is sustainable (and that some of the mistakes of the past are rectified where
possible). However, we would also expect the public sector to support the industry, for example in terms of funding research and training, and in providing statutory guidance (eg NPPG).

What should local government’s role be in the regulatory process:

• can/should it be more than regulator?

Yes. There is a clear role in terms of developing strategic, forward planning for the industry. Local government may also have a role in supporting local research priorities and in ensuring that fish farming development is compatible with other coastal uses, such as inshore fisheries, tourism and coastal development, through ICZM.

What aspects of the industry should be supported by government research:

• what criteria should be applied in identifying research priorities?

If the overarching aim of the strategy is to deliver a sustainable fish farming industry in Scotland, then, as a priority, research must be aimed to support this. An understanding of the following areas is imperative if we are to ensure future development is to be sustainable:

- Carrying capacity of the marine environment to support sea cage fish farming.
- Impacts of farmed salmon diseases and parasites on wild fish.
- Benthic impacts of sea cage fish farming.
- Impacts of farmed escapes on wild salmon and sea trout.
- Impacts of farmed salmon waste effluents on shellfish poisoning events and water quality.
- Impacts of sea lice chemicals on the sediment, phytoplankton and algal blooms.
- Impacts of sea cage fish farming on marine biodiversity.
- Impacts of the development of the Scottish aquaculture industry on coastal communities and other marine stakeholders.

• should there be some external scrutiny of the research proposed/undertaken?

We feel that independent review of any research findings is essential in building confidence in and ownership of the results.

• should there be joint-funded industry/Government research projects (e.g. new technology, new species)?

The public sector should look to support research into sustainable fish farming, eg technologies to improve efficiency/reduce environmental impact. It would be appropriate for this to be undertaken with industry.
Thank you for offering SNH the chance to comment on Phase 2 of the Committee's inquiry into aquaculture. Our views on the questions raised are set out below.

1. What should the respective roles of the Executive and the aquaculture industry be in taking forward the future of aquaculture in Scotland?

The Executive's role is to promote the sustainable use of the marine environment. It should establish whatever frameworks of regulation, planning, management, incentive, sponsorship and research are necessary to optimise economic benefits in the long term while safeguarding the natural environment. Aquaculture has a part to play in the sustainable use of inshore waters, but there are concerns over the environmental impacts of the current form of the industry.

The Executive needs to work in partnership with the aquaculture industry (and other bodies, including SEPA and SNH) to achieve these ends. In SNH's view there is no reason why, in seeking sustainable use, the Executive's roles of sponsor and regulator should be incompatible. The key to operating these two roles harmoniously is for them to be undertaken within the context of a strategic approach which encourages development of aquaculture of quantities and types, and in areas, which is most likely to be within the carrying capacity of the environment.

Government has already invested millions of pounds in the aquaculture industry, which now supports valuable jobs in remote areas. There remains a role for the public sector helping to continue to secure socio-economic benefits while moving the industry in the direction of environmental sustainability. Nonetheless, from now on the main role of the public sector will continue to be as regulator, while providing seedcorn capital on occasion for research, to assist development of new technology or new species, or to help in other ways to reduce the industry's environmental impact.

2. How can the aquaculture industry increase its competitiveness in the international marketplace?

Competitiveness requires provision of a product which consumers consider represents value for money (VFM). The temptation has been for the Scottish salmon farm industry to seek to increase VFM by decreasing costs through economies of scale.

In SNH's view this strategy is bound to fail on the grounds that:

• Scotland is likely always to be at a disadvantage to countries like Norway and Chile where the sheltered-water resource is larger, and economies of scale are therefore more significant;
by focusing on the short-term economic benefit of a single sector, to the exclusion of long-term well-being or impacts on other sectors, it externalises environmental costs. This approach, if taken too far, could be the antithesis of a sustainable one. Negative consequences for the environment are not in the long-term interest of the industry, nor of Scotland’s remote communities as a whole.

SNH recommends instead that VFM should be sought by increasing the value of the product. Much modern marketing is about the replacement of mass produced items by high value-added niche products. A strategy for competitiveness for Scottish salmon and shellfish should be founded in a product which draws market benefit from association with high environmental quality. Current trends suggest that consumers are becoming increasingly informed and discriminating about quality in food, as in other areas, and that concerns about health or environment could incur market disadvantage. Any such concerns would represent a greater threat to the industry than direct environmental concerns. Reversing such a perception would be likely to require a strategy seeking a smaller output of higher value, perhaps 'organic', or branded with some other kind of sustainability/environmental quality label. In this way SNH considers that the environmental interests of fin-fish aquaculture areas and the interests of the industry itself are very much in line. In the longer term, poor environmental practice could threaten the industry through loss of market share.

3. How can the industry best achieve environmental sustainability in the future?

Since we made our last submission to the Committee, we have been led to expect in the near future substantial (up to 70) applications for new sites for species such as cod and turbot. Bearing in mind the impacts of the industry highlighted in our previous submission, such proposed growth emphasises the need for the industry to achieve environmental sustainability. There are a number of different dimensions to this question of environmental sustainability. SNH recommends the need for a strategic approach which aims to get the "right amount of the right kinds of development, in the right places" - i.e addressing questions of quantity, quality, and location. These issues are interdependent.

- Cultivating the right quantity of stock in each location so that there is no undue adverse impact on water quality or the natural heritage raises issues around: the rate of breakdown of feedstuffs and medicines; flushing rates in different locations; the sensitivity of different receptors; and the sustainable sourcing of feedstuffs. Addressing ‘quantity’ questions is likely to require some further research, but also policy guidance in relation to the ‘acceptability’ of impacts bearing in mind the knock-on consequences for the environment (including wild salmonids) and local communities. There are spatial and technological components to these questions, and insofar as stock are to be fed with the products of capture-fisheries, there are links with larger questions around sustainable yield.
• Bringing forward the right kinds of development relates to the species cultivated, the technology used, and unit design, alongside the delivery of suitable day-to-day husbandry, disease treatments, etc.

• Spatial planning needs to take place both indicatively at a national level in relation to a full range of environmental and other sensitivities. In areas deemed nationally to be appropriate, spatial planning should also take place locally through a combination of proactive forward planning combined with a regulatory framework which guides EIA and assessment of individual proposals.

As we have previously indicated to the Committee, to address these issues a strategy for environmental sustainability will need to comprise the following:

• **A national perspective.** There needs to be (i) national spatial guidance which indicates areas preferred for fin-fish aquaculture, as well as areas which are more sensitive (along the lines of the existing locational guidelines, but taking into account a full range of environmental sensitivities - eg including impacts on freshwater fish). But there also needs to be (ii) an overview of planning issues at a national level, such as might be produced in an NPPG (and needing to make clearer the relationship between SEPA’s regulatory role and local authorities’ planning role), (iii) a national overview of water quality issues for fish health and fish lice, and (iv) a national approach to the licensing of new therapeutants. This national strategy is also likely to (v) affirm the need for foodstuffs to be sourced from sustainably-harvested fisheries, (vi) promote organic aquaculture, and (vii) provide guidance on new species.

• **Local strategies.** Within areas zoned as preferred in the national perspective there is likely to be a need for local strategies drawn up by Local Authorities. These would be drawn up with other relevant interests, through a more formal basis in Local Fishfarm Frameworks, respecting COPA, planning, and other environmental (e.g. fish health, sea lice) considerations. These should interpret national guidance at a local level, guiding not only the number and distribution of cages, but also providing a framework to co-ordinate the fish farm management process, including whole-loch approaches to medical treatment and falling. EIA and approval of individual applications would be undertaken within this local strategic context. It is at this level that cumulative impacts can be best addressed. Insofar as these will relate to the ecological quality of coastal waters we could see Local Fishfarm Framework Plans constituting sub-basin plans within the meaning of the Water Framework Directive.

• **Best practice in individual farm management.** Best practice at the level of individual farms will be necessary. Examples of issues to be covered here include predator control, fish farm design (e.g. construction materials), management of equipment (e.g. the use of well-boats), the application of chemical treatments, dealing with escapes, feed practices and sources, stocking densities, etc. We note, however, that at the moment nobody knows confidently what best practice consists of. Management and regulation need to ensure that best practice techniques are adopted as
and when experience demonstrates their relevance. SNH is not convinced
that ISO 14001 of itself represents best practice.

SNH sees achieving environmental sustainability for the existing industry to
imply the need to reduce environmental impacts, and for this as likely to
require some relocation of existing fish farms. We are doubtful that mitigation
of environmental impacts can be obtained with fin-fish aquaculture at its
current levels and in its current locations close to the shoreline. In the short
term we would look for reduction in environmental impacts to include:

- A pause in further development that could have a significant effect on the
  natural heritage pending the outcome of the Parliament’s inquiry and the
  Executives deliberations on a Strategy
- The adoption of precautionary separation distances from key salmonid
  sites and migration routes, to be implemented through the revision of
  locational guidelines
- Support for research into species diversification, plant-derived foodstuffs,
  investigation of the role of polyculture and organic techniques in reducing
  environmental impacts, and a review of the possibility of treating organic
  effluent from salmon farms.
- No new development in west coast and island sealochs and other
  enclosed waters which are at present without fish farms.

Moreover we would support exploring the location of fish farms, or parts of
fish farms, on land, subject to satisfactory landscape assessment, waste
management, etc, so as to secure planning permission.

We would support exploring the location of fish farms, or parts of fish farms,
further offshore. Greater distance off-shore should be associated with (i)
deeper water, (ii) greater flushing, (iii) greater distance from salmon and sea
trout migration routes as they emerge from rivers and (iv) reduced visual and
landscape impacts. On the other hand, greater exposure could also imply a
higher risk of escapes, which would be detrimental to the natural heritage. We
understand that it would be technologically feasible to move fish cages
outside sealochs at the moment, while still providing security of stock. We
would support such a move, on the basis that any increased costs of actions
which help to achieve environmental carrying capacity would be passed on to
consumers. The alternative - of making the environment bear the costs so as
to keep market prices low - is unsustainable.

Research - for example into the development of new species, or polyculture
techniques - should increasingly be seen as an integral part of a
comprehensive strategy to make aquaculture more sustainable.

Jeff Watson
Director of Strategy and Operations (North), SNH
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