



OFFICIAL REPORT  
AITHISG OIFIGEIL

DRAFT

# Rural Affairs and Islands Committee

Wednesday 13 November 2024

Session 6



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**Wednesday 13 November 2024**

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**RURAL AFFAIRS AND ISLANDS COMMITTEE**

**28<sup>th</sup> Meeting 2024, Session 6**

**CONVENER**

\*Finlay Carson (Galloway and West Dumfries) (Con)

**DEPUTY CONVENER**

\*Beatrice Wishart (Shetland Islands) (LD)

**COMMITTEE MEMBERS**

\*Colin Beattie (Midlothian North and Musselburgh) (SNP)

\*Ariane Burgess (Highlands and Islands) (Green)

\*Tim Eagle (Highlands and Islands) (Con)

\*Rhoda Grant (Highlands and Islands) (Lab)

\*Emma Harper (South Scotland) (SNP)

\*Emma Roddick (Highlands and Islands) (SNP)

\*Elena Whitham (Carrick, Cumnock and Doon Valley) (SNP)

\*attended

**THE FOLLOWING ALSO PARTICIPATED:**

Charles Allan (Scottish Government)

Jill Barber (Scottish Government)

Hazel Bartels (Scottish Government)

Mairi Gougeon (Cabinet Secretary for Rural Affairs, Land Reform and Islands)

Edward Mountain (Highlands and Islands) (Con)

**CLERK TO THE COMMITTEE**

Emma Johnston

**LOCATION**

The Mary Fairfax Somerville Room (CR2)



## Scottish Parliament

### Rural Affairs and Islands Committee

*Wednesday 13 November 2024*

*[The Convener opened the meeting at 09:00]*

### Decision on Taking Business in Private

**The Convener (Finlay Carson):** Good morning, and welcome to the 28th meeting in 2024 of the Rural Affairs and Islands Committee.

Before we begin, I ask members to ensure that all electronic devices are switched to silent.

The first item on our agenda is to decide whether to consider a draft report on our follow-up inquiry into salmon farming in Scotland in private at future meetings. Do we agree to do so?

**Members indicated agreement.**

## Salmon Farming in Scotland

09:01

**The Convener:** Our next item of business is the final evidence session of our follow-up inquiry into salmon farming in Scotland.

I welcome to the meeting Mairi Gougeon, Cabinet Secretary for Rural Affairs, Land Reform and Islands, and her officials from the marine directorate: Charles Allan, senior delivery lead, aquaculture, fish health and biosecurity; Jill Barber, senior delivery lead, aquaculture programme; and Hazel Bartels, senior delivery lead, aquaculture programme.

I also welcome Edward Mountain MSP, who will be taking part in the discussion. Before we begin, I invite him to declare any relevant interests.

**Edward Mountain (Highlands and Islands) (Con):** I remind committee members, and those watching the meeting, that I declare in my entry in the register of members' interests that I am part of a partnership in a wild salmon fishery on the River Spey. I have been involved in salmon management for more than 40 years. I will probably leave it at that.

**The Convener:** I invite the cabinet secretary to make a brief opening statement.

**The Cabinet Secretary for Rural Affairs, Land Reform and Islands (Mairi Gougeon):** Good morning to the committee members. I thank the committee for the opportunity to discuss the follow-up inquiry into salmon farming in Scotland.

The salmon farming industry is a hugely successful sector in Scotland and we support it, recognising the benefits that it delivers today and can deliver in the future. We know that the sector can be a truly sustainable success story only if economic growth goes hand in hand with positive outcomes for Scotland's communities and natural environment. I am therefore pleased to discuss today the progress that has been made to address the challenges and opportunities that were identified in the "Salmon farming in Scotland" report.

Aquaculture is an important component of Scotland's blue economy, with farmed salmon the UK's leading food export. Our vision for sustainable aquaculture, which was published last year, sets out the Government's ambitions for the sustainable development of the sector, operating within environmental limits, and recognising the considerable social and economic benefits that the sector delivers.

I am pleased with the significant progress that we have made on our aquaculture commitments

since the response to the Rural Economy and Connectivity Committee report in 2018, despite the emergency response demands that resulted from the management of Covid and European Union exit.

We have a broad agenda on which we are generating momentum. We are prioritising action across key areas such as protection of the environment and biodiversity, consenting, community benefit, business, and animal health and welfare. If it is helpful, I would like to outline a few examples that demonstrate the breadth of the work that has been undertaken in that time.

In 2022, salmon farming production generated £324 million of gross value added, which is 7 per cent of the Scottish marine economy. It supports around 12,000 highly skilled and well-paid jobs across farming operations and supply chain businesses. The Scottish Government and its partners continue to work together to ensure that communities see the direct benefit of aquaculture. As the committee heard from Crown Estate Scotland, from 2017 to 2022, aquaculture generated in the region of £58 million in rents, with the net revenues from marine assets out to 12 nautical miles distributed to coastal local authorities for the purpose of community benefit.

Following the independent review of aquaculture regulation, we established the Scottish aquaculture council and the consenting task group to co-ordinate work towards a sustainable future for the sector. The consenting task group has delivered a new pre-application consenting framework that co-ordinates regulatory activity early in the development process. It is currently being piloted in the Shetland and Highland local authority areas. That work seeks to minimise delays by streamlining and removing unnecessary duplication without compromising environmental safeguards, while ensuring that there are effective and transparent mechanisms for community engagement.

As laid out in the programme for government, we will continue to work collaboratively to improve the fish farm consenting processes. A consultation is currently live on proposals to extend Scotland's marine planning zones, which would enable development beyond three nautical miles. We remain committed to progress on spatial planning, including through the implementation of national planning framework 4 and the development of regional and national marine plans.

Significant progress has already been made to support the protection of the environment. That includes work on more than 50 actions, as described in our wild salmon strategy and implementation plan.

In February this year, the Scottish Environment Protection Agency commenced the implementation of a new sea lice risk assessment framework for wild salmon, and a new framework for protecting sea trout populations will start in March next year. The introduction of that framework marks a crucial milestone and highlights the progress that has been made since the recommendations of the previous parliamentary inquiries.

SEPA continues to roll out a new strengthened environmental regime to ensure the protection of the marine environment. The transfer of all farms on to the framework is due to be completed by the end of this year. Following a public consultation, we will introduce a new environmental quality standard for emamectin benzoate in June 2028 to ensure that the use of that medicine stays within the United Kingdom technical advisory group's recommended limits to protect the environment.

As outlined in evidence to the committee, the sector is investing heavily to address fish health challenges, which are of course complex and changeable. We have made progress to introduce mortality and sea lice reporting, and we have lowered the sea lice intervention levels for farmed fish following the session 5 report's recommendations. The farmed fish health framework continues to facilitate strategic approaches to support fish health and brings together a variety of different Scottish Government officials, fish health inspectors, sector regulators and our innovation partners. There has also been progress in relation to science and innovation, and we continue to invest in developing our science and evidence base.

On top of that, I asked the Scottish Science Advisory Council to consider the use and communication of science and aquaculture consenting, in response to issues raised in the independent review, which published its recommendations in 2022. I know that the committee is also aware that we published a new marine science and innovation strategy in January this year. A new chief scientific adviser for marine has been also appointed, which paves the way for further progress in relation to science and innovation.

I recognise that, as ever, there is always more work to do. However, with all of that, I hope that the committee will acknowledge and welcome the significant progress that has been made. I am happy to take any questions from the committee.

**The Convener:** Thank you, cabinet secretary.

Before we move on to the questions, as we are already aware, Charles Allan is with us this morning. I note that Charles also appeared before

the committee on this topic back in June in his capacity as head of the fish health inspectorate.

Charles, would you mind briefly clarifying for the committee your role in relation to today's proceedings?

**Charles Allan (Scottish Government):** I currently have a dual role in science, evidence, data and digital, where I am the senior delivery lead for aquaculture, fish health and biosecurity. My overall responsibility is for the running of the fish health inspectorate, the diagnostic laboratories, the national reference laboratory and the aquarium facilities in Aberdeen, and my role relates to biosecurity, import and export controls and similar.

I remain the head of the fish health inspectorate, and I therefore have a senior management role and a management role.

**The Convener:** Thank you.

We have up until about 11.30 for questions, so there is plenty of time. I will kick off.

Our first theme is the economic and social benefit of aquaculture. How is the Scottish Government ensuring that community benefits and employment from salmon farms are maximised?

**Mairi Gougeon:** I hope that I illustrated in my opening comments just how important the salmon industry is to our economy. I mentioned the GVA figure of more than £300 million, and the around 12,000 jobs that it provides throughout the supply chain. I do not think that there is a constituency across Scotland that does not have some element of either an aquaculture business or its wider supply chain within it. The extent of that is very broad in its impact.

The industry provides well-paid jobs in some of the most rural parts of Scotland, particularly in our island communities. I know that some of those points came through strongly when the committee heard from the industry about the impact of that that it sees locally. The industry provides a huge amount of value through those jobs and the wider supply chain. It is of great economic value and it provides a lot of community benefit for rural and island communities across Scotland.

**The Convener:** We heard in a previous evidence session from SEPA, which has produced a finfish agriculture sector plan. Its objectives include that:

“communities are confident that the environment is protected by being well informed and engaged with businesses operating on their land and waters”,

and that

“communities have a high level of trust towards regulators and businesses and benefit from open and transparent dialogue.”

Up to now, in our discussions with stakeholders and communities, those things do not seem to be the case. When do you expect SEPA to deliver those outcomes, given how important it is that communities are fully engaged with industry?

**Mairi Gougeon:** The convener is absolutely right. We recognised that in our vision for sustainable aquaculture, which we published in July last year. Communities should be able to see benefits from hosting aquaculture and fish farms in their area. That can of course be enhanced and improved, and we set out the outcomes that we want to achieve in that vision.

There are opportunities for us to enhance the community engagement element through the work that we are taking forward through the consenting task group. That will provide real opportunities for progress.

**The Convener:** One solution might be to consider the similar work that is carried out in communities in relation to onshore wind farm development, where there is a community benefit fund through which people can carry out work to make their communities more sustainable and so on.

Would the Scottish Government consider publishing a good practice guide on community benefits in relation to aquaculture, similar to those in relation to onshore wind?

**Mairi Gougeon:** The convener raises an important point.

It is important to recognise the benefits that flow from the sea bed leases that Crown Estate Scotland receives. At the moment, all of that is given to local authorities to determine how to distribute, so that is for coastal community benefit. However, I understand that using that mechanism—that is, whatever mechanism local authorities use to distribute the funding—does not necessarily make most transparent the direct relation between aquaculture businesses and the funding that directly reaches communities.

A number of different discussions need to be had in relation to that. That funding was discussed last year. We have an opportunity to discuss it further with Crown Estate Scotland in 2026 and to review how the operation has been going so far.

Another key body in relation to that discussion is of course the Convention of Scottish Local Authorities, because that money goes to local authorities. If we were to look at potential changes to that mechanism, or to the use of that funding, it would need to be discussed with local authorities as well as Crown Estate Scotland.

It is also important to highlight that—as the committee also heard about from the industry in its evidence sessions—the industry also contributes

to funds in local communities that are separate to that funding. However, the main mechanism is through the lease of the sea bed and the funding that is received through Crown Estate Scotland.

We are open to considering and having future discussions on that.

**The Convener:** That is slightly different from how the community benefit funds in relation to onshore work. Local authorities do not deal with that money; it comes directly to communities through an agreement that is set up between the community and the wind farm developer.

The Government publishes a good practice guide in relation to that. It is not really about the Crown Estate or COSLA, but about building up confidence among communities in relation to the aquaculture industry. Are you considering a good practice guide in relation to that, similar to that which exists for onshore?

**Mairi Gougeon:** I completely appreciate the point that the convener has made. We are not talking at cross-purposes. I set out the initial arrangement, because I think that the links between it and the community benefit could be made more tangible.

Again, if the committee thinks that we should consider any particular recommendations or points in relation to community benefits or community funds, I will do so.

**Jill Barber (Scottish Government):** To add to what Ms Gougeon has said, I note that the vision for sustainable aquaculture contains outcomes in relation to communities, particularly around the point that they share in the success of aquaculture. There is a number of commitments around enhancing community engagement, the consenting system and ensuring that we make best use of any funds that are raised. There is also a commitment to look at best practice principles, similar to the other guidance that is there.

There is a package of work that needs to be thought through and scoped out, including through discussions with the different bodies that Ms Gougeon mentioned.

09:15

**Ariane Burgess (Highlands and Islands) (Green):** Good morning, and thank you for joining us.

Historically, Scottish ministers have not conducted the kind of cost benefit analysis required by His Majesty's Treasury's green book before making policy interventions around the salmon aquaculture sector. I am interested to understand why that has not been done and what

steps will be taken in the future to implement a cost benefit analysis.

**Mairi Gougeon:** Cost benefit analysis is, ultimately, done on an application basis and undertaken by the planning authorities, because they have to consider all of the different issues in the round: the economic, social, and environmental impacts all have to be considered and adequately balanced. Environmental impact assessments also have to be undertaken as part of that work.

It is also important to recognise that, in relation to the environmental impact of any applications that come forward, SEPA simply would not permit or grant a licence for an application to proceed if it was felt that there would be an adverse environmental impact.

It is done on a case-by-case basis, because there are really important factors that have to be weighed up by local authorities when they are considering those applications.

**Ariane Burgess:** The Scottish Government does not think that it is of importance to do a cost benefit analysis in relation to the whole salmon farming sector, in terms of considering what kind of policies the Government might bring in on the back of the recommendations that we might make?

**Mairi Gougeon:** I am not considering undertaking that piece of work because, as I have outlined, we have the information about the impact on our overall economy. We want a sector that operates within environmental limits and, given the regulations that we have in place, I believe that it does so. I therefore do not see the need for a holistic exercise to be undertaken. Again, all those considerations have to be factored in at the application stage.

**Rhoda Grant (Highlands and Islands) (Lab):** On that theme, we are aware that jobs are hard to find in rural areas, and that the jobs provided by fish farms can have an economic benefit in allowing people to remain in rural areas. What consideration is given to that when looking at planning consents for fish farms?

**Mairi Gougeon:** Overall, that would be a question for the local authorities to look at. As I outlined in my response to the previous question, they consider the economic, social, and environmental impacts. However, in considering the industry as a whole, I absolutely recognise Rhoda Grant's point—we can see that benefit. I know that the committee also heard in evidence from the industry itself about the local impact of the well-paid jobs that it provides in island and rural communities.

**The Convener:** Before we move away from the economic and social benefit theme, I note that some witnesses suggested that we had to be careful that offering money, along the lines of the community benefit funds, was not seen as money in exchange for putting up with the status quo. How does the Government ensure that that is not perceived as some sort of bribe?

**Mairi Gougeon:** That comes back to the points that Jill Barber made about the work that we set out in the vision and the overall work that needs to be done.

I know that that consideration that has been raised. The convener mentioned wind farms and community benefits. We always need to be careful, but it is a reasonable expectation that, when communities host fish farms, there is a benefit to be seen from that. We have already talked about what the industry provides within its local communities, as well as the coastal community benefit more widely that is delivered through local authorities and the funding.

**Jill Barber:** To round up some of the questions that have been asked, I note that it depends on what sort of cost benefit analysis is being asked about, because there are different ways to do it. For example, there can be cost benefit analysis of policies in general, or of the sector as a whole, or of how it is done through consenting.

The consenting system is set up in way that recognises that there are huge social and economic benefits from the sector. Evidence on that is submitted and considered by local authority planning authorities. SEPA's framework—the local authorities' framework—is set up to ensure that any environmental impacts that would come alongside the development are kept below significant levels, so that there are acceptable environmental impacts, and we get the benefits from the social and economic side.

There are really robust processes in place. As Ms Gougeon said, the sector has a lot to do with funds and different things, and we have the Crown Estate Scotland lease fees. However, those are separate measures that do not take away from the fact that it is either an acceptable impact or it is not, and that you cannot get your consent without that assessment.

**The Convener:** We have a final question on this theme before we move to the next theme. Ariane Burgess, could you ask your supplementary question and then kick off on the environmental impacts theme, please?

**Ariane Burgess:** On the jobs point, the latest Scottish Government figures show that, in 2023, the number of people employed directly in salmon production fell. The number of direct jobs on farms was at its lowest level since 2018, apparently due

to poor performance, automation, and farm and company consolidation.

There is a strong case being made that those are well-paid jobs, but then we are getting data—which includes your own information—that the number of jobs is falling, so I would be interested to hear what concerns you have about that. We have fragile communities, although I hear that there is plenty of employment in other sectors in my region—the Highlands and Islands. I am a bit concerned that we are pinning all our hopes on a sector in which—based on what your information shows—the number of people who are employed is falling.

**Mairi Gougeon:** I do not think that it is the case that we are pinning all of our hopes on one sector. The point that I am trying to illustrate is that salmon production is a very economically important sector for Scotland in terms of the food produced and the jobs supplied throughout the supply chain.

You are absolutely right about the figures that were produced, and you have outlined some of the reasons for them. Most businesses are trying to move towards automation, introduce new technology and innovate, and that does not necessarily lead to an increase in jobs. Nonetheless, the sector has an important footprint in our rural and island communities, as well as across Scotland through the wider supply chain, as I have mentioned. I do not think that that takes away from the importance of the industry as a whole.

As you have heard me say in the committee a number of times, across all the areas of my portfolio, industries like agriculture, forestry and fisheries, more widely, are all hugely important to rural Scotland. It is not necessarily the case that we are focusing on salmon production more than on other areas. We want to make sure that we have sustainable industries that, as a whole, are providing valuable employment.

**Ariane Burgess:** As the convener said, I will move on to our second theme, which is environmental impacts. SEPA has confirmed that analysing sea bed survey results to assess regulatory compliance takes up to a year. It would be interesting to hear you outline all the steps that are being taken to actively reduce the length of time that analysis takes.

**Mairi Gougeon:** As SEPA outlined in its evidence to the committee, the analysis takes so long to get through because of its very nature. If there were any efficiencies to be made in that process, I am sure that SEPA would make them. However, it outlined in its own evidence why the process takes as long as it does.

**Ariane Burgess:** Do you have an ideal target time for getting through that analysis? If there was a problem with the sea bed and it was not being analysed, there would be an environmental impact and it would potentially take up to a year to see that. There are 72 sea bed survey results that have not yet been assessed. Clearly, there is a problem, because we do not have proper information and data about the impacts of those sites.

**Mairi Gougeon:** It is important to remember that any work has to be done within environmental limits, so all of that is modelled at the outset of the process, before any licences are given. However, I completely understand the importance of the point that you are raising.

It is not for me to set a target, because I am not an expert in that field and I cannot say how long that work would take. It is SEPA's role to undertake that work, and I would expect it to do so as efficiently as possible. It outlined in its evidence to the committee why the process takes the length of time that it does, and there is nothing further we can add to that.

**Jill Barber:** SEPA will be looking at that. I understand that SEPA told the committee that it has partnered in a collaborative project, with funding from the Sustainable Agriculture Innovation Centre and the marine fund Scotland, on eDNA monitoring. That monitoring is much faster—we recognise that grabbing techniques and sifting through samples takes a lot of time, and new technologies like eDNA might be able to speed up that process and significantly reduce the costs of all the monitoring that is required.

**Ariane Burgess:** That is very helpful. I am speaking to recommendation 29 from the Rural Economy and Connectivity Committee report, which said that

“it is essential that the issue of waste collection and removal is given a high priority by the industry, the Scottish Government and relevant agencies. It is clearly one of the main impacts on the environment and needs to be addressed as a matter of urgency.”

That report, from 2018, is now several years old.

My concern is that there is an “urgency” in the recommendation and that—although I understand that eDNA monitoring and other things are being done—when we look back at the REC Committee report's recommendation, that urgency has not really played a role in a lot of what we have been doing.

How can the committee have confidence that SEPA has the ability to fulfil its role in a meaningful way?

**Mairi Gougeon:** First, I want to respond to your line about there being a lack of urgency. I hope

that I demonstrated in my opening comments the amount of work that has been undertaken since the initial REC Committee report was published. Also, we cannot forget that, for a couple of years between then and now, there were the significant challenges of dealing with Covid and exiting the EU in the midst of everything.

However, it is important to remember that—touching on what I said previously—SEPA introduced its new framework in 2019, to help to guide farms towards higher dispersal locations. There is also the fact that, if there were a concern about waste removal, a licence would not be issued in the first place. When a licence is given to a business, it is given on the basis that the business operates within environmental limits.

SEPA is also working with developers who are focusing on innovations such as waste collection removal systems. SEPA has also implemented a new charging regime, to incentivise the use of those new technologies. It is important to recognise the work that has taken place and that is still on-going. All of the farms are due to be on the new framework by the end of this year.

**Ariane Burgess:** I take those points. I want to emphasise, again, the urgency and the concern about the sea bed.

The Scottish Association for Marine Science report for the 2018 parliamentary inquiry into salmon farming said that

“Scotland's target of producing 200,000 tonnes salmon in 2020 will likely emit organic waste equivalent to that of about half of Scotland's human population”,

which at that time was 5.3 million people. That is an incredible amount of waste. The fact that there are 72 sea bed survey results that have not been analysed makes me really concerned that we do not really have a clear picture or a robust sense of what is going on in our sea bed.

**Jill Barber:** I do not know whether we are talking at cross-purposes, because we are talking about the recommendation on the removal of waste but also about the impacts on the sea bed. If SEPA has licensed a company to have discharges, waste is permitted, but it must not have a significant environmental impact. The company must improve the sea bed within the buffer zones.

Predictive modelling is done before SEPA consents to such discharges—it says, “Okay, you can use those medicines. You can have that many fish. This looks okay. This is acceptable within the environment. There is your licence.” There is then monitoring and enforcement. The new SEPA regime has significantly increased the amount of both the predictive modelling but also the monitoring and the sampling that is being done. It takes time to work through those samples but, as

Ms Gougeon said, there is now better modelling to predict what is happening before a licence is issued, and then there is enforcement through the new regime.

However, the environment can handle fish in the sea, and the waste is dispersed. It can be handled without having significant impacts.

**Ariane Burgess:** I do not share your confidence about the waste being dispersed or about the biomass, but I will leave it there for now.

**Colin Beattie (Midlothian North and Musselburgh) (SNP):** Cabinet secretary, I want to ask specifically about the use of chemicals and medicines. I am sure that anybody, if asked, would say that there is a need to minimise the use of both of those.

I was interested to see a response from Professor Nick Owens about the effect of treatment using emamectin benzoate and hydrogen peroxide. He told the committee that there was a “pretty reasonable idea” that there was an adverse impact on crustacean species.

How robust is the data on adverse effects on the different species of the use of chemicals and medicines?

09:30

**Mairi Gougeon:** I do not know whether officials have further information on the science that has been used on that. What is important is the control of medicines and any chemicals that are put into the environment. As Jill Barber discussed earlier, all of that is considered at the start of a process to ensure that any chemicals or medicines are used within environmental limits.

The Veterinary Medicines Directorate publishes the levels of antibiotics use, and there has been a significant fall—more than 50 per cent between 2020 and 2021—in their use, which is not widespread across the industry. Antibiotics were used in just over 8 per cent of marine sites. All of that information is published.

I do not know whether there is any further information that my officials would like to add.

**Jill Barber:** It is important to highlight that the UK technical advisory group brings together scientists and different experts to consider the science and evidence regarding the impacts of different medicines. That group made the recommendation on emamectin benzoate, which has since been recommended and accepted by Scottish ministers.

There are really robust processes in place, but the science and evidence vary depending on which medicine we are talking about. Emamectin benzoate was specifically targeted for further

work, because it was considered likely to be more persistent than the bath medicines, which disperse and break down quite quickly. There are processes in place to collect scientific evidence. Beyond emamectin benzoate, I know that SEPA has committed to always review whatever science and evidence are coming out and what might need to be done or looked at.

**Colin Beattie:** SEPA told the committee that only 22 out of 352 farms are currently authorised to discharge emamectin benzoate, under the regulations that the UK technical advisory group set in 2022, which is a tighter environmental standard. Only 22 out of 352 seems to be a very small number.

**Mairi Gougeon:** Sorry?

**Colin Beattie:** Shall I ask that question again?

**Mairi Gougeon:** Yes—sorry.

**Colin Beattie:** Only 22 out of 352 farms are currently authorised to discharge emamectin benzoate, which is regulated under the higher environmental standard that was recommended by UKTAG in 2022.

**Jill Barber:** I can explain why that is the case. SAMS published a science report that indicated that the medicine might have longer-lasting impacts. At that time, new science was commissioned and UKTAG was asked to look at the science and evidence, but an interim standard was put in place for any new farms coming forward. We did not quite know what it meant on a bigger scale yet, but because there was new evidence, we wanted to take action to make sure that we were not introducing new licences that permitted a higher discharge rate, as that might have had a bigger impact than we had expected. The interim standard was therefore put in place for new farms or farms increasing biomass—that is why there is such a small number.

A large proportion of farms remain on the prior discharge rate, but the new recommendation has been made to ministers and has been accepted, so all farms will now move to the new environmental quality standard, which is slightly higher than the interim standard, which was quite precautionary.

**Colin Beattie:** What is the timescale for that?

**Jill Barber:** Four years.

**Colin Beattie:** Why did the Scottish Government opt for a four-year implementation period, despite there being evidence that the chemical was having poor effects on the environment?

**Mairi Gougeon:** It will be a challenge for the industry to adjust to that new standard, so, ultimately, the period enables that to happen.

**Colin Beattie:** Is giving the industry time to adjust itself the only thing that is holding up progress towards the new standard?

**Mairi Gougeon:** We have to strike a balance between the reductions that some would expect to see and the fish health element. We have to make sure that the previous standard is phased out in a realistic way that will not adversely impact fish health—while, of course, recognising the time needed to adjust. That is how the timescale was developed.

**Colin Beattie:** How will you measure the progress, both in terms of the number of farms that fall under the tighter standards and in terms of the impact of their transition?

**Mairi Gougeon:** All businesses will have to comply with the tighter standards by the end of the period. That will give them time to adjust. If the industry has any concerns about the transition, we will continue to have discussions with it.

**Colin Beattie:** Obviously, enforcement of the regulations is important. SEPA informed the committee that it had carried out three unannounced inspections in 2023 and that it planned to carry out a further three in 2024. That seems to be a wee bit feeble in terms of enforcement. Do you think that that level of monitoring is consistent with ensuring that the regulations are implemented?

**Mairi Gougeon:** Ultimately, that is a matter for SEPA to determine, based on the information and evidence that it has.

We have touched on a lot of the modelling work that is done before licences are issued. On top of that, there is the monitoring that happens. I understand that SEPA would undertake that on the basis of the level of risk. If that level of monitoring is what SEPA believes that it needs in order to ensure that businesses are complying with the regulations, ultimately, that is for SEPA to decide, as SEPA holds all the information and is the one undertaking all the monitoring work.

**Colin Beattie:** Is it logical that, following a risk-based analysis, only three out of 352 farms would need an unannounced visit?

**Mairi Gougeon:** That would be a matter for SEPA to determine, based on the information that it had and on the monitoring and surveillance that had already been undertaken.

**Colin Beattie:** I am sorry to keep at this, but is that level of monitoring consistent with recommendation 62 of the REC Committee report, which called for

“a significantly enhanced regulatory and monitoring regime under which it will robustly and effectively enforce compliance with environmental standards”?

**Mairi Gougeon:** I believe that it would be consistent with that recommendation. We cannot underestimate the amount of monitoring and surveillance that would be undertaken on top of such visits. As Charles Allan touched on in his evidence to the committee on 12 June, enforcement is the end but the critical point of enforcement is compliance and ensuring that businesses comply with the regulations that are in place.

A number of steps can be taken in relation to enforcement action. I believe that, between the initial modelling that is undertaken and the monitoring and surveillance that SEPA undertakes, we have the right systems in place to enable enforcement and that any enforcement action that is taken is proportionate.

**Jill Barber:** Both SEPA and the Fish Health Inspectorate state in their written evidence that, in relation to the current regulations, the sector is actually very compliant. The new SEPA framework introduces significantly enhanced monitoring and enforcement to the new regime, which absolutely meets recommendation 62.

Unannounced inspection regimes are on-going and there is no widespread evidence of mass non-compliance. Unannounced inspections can sometimes be challenging to arrange. For example, there are particular issues with sea bed monitoring—you cannot get rid of the sea bed. It depends on the purpose and aims of an unannounced inspection. You would build those aims on the basis of what has already been found and on what the evidence tells you—and on the level of risk, as Ms Gougeon has said.

**The Convener:** On the 48-month timescale, four years is a long lead-in time for the new standards. Was that timescale chosen, in conjunction with industry, to address their capacity to introduce new thermolicer boats or freshwater treatment? What discussions were held with the industry and what was said about its inability to respond more quickly? Four years seems like quite an extended period.

**Mairi Gougeon:** I appreciate that it seems like a long time. However, again, a consultation on the new standard had been held in relation to that. The timescale that was set was believed to be a reasonable timeframe within which to allow the industry to adjust.

As the convener mentioned, other innovations and technologies can be considered as part of that. However, given the impact of the new standard, it was felt that that would be the appropriate timeframe.

**The Convener:** On the technical standards, where are we on emamectin benzoate when it comes to international comparisons? Are we

allowing more discharge of emamectin into the environment now? In the future, will our standards be ahead of or behind what is happening elsewhere?

**Mairi Gougeon:** As a general point in relation to comparisons with other nations, I note that it is not always the case that we are comparing like with like. Different nations have different challenges, which they address in different ways, and they operate in completely different environments. That point came through in evidence as well.

Nonetheless, when it comes to environmental standards and what we see in relation to discharges in Scotland, I believe that we have tighter regulations in place here than exist elsewhere.

**Jill Barber:** I was nodding along to that. In relation to emamectin benzoate in particular, we understand from discussions with the sector and international colleagues that we have reduced quantities and have a tighter standard. However, it is really challenging to compare, because we may have shallower sea beds in Scotland and so our standards may need to be tighter, whereas there are deeper fjords elsewhere. Although it is therefore hard to compare, we get told that our environmental regime is more strict than that elsewhere.

**The Convener:** That is helpful because, as a committee, we have often heard direct comparisons in relation to levels and allowed discharges. However, you are suggesting that it is very difficult to compare apples with apples.

**Jill Barber:** Yes.

**The Convener:** I have a final supplementary in this area from Ariane Burgess.

**Ariane Burgess:** I will continue on the theme of emamectin benzoate.

During the inquiry, SEPA sent a letter to the committee showing that it has allowed 196 existing salmon farms to continue discharging the same harmful quantities of emamectin benzoate. In June, the Scottish Government confirmed that that will continue to happen until 2028.

In 2017, SEPA did its own sea bed sampling. In 2018, it published its peer-reviewed analysis, which concluded that emamectin benzoate has been causing harm to crustaceans around fish farms in Shetland, which are below the level of the current environmental quality standards. The result of that analysis is that it has increased the now substantial weight of scientific evidence that the existing standards do not adequately protect marine life.

The case has been made for applying the new technical standards to new farms or proposed

expansions. However, from what I understand, they are not being applied to existing farms. If that is the case, I am interested in understanding why we are not taking the issue seriously.

**Mairi Gougeon:** I highlight that we are taking the issue seriously. We have already talked about the framework that SEPA introduced in 2019, part of which was about enhanced environmental monitoring of the effects of new discharges of emamectin benzoate on the sea bed. Mandatory quality assurance requirements were also introduced in relation to analysing that.

We take the issue seriously, and we take the advice that we have received seriously, but we have to balance that with other considerations. We consulted on that and—again—we have reached the timeframe that we have reached to ensure that there can be that transition and that it takes place.

**Ariane Burgess:** We know that emamectin benzoate causes harm to crustaceans. A challenge that we face is that a very high percentage of Scotland's inshore fisheries are dependent on crustaceans for their livelihood. It is important to factor that in. I am concerned that we are potentially favouring one sector over another and not making sure that those people's livelihood can continue.

**Mairi Gougeon:** I want to be clear that I do not think that it is a case of favouring one sector over another.

I return to the point that Jill Barber made about the importance of the modelling and how all of that—including the rates that are permitted and the dispersal—is determined. As Jill said, we know that there is going to be waste and discharge, so it is about how that is regulated and ensuring that it is within environmental limits. That is hugely important—and it is the case at the moment.

**The Convener:** We now move on to our third theme: farmed salmon health and welfare. Emma Harper has a question.

09:45

**Emma Harper (South Scotland) (SNP):** Good morning. I am interested in information about salmon mortality. The Rural Economy and Connectivity Committee's report made recommendations—they are listed as 9 and 10 in the report—regarding the levels of mortality among farmed salmon. Since then, stakeholders have stated that the mortality rates have remained high, citing reports that 17.5 million fish died in 2022.

I know that measures are being taken to address things such as the handling of the fish, the need for a reduction in mortality and a reduction in the levels of stress. Can you provide

an update on what is being done to address fish mortality? Are we heading in the right direction and reducing the numbers?

**Mairi Gougeon:** Over the past 20 years or so, mortality rates have stayed relatively consistent at a level of about 25 per cent. Of course, that is not where we or the industry want those figures to be, but dealing with mortality is always difficult, because it is a really complex issue to try to address.

I know that some of those issues have been discussed at length by the committee in previous evidence sessions. It is critical that we try to understand some of the causes of mortality—algal blooms, microjellyfish, the impacts of climate change and additional threats—which I hope can lead to work to try to address them.

Tackling those issues has been a significant focus in the industry. Work is being undertaken through the farmed fish health framework to get to grips with some of the real causes and main drivers of the high mortality rates, and to develop standardised reporting in relation to that.

It is not an easy problem to try to solve, but improving fish health and addressing mortalities are a key focus for everyone. It can be difficult because of the complex nature of the problem and its different causes.

**Emma Harper:** What are we learning from other countries that farm salmon, such as Canada, Chile and Norway, when we compare their rates of mortality and its causes with ours? Do they have jellyfish issues as well?

I am looking at Charles Allan. I want to understand whether the rates are acceptable. I assume that we want to see a reduction in the rates of farm salmon mortalities.

**Mairi Gougeon:** Yes, you are absolutely right. It is in nobody's interest for there to be high mortality rates, not least the industry. It is key that we try to address that.

To touch on comparisons with other countries, we are not comparing like with like. We have warmer waters in Scotland than they do in Norway and the Faroes. The challenges are sometimes similar, but they can also sometimes be very difficult.

Our levels have stayed at the consistent level of around 25 per cent, which is higher than that of other nations. However, the environment in which every nation is farming is very different, so there are a number of different causes. We work with other nations and engage with them to try to get a better understanding, and we consider where it makes sense for us to work together to try to address those challenges. Hazel Bartels will probably have more information on that.

**Hazel Bartels (Scottish Government):** You heard from the sector in its evidence to the committee that the companies themselves are internationally interconnected. There are international businesses that learn from their business activities in different locations.

It is true that harmful algal blooms and jellyfish were impactful in Norway and the Faroes. There have been interconnections in relation to the science and among the companies themselves in terms of how to manage those issues. Everybody is grappling with similar challenges, but there are environmental differences in Scotland with our shallower and warmer waters.

**Emma Harper:** Is there a magic number for the amount of biomass in a pen? How many is too many salmon and how many is not enough? We know that they like to swim together, so is there a magic number? Has that been looked at?

**Mairi Gougeon:** Are you asking about the stock in biomass?

**Emma Harper:** Yes.

**Mairi Gougeon:** Charles Allan might want to come in on that.

**Charles Allan:** If we look at welfare indicators, we can say that there is a change in the welfare of the fish at around about 22kg per metre cubed, so everybody is farming below that. If I recall correctly, the organic standard seeks a biomass of no greater than 10kg per metre cubed. Most farmed fish in Scotland are farmed at somewhere between 15kg and 20kg, so the standard is well below that.

However, if I understand your question correctly, you are asking whether there is an ideal biomass where mortality is lower. The answer to that is no. A lot of mortality is driven by either direct or indirect environmental factors, and those environmental factors will interact with the fish regardless of the biomass. Some of the interactions that are subsequent to that environmental impact might be affected by biomass, but at the densities at which we currently farm fish in Scotland, there is no direct relationship between density and mortality.

**Emma Roddick (Highlands and Islands) (SNP):** Good morning, cabinet secretary. I want to dig a little bit more into mortality.

Committee members have a letter from Animal Equality UK that sets out the scale of fish deaths. The annual fish mortality rate last year was the highest since 1991. More than 17 million fish died on salmon farms last year, with more than 10 farms reporting 50 per cent-plus mortality rates. Nobody is saying that farmers want that many dead fish but the fact is that there are that many

dead fish. How can we allow growth and practice that results in so many dead animals to continue?

**Mairi Gougeon:** Mortality is in nobody's best interests but I struggle to see what other measures we could put in place. We cannot incentivise against action. As Charles Allan outlined, if we see a unique environmental effect that leads to mass mortalities at a fish farm, the question is how we can protect against that. The work that goes into trying to find out the causes of mortality and how we can get ahead of some of those challenges is hugely important to enabling us to try to avoid mortalities.

No one wants mortalities. You heard that clearly from the industry when its representatives gave evidence to the committee. It is in all our best interests to try to address those challenges as best we can, but another environmental factor could lead to such mortality rates. As Charles Allan outlined, it would be a concern if cases of bad husbandry were leading to mass mortalities, but that is not what we are seeing. It is the environmental effects that can lead to that.

**Emma Roddick:** It sounds as though mortality is not under control—or even, to a large extent, within the control of the people who run the farms—if we cannot say what would prevent such large-scale mortality rates. Is it justifiable for the industry to grow before it answers those questions?

**Mairi Gougeon:** As I outlined, the work that is critical is ensuring that we try to get ahead of those challenges where we can. An example of that is the work that the Sustainable Aquaculture Innovation Centre has done on trying to predict algal blooms.

It would not be fair to say to the industry that it could not establish a business. We set out in our vision for aquaculture that we want to see sustainable growth of aquaculture in Scotland, but we cannot penalise the industry for issues that are outwith its control.

**Emma Roddick:** If the industry is growing but production is going down and mortality is going up, can that be sustainable?

**Mairi Gougeon:** Charles Allan wants to come in and then we will turn to Hazel Bartels.

**Charles Allan:** You can address disease proactively, ahead of time, or reactively—that is, afterwards. Every year, farmers take a number of initiatives proactively to control disease. I am thinking about vaccination and suitable stock selection, so that their stock is well adapted to the environment.

There is no getting away from the fact that 2022 and 2023 were really harsh years for the farming community. There are indications—and they are

indications only; we cannot rely on them entirely—that survival in 2024 might be better.

You asked what we can do to address some of the issues, Ms Roddick. Collaboration is very important. A lot of the companies work in more than one country and see different things at different times, so the flow of information within companies, and between them as an industry, is important, but so is collaboration between Governments so that we understand the situation better. That does not necessarily help us eliminate the issues and pressures but it can help us to understand them.

**Hazel Bartels:** My point is about what constitutes growth. You heard from the sector that farmers do not necessarily seek to grow the number of sites that they farm but look for greater efficiency within the quantum that they currently occupy. They are looking for greater efficiency and productivity within their space. It is not about growth in mass and scale but about improved productivity within the existing sector.

That will mean addressing some of the challenges that are having an impact on mortality. You heard the industry representatives set out clearly some of the scientific activity that is going on around addressing harmful algal blooms—Ms Gougeon talked about that as well—and exploring how best to literally take the sting out of jellyfish as an issue.

Work is going on to address the specific headline issues in the area.

**Emma Roddick:** Hazel Bartels said that the industry does not want more farms at the moment. If that is not the goal, would there be harm in pausing growth in the number of farms until there is greater control of mortality, disease and fish health?

**Mairi Gougeon:** A moratorium would not be appropriate. It would not be a means to tackle the challenges that we face. We have outlined some of them. A lot of what we have said is about what we can do to try and mitigate some of the challenges. Much work and investment is already going into that. You could set a target or introduce a moratorium but that will not change the work that needs to happen or that is already under way.

**Hazel Bartels:** I will expand on my point on that. The industry's desire is not necessarily about staying in the same sites where farms are currently located. They all want to ensure that the farms are located in the most useful locations for fish health. We have talked already about higher-energy sites, considering the siting of farms and people moving sites around or best organising their marine estate not only for efficient production but for the best health and welfare outcomes. With the way that the planning system works, if we

constrain that—for example, by trying to prevent the number of farms from expanding—we would also put limitations on businesses' ability to organise their estate in a way that meets everybody's aims for health, welfare and productivity.

**Emma Roddick:** That sounds reasonable, but the committee has heard from industry that it recognises that there are sites that are currently operating that are not in the right place, and work has not been done to move them. Is there trust in the industry to make those tough decisions and move farms that are not sited correctly for fish welfare?

10:00

**Jill Barber:** There is evidence from farms elsewhere and it is known in the sector that some farms are not located in the right place, which is why we are trying to support fish farms to move into more exposed locations. Those locations may be closer to shore, but they are still more exposed, which means that they have a better environmental impact and can help with fish health and welfare.

We know that the RECC report included a recommendation on fish farm relocation, and it was important to recognise those issues at the time that the report was written. The farms that are in place now are permitted to be where they are and are operating under licensed conditions. They are allowed to be there—there is nothing to say that they need to move, because they are compliant. However, we recognise that the current layout is not the most efficient and that people want to move. We think that it is important to try to put in place efficient mechanisms to allow people to do that, which is why the work of the consenting task group that Ms Gougeon has established is important.

The new sites still need to be fully assessed, but the task group is trying to ensure that the consenting system is streamlined and co-ordinated to help with some of the farm consolidations. We are also doing work on the offshore framework to help fish farms to move into even more exposed waters. There is a range of factors that need to come together.

The sector has reported on its investment in freshwater wellboats. It wants to use its large smolt strategies and is running nursery sites. There is a big change in the way that production is being managed, and we are trying to do our bit with the consenting system to support that change and move the process along. Fish farm cycles are two years long, and it takes time to get consents in place. It is not a quick thing.

**The Convener:** We will be coming onto that and will explore those issues under other themes.

**Emma Roddick:** My apologies, convener. The questions can go their own way.

I note that Mr Allan's comments on mortality are strikingly similar to those that he made to the REC Committee in 2018. Had you been asked then to imagine that you were giving evidence in 2024, would you have thought that things would have improved more by now and that you would have been able to talk about a better picture than the one that we have at the moment?

**Charles Allan:** Although I am an optimist, I also have to remain a realist. I would like to have seen mortality decrease and survival improve, but I also reflect on the fact that the nature of mortality has changed. Things have emerged that we did not have in 2018. The survival figures in the last published results are less than those in previous years, but in the long term, there is still a fairly straight line for survival. Although I am not wishing to have a repeat invitation to the committee, I would think that if I were to speak to you in a few years' time, the situation would have changed.

**The Convener:** Do we need to be a little more honest, realistic and pragmatic about mortalities? Are we ever really likely to make massive improvements in the percentage of fish that are dying? Should we be looking at survival rates? The survival rate for farmed salmon would be significantly higher than the rate for salmon that are in the wild. It is about the narrative.

It seems to be pretty unpalatable that there is an annual mortality of 17 million fish, but it is a bit like comparing apples with apples. We are not talking about sheep or cows. The life cycle of different species of fish, whether it is salmon, wrasse, pollock or cod, is completely different. Rather than trying to defend what, on the face of it, would be unpalatable and unacceptable levels of mortality, is it not time that the industry and the Government took it on the chin and was honest about it? Could they admit that the mortality rate is to be accepted, that we should get over it and that that is how it is going to be? It is completely unrealistic to expect a 10 per cent mortality rate, given where we are with science, technology and innovation.

**Mairi Gougeon:** I think that we are quite honest and transparent about where we are at, but I would disagree on some aspects. I think that we have to be optimistic about our ability to address these challenges. Equally, I do not think that we can be complacent and say that a 25 per cent rate of mortality is good, because it is not—we would want to see improvements in that respect. Industry would certainly want to see that situation improve—

**The Convener:** I am sorry to interrupt, but what is your benchmark for a rate of 25 per cent? What makes a 25 per cent mortality rate okay but 35 per cent not okay, or 15 per cent not good enough? How are you benchmarking that, given that the public perception is that the life cycle of fish is completely different from the life cycle of a cow or a chicken, or whatever? Why is it okay to lose 17 million fish?

**Mairi Gougeon:** I do not want to get into that—the committee asked me during my previous appearance about what an optimum target would be, but I do not think that that is a helpful conversation to have. We are not content with where we are, and everybody is striving to do better to see the situation improve.

Again, we have to be optimistic about our ability to try to address some of those challenges. That is why the investment in the science and the work that is being taken forward in that regard is so important.

I mentioned the work that SAIC is undertaking on algal blooms to try to predict where that might happen again. There is investment in technology in relation to microjellyfish, which has been used more widely in other countries, and which we can use in Scotland to try to address some of these challenges.

It is also important that we look ahead and try to get in front of whatever is coming next, because there will always be another challenge coming down the line.

**Hazel Bartels:** To expand slightly on that, from a Government point of view, it is about making sure that we believe that everything that could be done is being done.

Some things will be unavoidable—we talked about environmental impacts on farms that were unpredictable, in particular in 2023. It is about making certain that we have the sector, the science and the regulatory frameworks all in place to collaborate on solutions to those things.

If there was an indication that we were not doing everything that was possible, there might be a question to be asked around what more could be done. However, if we are talking about ticking off the actions that can be undertaken to address particular threats as they are understood, we are working as hard as we can in the circumstances.

**The Convener:** I call Ariane Burgess.

**Ariane Burgess:** I will continue on the theme of mortalities, and pick up on some questions that Emma Roddick raised.

Cabinet secretary, can you explain why the Scottish Government and the marine directorate are not identifying farms with repeated high

mortalities and requiring them to downsize—we had an extensive discussion about the moving of farms, but I am interested in the downsizing of them—or to close in order to prevent further unnecessary suffering?

In addition, why are the Government and the directorate not requiring fish farming companies to reduce mortalities in each cycle? We are talking about a mortality rate of 25 per cent. Why are companies not being required to reduce mortalities in each cycle in order to achieve a humane level, probably within about five years? Why is the Government not taking those measures?

I am interested in the downsizing or closing of farms, and the reduction of mortality rates to a humane level.

**Mairi Gougeon:** There are a few points in there. I would touch on Jill Barber's earlier response about all the various packages of work that are under way. I also touch on the point that Emma Roddick raised about the appropriateness of sites and how that could be looked at. Again, there is a package of work under way in relation to that.

On your point about requiring farms to reduce mortalities, I struggle to see what the purpose of that would be. If, for example, an environmental challenge arises that could not be predicted, how does a farm deal with that? How does a farm deal with a situation that could lead to an increase in mortalities that is outwith its control?

Again, I stress that there is no bigger incentive than already exists for the industry to reduce mortalities. Mortalities are not good, not least in terms of fish health impacts but also for the business overall, from an economic point of view. It is in everybody's best interests to address mortalities, and—as Hazel Bartels said—to ensure that we are doing everything that we can to tackle mortalities and, through scientific work, to address the causes. In that way, we can try to get ahead of some of the challenges that we know will continue to come down the line.

**Ariane Burgess:** Ben Hadfield from Mowi Scotland talked to the committee about wanting to get to 5 per cent. Do the marine directorate and the Scottish Government have some kind of role in supporting farms to move to that humane level?

**Mairi Gougeon:** Again, we support the industry in its efforts to reduce mortality—that is a given—including through the scientific work that we undertake. I have talked already about some of the examples of the funding that we have provided and the work that is under way. Of course we work with industry to do that.

**Ariane Burgess:** I come back to the other part of my question, because I feel like that was skipped over. It was about downsizing or closing

farms in the meantime, while we try to get to grips with the unnecessary suffering that is happening in those fish farms and fish cages.

**Mairi Gougeon:** With regard to downsizing, as the committee heard in the response from Charles Allan, the causes of the mortalities that we have seen recently do not relate to the stocking or the biomass, so why would farms be downsizing? It always comes back to the cause of the mortality and how that can best be addressed. I do not think that downsizing or closing businesses would address the causes, when we are dealing with the wider environmental challenges.

**Ariane Burgess:** I come back to the opening recommendations around a moratorium, because the industry is clearly in a problematic state. By downsizing and having less biomass, with fewer fish in the cages, we could potentially get the industry to a more manageable situation.

**Mairi Gougeon:** Even if we did all that, it would not address the real causes of the mortalities.

I come back to the response that Jill Barber gave earlier on the consenting task group's work and SEPA's new framework. All the work that is being done in the meantime, and which has been done since the previous report, has all been critical, because it is about guiding fish farms to the areas that are most appropriate for them, where there are fewer of some of the challenges that we know exist in the environment.

**Hazel Bartels:** Industry reacts from year to year in how it stocks its farms, in any case. It will make a decision about whether it is appropriate to restock a farm at whatever level it was previously at, if it has suffered a particular issue in the previous year, based on the intelligence that the fish farmer will have about whether the risk is likely to arise again.

I come back to the points that Ms Gougeon has been making. Mortality is in the interests of nobody, least of all the farmer, for all kinds of reasons. Farmers will not want to stock a farm where they think that the same issue will be a significant problem for them again, so some of that pressure on them is already there.

**Ariane Burgess:** Okay. I will leave it there, but I do not necessarily take that as the case. I do not have the information in front of me, but I am aware of farms that have been restocking and have had problems. I will pull that out and ensure that the committee is aware of it.

**The Convener:** I call Emma Harper.

**Emma Harper:** I have a final question. In the RECC report, microjellyfish *werenae* mentioned as a cause of mortality, but algae blooms were.

Charles Allan said that there are emerging causes of mortality that are different now from what they were decades ago. It is almost like we would be chasing our tail on that, but the Government needs to continue to work on it—to collaborate with researchers and scientists and the marine directorate, and to support any action, because it will be difficult to keep ahead of the challenges. That would be my ask: Government obviously recognises that collaboration and support will be required, so will that take place?

**Mairi Gougeon:** Absolutely. We have to do that if we are to have any hope of trying to address the challenges that we face as we move forward. It is a high priority.

With regard to the wider challenges, we know that we will face more of those going down the line. We are all aware of the situation in our marine environment with warming waters and trying to get ahead of the challenges that climate change presents.

As an example of some of that work, we have been engaging with the Marina Climate Change Impacts Partnership to improve understanding of climate impacts on aquaculture. Working with our stakeholders is important, but working across the piece, and internationally, is also important so that we can share that knowledge and ensure that we are using the most up-to-date science. We are engaged in that work to try to tackle these challenges as best we can.

**The Convener:** I call Rhoda Grant.

10:15

**Rhoda Grant:** The discussion is quite interesting—nobody knew that the situation with microjellyfish was going to happen, and that had an absolutely devastating impact on fish farming. It was equivalent to foot-and-mouth disease, but people may not understand that. With foot-and-mouth, people saw at first hand what was going on, but they did not see the devastation from the microjellyfish and the impact that that had on those working in fish farms, or indeed the on-going impact that it is having on folk down the line in the processing industry, who have lost their jobs.

We have talked a bit about what the industry can do in looking at where the next threats are coming from. I wonder what the Government is doing to support industry in that, and what Government foresees as being the issues, because we need to be ready for those. There was understanding of the microjellyfish issue within a year, and of how to farm around it, and there are perhaps other things that we could do to mitigate the impact even further. However, what are the new threats, and what action are we taking to avoid them?

**Mairi Gougeon:** I will hand over to Hazel Bartels, who will be able to say a bit more about that.

To touch on your initial point first, I absolutely agree with what you say in respect of how we are supporting the wider industry. There is the farmed fish health framework and the work that we are taking forward through that, which includes work on mortalities. I have touched on the work that SAIC has done in relation to algal blooms; that was an important piece of work. We are providing SAIC with funding of £1.5 million up to 2026, and fish health priorities are key in the work that it will be taking forward and focusing on.

In relation to microjellyfish, I am aware that there are other technologies being used elsewhere that could be used in Scotland to try to help alleviate the issues in that respect. Hazel, would you like to add any more information on that?

**Hazel Bartels:** You have covered most of the ground there. The role of Government is fundamentally to facilitate those collaborations, and we do that via the funding that we provide to SAIC and through the ways that we are thinking into the future to continue to be able to support innovation.

The farmed fish health framework creates the space for pre-competitive conversations between companies, and for international collaborations. We also had the quint, which is the connection between Governments at official level internationally, and there are various international science collaborations, the details of which Charles Allan probably has in his head. That enables the industry and the scientists to come together to think about these things, and that is the space that we, as Government officials, occupy.

**The Convener:** It is probably a good idea to have a break before we move on to data accessibility and transparency, so I suspend the meeting.

10:17

*Meeting suspended.*

10:30

*On resuming—*

**The Convener:** We will now continue with our questions on the back of the aquaculture report, turning to data accessibility and transparency.

Recommendation 11 of the Rural Economy and Connectivity Committee's report considered it essential that work on mortality reporting ensures

"high levels of transparency that will provide confidence to all stakeholders",

and it recommended that the information

"provide an accurate, detailed and timely reflection of mortality levels including their underlying causes across the whole sector."

That is something that we have spent time discussing.

Given that, as everybody appreciates, it is important to accurately report mortality, why has the Scottish Government not introduced a mandatory system for the reporting of mortalities, relying instead on the industry reporting them on a voluntary basis?

**Mairi Gougeon:** First, we need to make sure that regulation is proportionate to what we need. I believe that the information that we get right now is suitable for those purposes and is provided in an open and transparent way. As far as I am aware, the information on mortality that is published by the industry in Scotland is more transparent, and there is more of it, than is the case in any other nation.

Earlier, I mentioned the work that was undertaken through the farmed fish health framework on trying to identify the causes of mortality. It identified ten overarching categories, with a view to standardising the reporting across farms. As a result of that important work, there has been an improvement in the data that is collected, because it has ensured that there is consistency in reporting.

I recognise that further improvements could still be made in how the overall data is presented. Right now, we are still presenting the data in four different ways: the industry presents its mortality levels, the marine directorate publishes our information annually, the FHI reports information, and SEPA does so, too. That is something that we have discussed, and I think it would be helpful for us to provide an explainer of how all the different categories of information are used. I recognise that further work needs to be done there.

**The Convener:** I think that the biggest concern is about consumer and public confidence. The fact that the information is currently provided on a voluntary basis has given rise to some concerns about the accuracy of the figures.

What is to prevent the Government from laying out some of the issues that you have just raised in your answer, and suggesting that a legal requirement to report on the basis that you describe would be helpful and that progress should be made towards that?

The committee has found confidence in the data to be lacking. Prior to the aquaculture industry representatives appearing in front of the committee, we were all aware of issues around the reporting of mortalities, and some of the questions

that we put to them were about the accuracy of their data. If reporting were a legal obligation, rather than something that is done on a voluntary basis, would there be more confidence in the information?

**Mairi Gougeon:** There are two separate issues in your question. One is about the presentation of the data, and I think that we absolutely need to do more work on how that information is presented and communicated. However, again, all the information is provided in an open and transparent manner.

The second issue is that of regulation, which comes back to what is proportionate. The industry representatives spoke about the various audits that are undertaken and how transparent that data has to be. Of course, records have to be kept, and there would be surveillance of that. We are confident in the information that is provided, but, if it transpired that there was a problem, we would look at that. However, again, any steps that we take with regard to regulation have to be proportionate.

**Ariane Burgess:** I will follow on from that. Cabinet secretary, I heard you say that the Government and marine directorate have more work to do on the data and reporting. A number of issues have come up on that. At the moment, it remains impossible for the public to check on fish farm compliance around bath chemical discharge licences, and SEPA has produced no compliance assessment scheme reports for companies since 2019.

Another issue is that data is given in different ways. SEPA and the FHI use different metrics, so data is not always comparable. Surely, it would be a fairly easy and reasonable step to address that discrepancy. Can we get a commitment from the Scottish Government and the marine directorate to move forward with making all that data not only publicly accessible but coherent, so that it is easy for the public to see whether a particular farm is compliant?

**Mairi Gougeon:** There are a few points in there. You say that SEPA has not produced compliance assessments. First, all that information is published, but the specific compliance assessment is a piece of work that SEPA will introduce next year. The levels are published at the moment, but SEPA is actively working on the compliance aspect and will be taking that forward next year.

As you say, it can be difficult for people to extrapolate the information that they need or make comparisons, because of how the data is presented. It is collected in those ways for different purposes and for each of those organisations' reasons. What the industry needs that data for could be different from what we need that data for

in the marine directorate, what FHI needs it for or what SEPA needs it for.

I just mentioned the work that we could take forward on setting out a document that could help explain all that information and bring it together in a better way. All the general information that we have in relation to aquaculture is published on the Scotland's Aquaculture website. More work could be done overall on the ease of accessibility of that information, but that comes back to a prioritisation discussion. All the general information is published on that website, and a website or information technology overhaul could be a very expensive process.

I have outlined some of the pieces of work that are on-going in relation to the consenting task group. SEPA's sea lice framework is being implemented, so the issue is about how that work would fit in with our overall prioritisation.

Steps are being taken to make more of the information more communicable. SEPA is introducing its work next year, and we will be working on trying to get an explainer together, particularly in relation to mortality.

**Ariane Burgess:** Having a good relationship with communities and presenting that information in an accessible way would be a part of having social licence, would it not?

**Mairi Gougeon:** Yes.

**Ariane Burgess:** One thing that has come up through talking to all the different regulatory bodies as part of our inquiry is that mortality does not really sit anywhere. We heard from Charles Allan, when he came in with a different hat on—I think it was a different hat—that the fish health inspectorate, for example, does not have powers to limit production following a high mortality event. That is related to recommendation 10 of the Rural Economy and Connectivity Committee's report, which says that

"there should be a process in place which allows robust intervention by regulators when serious fish mortality events occur."

There is also an issue about gathering that data and getting that information. If it is the case that nobody has the powers to oversee that issue, something needs to be done about that. How would you define a "robust intervention", and where would that intervention sit, so that we get that clarity around the situation and that mortality data?

**Mairi Gougeon:** It comes back to the overall causes. A whole heap of information is published—it is reported openly and transparently. Again, as I have just outlined, every body that is involved collects it for a different purpose, which is why it is set out in different ways.

I would not want that to be interpreted as meaning that there is a gap in regulation. We covered the mortalities in the previous set of questions about interventions. I am sure that Charles Allan will correct me if I am wrong on this, but we have talked about the environmental causes of those mortalities and, if they were caused by a listed disease, the fish health inspectorate has the ability to take action in relation to that, where those powers are set out. However, when there is an environmental cause, such as the harmful algal blooms, that is outwith the control of the fish farmers themselves.

Charles Allan can explain a bit more about the powers in relation to listed disease and where that has been seen to be a problem.

**Charles Allan:** Any case of listed disease is required by law to be reported to us. Any increase in mortality has to be reported either to us or to a vet, to seek clarity on the cause of mortality.

All mortality occurring on fish farms requires to be recorded and the record is to be made available for inspection. Whether we are present during a mortality event, immediately after a mortality event or further into the future, that record requires to be maintained.

Where mortality is increased, the farmers will report it to us. We have a report at the time, and a mortality record is held on site that can be inspected by an inspector at any time, to allow us to better understand the pattern of mortality.

**Ariane Burgess:** Do you have confidence in that data? I go back to the convener's points about the voluntary nature of the reporting of that data. It is quite concerning, potentially, that you have an industry that is marking its own homework, which is a phrase that gets used a lot in this building.

**Mairi Gougeon:** I do not think that that is the case.

**Charles Allan:** It may be an opinion that the industry is marking its own homework, but it is voluntarily reporting data to us above and beyond what the law requires. It is providing extra information rather than marking its own homework on what is legally required.

**Ariane Burgess:** Okay. I am still not sure that I am getting the answer on the recommendation for robust interventions in that situation. but I will leave it there.

**The Convener:** I want to stick with reporting. The Scottish Government's vision for sustainable aquaculture enables further expansion of the sector as long as it operates within environmental limits and with due attention to animal health. What indicators does the Scottish Government use to monitor whether the industry is operating

within those environmental limits and with that due attention to animal health?

**Mairi Gougeon:** We talked about the industry as a whole at the start of the session and went into great detail about the work that goes into an application, the licences that have to be received and the amount of modelling work that is undertaken to ensure that fish farms are operating within environmental limits. The fact that they have been granted their licence to operate means that they are very much operating on that basis.

**The Convener:** Once they are in operation, how do you monitor them and what indicators do you use to ensure that they are operating within the parameters that you set out, which would allow further expansion of the industry?

**Mairi Gougeon:** We talk in the vision about the potential for sustainable growth of the industry within environmental limits. Earlier in the session, we touched on the monitoring that is undertaken, and the surveillance of that is very much part of the work that SEPA undertakes as part of its 2019 framework.

**The Convener:** Are you satisfied that the industry is currently working within those requirements, which, in your view, allow further expansion? How do you assess the industry as a whole? Once again, as I said, your vision was for the industry to be able to expand. How do you use those indicators to ensure that it is expanding and able to meet its obligations?

10:45

**Mairi Gougeon:** Individually, fish farms must be able to operate within environmental limits, otherwise licences would not be granted. I again come back to the important pieces of work that have been undertaken since the previous committee's inquiry. We have talked about the overall finfish framework that SEPA introduced in 2019 and its implementation. There is also the further roll-out of the sea lice framework, which will take place over a period of time.

Between those exercises, we can identify the areas where there are challenges. That comes back to the work that Jill Barber touched on earlier, and which the committee may touch on later in its questions about the consenting task group and the work that it is taking forward. Ultimately, we are looking to guide development to the right places. That is what we are trying to achieve through those frameworks and through this work. Some of that work is at the initial stages, but that is the general direction.

**The Convener:** Are you comfortable that the industry can expand with the environmental and

animal health standards that it currently operates under?

**Mairi Gougeon:** Yes. I believe that we have the right regulation in place. We have very tight environmental standards. We care about our fish health and welfare, and I believe that the industry adheres to our standards. If we believe that that is not the case, we have the mechanisms to deal with those issues as they arise.

**Jill Barber:** I will add to that. The vision sets out a number of outcomes and how we will progress those, but the vision itself does not set the environmental limits. Those are very much in the different regimes, because we need to keep up to date with the latest science and evidence and adapt those limits. You heard from SEPA about the new environmental framework, and the significantly enhanced monitoring is one element of that. The environmental quality standard for Slice, or emamectin benzoate, will be reset, and farms will be sampled against that. The fish health inspectorate has introduced intervention levels of three and eight lice per fish, which have been revised and brought down. We are constantly reviewing and setting the acceptable limit.

That feeds into the sea lice risk assessment framework, which will very much be adaptive—it will be based on learning from the monitoring that comes in. There is not just one set of markers; we are setting and reviewing many different bits of the regulatory regime and making sure that it is up to date with the best available science and moves in line with our desired outcomes.

**Emma Roddick:** How does the cabinet secretary respond to concerns that there are no specific statutory welfare standards in place for farmed fish?

**Mairi Gougeon:** I believe that we have adequate regulations in law. We have the Animal Health and Welfare (Scotland) Act 2006, which businesses are required to adhere to. The Animal and Plant Health Agency deals with any issues in relation to that. I believe that it has recently appointed more people to work specifically in that sphere in order to ensure that it has the capacity and the resource that it needs to undertake that work and that role.

**Emma Roddick:** It has been clear during the inquiry that witnesses from the industry and those who are critical of it have struggled to define what good fish welfare is. What is the Government's understanding of good fish welfare and of how happy fish would look and behave? Do you see it as the role of Government to provide that definition for the industry to adhere to?

**Mairi Gougeon:** It is important that, as in any area, we have the right protections in place to protect and enhance animal welfare. We should

always be striving to improve that where possible. A number of pieces of work on that have been undertaken, and we are actively considering those. The UK animal welfare committee was particularly concerned about the welfare of fish at the time of slaughter, and we are considering that. We always look to see whether there are areas where we can improve.

Considering the totality of the provisions that we have in place, including legislation, policies and operational practices, I believe that we have the right safeguards in place for the health and welfare of farmed fish. As I say, the Animal Health and Welfare (Scotland) Act 2006 places that duty of care on fish farmers.

**Emma Roddick:** The Rural Economy and Connectivity Committee identified issues relating to the regulatory framework. How has the Scottish Government sought to fix those issues since the publication of the committee's report?

**Mairi Gougeon:** In relation to animal welfare in particular?

**Emma Roddick:** Yes.

**Mairi Gougeon:** It is important to recognise, as we have touched on throughout the meeting, that a number of different bodies are involved in the regulation of salmon farming. The fish health inspectorate has a specific role, and SEPA has a role in relation to the marine environment. I have also touched on APHA and its work on welfare issues. Like anything, it is important that there is strong collaboration on this matter. Each organisation has a specific role that it has to undertake and specific laws and regulation that it has to enforce and monitor. It is important that there is close collaboration between the different organisations in this space. The FHI and APHA have been in discussions about how to better collaborate on those issues.

Charles Allan, can you say more about that?

**Charles Allan:** APHA is directly and indirectly responsible for the welfare of its animals with regard to statute. It has vets who inspect farms of all sorts to consider animal welfare and animal welfare cases. We also refer cases to it directly when we have found on-farm welfare cases that we think are worthy of further inspection.

It is a constantly evolving relationship; indeed, last week, we referred a number of cases to APHA. We are looking to develop the understanding of each other's needs in order to improve the welfare services that are provided to farmed animals.

**Emma Roddick:** It must be difficult to regulate and enforce good welfare standards if there is not consensus on what good welfare for farmed fish is. Is there an objective, desire or aspiration to

come up with specific welfare standards for farmed fish?

**Mairi Gougeon:** As I said, in relation to the overall provisions and legislation that we have set out, I believe that we have the right powers in place to deal with any issues. If the committee has any particular recommendations in that regard, I am happy to hear them. Of course, we are always open to considering where any potential enhancements to animal welfare can be made, but it is not our intention to take forward work on that at the moment.

I mentioned some of the UK animal welfare committee's recommendations on that, and we are actively considering those at the moment. Overall, I believe that the legislation and policies that we have in place allow us to deal with that.

**Hazel Bartels:** I will add a few more points. The 2006 act has some specifics about what constitutes good welfare, but I think that you are looking for something beyond that. Within that, there is an ecosystem of understanding of what good practice is that is documented in the sector's code of good practice. Things such as the Royal Society for the Prevention of Cruelty to Animals assurance standards and other assurance standards inform that.

There is a suite of information in relation to welfare indicators that APHA uses as part of its work, and it will have its own methods of ensuring that it has adequate measures of welfare. There are probably some detailed questions for APHA there about how it manages that.

**Emma Roddick:** When the committee went to visit a fish farm, the 2006 definitions were up on the wall, and various members asked questions about how those are adhered to, particularly in relation to allowing animals to explore their natural behaviours. Where that cannot be directly applied to fish that are in containment, would it make more sense, including for people who have to ensure that welfare, that the standards are applicable and achievable for the animals that they look after?

**Mairi Gougeon:** I am open to considering any particular recommendations in that regard.

**The Convener:** You have quoted the Animal Health and Welfare (Scotland) Act 2006, but farm fish are not covered by that. We heard evidence from OneKind that, as sentient animals that are protected under the 2006 act, farm fish should have statutory welfare standards and official guidance, but they currently do not.

RSPCA has suggested that all its schemes are voluntary accreditation schemes, so all the fish farms are working at an enhanced level, above what is required by legislation, because no legislation looks at the welfare of fish. There are

no key performance indicator data to monitor welfare standards because, as RSPCA said,

"It is incredibly difficult to measure welfare."—[*Official Report, Rural Affairs and Islands Committee*, 5 June 2024; c 18.]

You touched on the 2006 act a couple of times, but farm fish are not covered.

**Mairi Gougeon:** They are covered by the 2006 act.

Hazel, I do not know whether you want to add more.

**Hazel Bartels:** That is right.

**The Convener:** They are covered?

**Mairi Gougeon:** Yes.

**The Convener:** Well, it is good to get that on the record.

We move to a question from Tim Eagle.

**Tim Eagle (Highlands and Islands) (Con):** Good morning, cabinet secretary. I am acutely conscious that I was not here for a lot of the evidence-gathering sessions on this matter, so I am trying to pick up quickly what is going on.

One of the concerns, which Charles Allan spoke about a minute ago, was the co-ordination between the fish health inspectorate, APHA and local authorities in investigations relating to general welfare protections under the 2006 act. There were concerns that the co-ordination was a bit iffy. Do you have any thoughts on that and how it could be improved?

**Mairi Gougeon:** As Charles Allan outlined, there have been discussions about how there can be greater collaboration. If the FHI picks up particular cases when it is undertaking inspections, it refers them to APHA. However, I am always open to considering how we can strengthen the role of APHA when it comes to protecting fish welfare in Scotland.

Charles, do you want to elaborate on that?

**Charles Allan:** I will only add that we are continually working to improve our relationships with other statutory bodies, such as APHA and SEPA.

**Tim Eagle:** Specifically, at the moment, do those bodies have powers to do unannounced inspections?

**Mairi Gougeon:** Yes.

**Charles Allan:** My understanding is that they do.

**Tim Eagle:** Perfect—thank you.

**Ariane Burgess:** I will follow on from Tim Eagle's questions. We know that

“Fish welfare is the responsibility of the Animal and Plant Health Agency (APHA) but APHA investigates only a small sub-selection of reports of poor animal welfare on fish farms, if FHI (and occasionally third parties) notify it of high mortality events. It does not always inspect even the farms with the highest mortality.”

It is quite concerning that we have a body—APHA—that is required to investigate, but is not doing many investigations.

**Mairi Gougeon:** I will touch on a point that I made earlier. APHA is increasing its capacity in that area. If my understanding is right, it is adding a couple of members to its team, to ensure that it can undertake more work in that regard.

**Ariane Burgess:** Could you come back to the committee with a measurement that shows what APHA is investigating now and, with more resource, what it will do in the future?

**Mairi Gougeon:** If it would be helpful, I am happy to contact APHA and furnish the committee with that information.

**Ariane Burgess:** That would be great.

Another point has come to my attention. We received a letter that said that APHA

“issues care notices to farm operators who need to improve fish welfare, and ... it prosecutes the most wayward of them, but APHA has acknowledged in FOI disclosures that it has never issued any care notices to salmon farms and that there have been no prosecutions of fish farmers for failing in their duty to prevent unnecessary suffering, or for failing to meet an animal's needs”.

That is interesting. There is an implication in the letter that we received that APHA issues care notices to salmon farmers, but it has never issued any. Could you speak to that?

**Mairi Gougeon:** Again, I do not have that information to hand, and I would have to check that with APHA. As far as I am aware, it has been dealing with a number of cases over the past couple of years, some of which are still on-going.

11:00

**Jill Barber:** I add that the fish health inspectors are on site and will liaise with APHA and report to it if they have any concerns, and APHA follows those up. The APHA staff are veterinarians, so they have taken their oaths. There was a discussion at one of the previous evidence sessions about high mortality not necessarily equalling poor welfare. The relationship between the two welfare indicators is very complicated.

There are vets going out to visit farms, and your suggestion that there is a lack of care notices is related to the fact that they have been out. The fish farm vets have done their best to fulfil their duty of care, and there has not been a break in the law by causing unnecessary suffering.

**Ariane Burgess:** How would anyone know that? How is it tracked that they have visited? Does that come back to public data and transparency, or is that information on the website?

**Hazel Bartels:** I have found the information in my pack about recent APHA cases. Since 2022, it has received 22 complaints of welfare abuses from third parties, including from the fish health inspectorate. Of those cases, 20 were investigated and 12 resulted in action that included verbal advice, written advice or follow up, so they have not gone as far as the care notice level, because the earlier levels of action meant that they did not need to. Three complaints remain under investigation. There may be more up-to-date data than that, and we can speak to APHA to get that clarified, but that is the information that it provided to us ahead of this evidence session.

**Ariane Burgess:** Did you say 12 cases? You read that very quickly.

**Hazel Bartels:** I am sorry. We can provide more clarification. Twelve cases resulted in action.

**Ariane Burgess:** And what were the actions?

**Hazel Bartels:** They included verbal advice, written advice and follow-up.

**Ariane Burgess:** But what was the advice?

**Mairi Gougeon:** Again, we do not have that information, but we will provide the committee with further information once we receive it.

**Ariane Burgess:** Thank you very much.

**The Convener:** On that, we received information to suggest that research on salmonid species has shown that they are capable of experiencing pain, and that operational laboratory welfare indicators have been developed to highlight that. However, there is no legislation to implement regulations on sticking to the indicators. Is the Government considering bringing that in?

**Mairi Gougeon:** We are not considering that at the moment. As I said, I think that we have the right measures, policies and legislation in place, but we are happy to consider any new evidence that emerges.

**Elena Whitham (Carrick, Cumnock and Doon Valley) (SNP):** I will focus my questions on the use of so-called cleaner fish and interactions with wild salmon. The industry has explained to the committee that it uses cleaner fish—wild-caught wrasse and farmed lumpfish—to help deal with and keep at bay sea lice infestations on the farms. However, we have heard from witnesses that the mortality rates for those cleaner fish are unacceptably high, with almost a third dying within three weeks of being deployed into the marine pens. Also, at the end of the process, when the

salmon are harvested, the majority of the cleaner fish are killed. We heard from the industry that it is making strides to address some of the welfare issues, including using wellboats and so on to try to minimise stress and death.

The REC Committee made several recommendations. Recommendation 26 was about the

“urgent need for an assessment of future demand as well as all associated environmental implications of the farming, fishing and use of cleaner fish”,

and recommendation 28 was about the

“need for regulation of cleaner fish fishing to preserve wild stocks and avoid negative knock on impact in local ecosystem.”

My question focuses on the environmental impact of so-called cleaner fish and the welfare impact on them. How does the cabinet secretary respond to concerns regarding the high mortality rate of cleaner fish? Will the cabinet secretary update the committee on the code of good practice commitment in the vision for sustainable aquaculture and how it could address those concerns? Finally, would a code of practice be better than regulation, and is regulation needed in the area?

**Mairi Gougeon:** There is a lot to unpack in that question, so I will try to work through it as best as I possibly can. We touched on that issue at last week’s evidence session on fisheries management plans. A number of pieces of work are going on in the area.

First of all, I recognise the concerns that have been expressed to the committee on the issue, and I am obviously concerned by the evidence that the committee has received. I would point out that we have asked the Scottish Animal Welfare Commission to do some work on the welfare of cleaner fish; I am not too sure of the exact timescales for that work, but I am happy to furnish the committee with that information as soon as it becomes available, or when I have an idea of the timescales and what the work will look like. It is appropriate that we handle the matter in that way, and that we get the recommendations from the Scottish Animal Welfare Commission and then see what improvements can be made in the area.

You touched on recommendation 27 in the report. Since the report was published, a number of different measures have been introduced. First, there were the voluntary measures, which were introduced in 2020 and became mandatory in 2021. What was required under those measures was the collection of additional data on the number of wrasse caught, with a requirement to take part in surveys in order to build the evidence base. We are still working through and reviewing that data from 2023, but I think that we are content

with what we have seen through the mandatory measures. However, that does not mean that the work stops, especially given the further evidence that we have been in receipt of since then.

I covered this at last week’s committee meeting, but we are also awaiting advice from NatureScot on the back of the evidence that we have received about the potential impacts on special areas of conservation to enable us to undertake an appropriate assessment under the habitats regulations. I just wanted to highlight the fact that a number of pieces of work are under way so that we can try to get to grips with the issues and address them in the best way possible.

**Elena Whitham:** Given that that report was from 2020, it would be helpful if the cabinet secretary could update the committee on what is going to come out of it and how the issues raised in it are going to be addressed.

Can you also update us on the code of good practice commitment in the vision for sustainable aquaculture? Where are we with that?

**Mairi Gougeon:** Hazel Bartels will be able to provide more information on that.

**Hazel Bartels:** You are referring to the sector’s code of good practice, which is something that is continually kept under review, and we will work with the sector in more detail on the updates that are required. It has been working closely with us and the Scottish Animal Welfare Commission on the recommendations in that respect, and it will make sense to update the code of good practice holistically once that information comes out of the commission’s work.

**Elena Whitham:** Thank you very much.

I have a few questions about interactions with wild salmon—

**The Convener:** I am sorry, Elena, but we seem to be moving away from the topic of wrasse. It is my understanding that a petition on wrasse is being assessed by the Citizen Participation and Public Petitions Committee. The Scottish Government has put in a late submission on that petition, suggesting that it was

“now in receipt of a report titled ‘Assessing the implications of wrasse fishing for marine sites and features’, which brings new evidence of potential wrasse fishing interactions with Special Areas of Conservation”

and marine protected areas. However, that report was written and received by the Government in 2020. To suggest that the Government is “now in receipt” of new evidence is disingenuous at its best.

It also follows on from a parliamentary question from our committee member, Ariane Burgess, on

whether appropriate assessments had been carried out, to which the response was that

“the Scottish Government does not hold the information you have requested”—[*Written Answers*, 25 March 2024; S6W-25557.],

which is obviously untrue, given the report that was published in 2020. Why has there not been more progress on wrasse, given that these issues were first raised in 2020?

**Mairi Gougeon:** I have talked about the progress that has been made. Since 2020, we have introduced the mandatory controls, and it is also important that we review the evidence that has come out of them. As I have said, we have the evidence from 2021 and 2022, and we are still working through and publishing the data from 2023.

As far as the appropriate assessments are concerned, they will not have been carried out. We are waiting on the advice from NatureScot to inform the appropriate assessment that will take place.

**The Convener:** I suppose that I am asking why nothing has been done since 2020, when NatureScot published its initial report.

**Mairi Gougeon:** I would have to go back and look at the exact timescales in relation to what work has been done following receipt of that report. I would be happy to follow up on that with the committee. However, I reiterate that we have taken action since 2020, and we are taking further action, as I have outlined.

**The Convener:** My apologies, Elena, for interrupting you. Please continue with your line of questioning.

**Elena Whitham:** That is no problem, convener.

I want to touch on the issue of interactions with wild salmon. Although the Scottish wild salmon strategy, which the Government published in 2022, goes broader than the aquaculture impacts, it refers to the pressures that farmed salmon put on wild salmon. The salmon interactions working group has said that only one of its 42 recommendations has been acted on by the Government. What has delayed progress in delivering the group’s proposals? When can we expect them to be implemented?

**Mairi Gougeon:** I highlight the fact that some significant pieces of work have been done in the area of wild salmon. The delivery of the sea lice framework is a critical piece of work that represents a positive step forward in managing those interactions and identifying the lead regulator in that work. SEPA is taking forward that work.

Since the salmon interactions working group produced its report, we have introduced a wild salmon strategy and, on the back of that, a wild salmon implementation plan. The strategy outlined 61 different actions that identified the different pressures that wild salmon are facing, and the implementation plan is about setting out the actions that we are taking in response to the identification of the different challenges that we know our wild salmon face. We have also published an update on the first year of the implementation of that strategy. Action has been taken in relation to 50 of those 61 actions.

I recognise the criticism that the progress is not fast enough, but I highlight the fact that we have taken significant steps forward. It has been critical that we have driven forward those pieces of work, because we recognise the pressures that our wild salmon are under. Of course, a number of factors contribute to that, which we identified in the strategy—we identified about 12 different pressures—and it is important that we take action against each of those in order to boost the populations as best we can.

**Elena Whitham:** Sticking with the subject of sea lice, how do you respond to the concern that we have heard that SEPA’s approach to placing standstill or no-deterioration conditions on farms in wild salmon protection zones assumes that the current sea lice levels on those farms are not harmful? We have heard that that approach might be baking in further deterioration. What is your response to that?

**Mairi Gougeon:** I make it clear that, overall, we must look at the SEPA sea lice framework holistically. It takes a precautionary approach. SEPA has imposed a standstill condition on fish farms in certain areas in order to get more information to inform the modelling and to enable us to see the impacts of those fish farms. It is vital that that work takes place so that we can discover exactly what risks are posed in those areas.

**Jill Barber:** I can provide further detail on the framework. It uses the best available evidence, some of which is modelling science and some of which is science on the thresholds above which impacts on wild salmon might start to occur. A risk screening tool has been created that is precautionary in nature. It screens initial risk and assesses where more detailed assessment is needed for further developments. That tool has, in essence, modelled the entire west coast of Scotland, and we have been able to zone in on areas of the highest relative risk.

There are areas where the risk is really minimal, and we also have targeted focus areas, in which 19 farms have been identified as having the highest relative risk. In those areas, there will be standstill conditions to ensure that farmers

maintain good sea lice controls over the next couple of years, while we carry out monitoring and assessment and determine whether we need to take further action on the farms in question.

As you have also heard from people, the science relating to interactions is really quite complex, which is why we are using the best available evidence in line with the precautionary principle. That is exactly what the framework does: it is a risk management tool that implements adaptive management. We will adapt to what the monitoring tells us, but it is our best estimate that that will work, based on the science and evidence that we have at the moment.

11:15

**Elena Whitham:** That was very helpful, Jill, but it leads me to ask a question about the prevalence of no counts. If we are looking at having robust data and understanding the situation, cabinet secretary, are you concerned about the level of no counts that have been submitted for mandatory sea lice counts? Does that help or hinder the robustness of the data that we hold?

**Mairi Gougeon:** I believe that the data that we hold is robust. In his previous evidence to the committee, Charles Allan outlined the various reasons for the level of no counts, but if it looked as if it were going to be an on-going or persistent issue, I would of course see what more could be done. However, I believe that we are in receipt of the data that we need.

**Jill Barber:** A lot of the discussion on no counts has focused on the fish health inspectorate's regime. There are reasonable reasons for no counts within that, as has been discussed in quite a lot of detail at committee. Under the new regime that SEPA is bringing in, there will be a requirement to look at reporting at a different time of year, over a shorter time period and for a different purpose. SEPA is having a look at what is required, but it will be introducing reporting requirements and is starting to put the standstill conditions in place just now.

SEPA might feel that it has different requirements as far as the reporting is concerned, so that might look slightly different. We cannot comment on what has gone on in the past and whether that is good enough for the framework, given that SEPA is setting out what is good enough for the framework now. I just wanted to clarify that.

**Elena Whitham:** I have one final question, which is about escapes from fish farms. In the REC Committee's report, recommendation 37 noted that there were

"strict penalties ... in Norway to deal with escapes"

and recommended that

"appropriate sanctions should be developed and introduced in Scotland."

The salmon interactions working group at that time endorsed that recommendation, calling it "powerful", and we know that it is seeking that moneys accrued from fines be ring fenced and given over to the improvement of wild salmon conservation. How and when will the commitment set out in the "Vision for sustainable aquaculture" on

"appropriate fines for fish farm escapes"

being

"redistributed to support wild salmonid conservation and research"

be achieved?

**Mairi Gougeon:** As I outlined in my opening comments, we realise that there is always more work to be done. This is one area in which we agreed with the recommendations, and we still intend to take them forward.

However, as I have mentioned today, the issue is how we prioritise this work. Overall, it was felt that, as we already have a regime in place for escapes, the priority should be to address potential gaps. That is why there has been a focus on taking forward the work on sea lice, and there is also the work that we are doing on the consenting task group.

It is therefore not possible for me to set a definitive timescale at the moment, but we are still intending to deliver that work. Again, it is a case of factoring it in alongside all the other work that we are taking forward at the moment.

**Elena Whitham:** The Atlantic Salmon Trust has told the committee that the issue is quite vital to the protection of wild salmon numbers in Scotland, because it is concerned about the genetic introgression that could happen. Is it possible for you to come back to the committee once you have a further understanding of the actual prevalence of genetic introgression?

**Mairi Gougeon:** I do not know whether it will be helpful, but I can provide you with more information on the work that is being done in relation to that.

I am sorry, Jill. Were you going to come in on that?

**Jill Barber:** Yes, there are two things—perhaps more than two things—to highlight. We have an assisting escapes framework, whose purpose is to try to assess and stop the risk of farmed fish escapes. That is already in place, with inspections being undertaken to ensure that satisfactory measures for containing fish are in place, too.

We committed to looking at the technical standard, which governs equipment and how wave heights and so on are assessed to ensure that what is in place can withstand the environmental conditions. The first technical standard was introduced in 2015, and there have been equipment upgrades.

Overall, the number of escapes has been declining. The risk with escapes is not equal—it depends on the size of the fish and whether they disperse immediately to the sea. We have made progress by investing in further introgression sampling. We have had our first introgression report for Scotland, and the next report will be published, I think, by spring next year, although I will need to double check the timeframe for that. We are building up an evidence base of the introgression that is occurring.

We remain committed to the penalties, but there is already good practice by some farming companies. For example, after an escape at Carradale, Mowi spent money on monitoring and research to determine whether the escape had had any impacts, and it found no evidence of introgression. The sector is starting to do that work, and we are committed to taking it forward, too.

**Elena Whitham:** Thank you.

**The Convener:** We will tidy up this theme with a question from Tim Eagle.

**Tim Eagle:** What is the status of the 2023-24 programme for government commitment to pilot a revised technical standard for Scottish finfish aquaculture?

**Mairi Gougeon:** Jill Barber touched on that. The previous technical standard was introduced in 2015, and we are starting the initial work.

**Jill Barber:** The work is taking us slightly longer than we expected. As Ms Gougeon said, that is due to the internal decisions on prioritisation that the Government has had to take. We are still committed to the standard, and our discussions are about whether the best way to implement it is through guidance or through other means. We are taking the time to ensure that we get that absolutely right, and we can come back to you on the timescales.

**The Convener:** The cabinet secretary will be pleased to hear that we are moving to our final theme, which is on consenting and planning.

**Rhoda Grant:** As a response to the Griggs review and concerns from the industry, the Scottish Government set up the consenting task group. What progress has it made in streamlining the consenting process?

**Mairi Gougeon:** That was one of the key recommendations in the report, and it has been a key focus of our work since the recommendations were published. In a second, I will hand over to Jill Barber, who will be able to provide more detail.

The work has been taken forward in phases. The key reason for the work is to streamline the process. As we have heard today, a number of different bodies are involved, and the picture is quite complex, particularly for those looking in from the outside, given the different requirements that are expected of fish farming businesses. It is really important that we streamline the process and make it as efficient as possible, and that we learn and improve through that process.

**Jill Barber:** The consenting task group was formed in 2022, just after the Scottish aquaculture council was formed. For about a year, it interrogated and pulled apart what happens at the start of the fish farm consenting process. We took the time to learn about different ways in which we could fit the system together, but we also took the time to build trust, bring people together and build consensus on the way forward, which was a really important component of the work.

The regulatory report was really helpful in setting out that success comes from good multilateral pre-application activities and that, although individual components might look okay, there needs to be much better co-ordination and management. That is what we set out to consider. We have operated in the pre-application space, because that is what the report directed us to do.

We have designed a process that runs the SEPA and local authority consenting processes together. Two case officers—one from SEPA and one from Highland Council—are identified to run the entire process together. SEPA takes hold of the first element, which involves publishing an environmental risk assessment report, following advice from local authorities and other statutory consultees on issues that might need to be considered through the consenting system. That report is published online, and developers are asked to engage with communities, third parties and other interested groups on it and to collect information on any additional issues that they believe should be considered through the consenting system.

It is important to get local stakeholder knowledge at that stage, because SEPA or the local authority might not have knowledge relating to the location of specific protected species, for example. That sort of information is really important. That process also drives engagement between the sector and others at the earliest stage possible. Once the report is finalised and community engagement has been done, the local authority takes the lead on environmental scoping.

As you can tell, it is a detailed and technical process, but the point is that it gets people together early on, in the pre-application phase, and it co-ordinates what is happening. By the end of the process, all the potential constraints should have been identified. There should be agreement on what has to be monitored and collected as evidence to support the application, and everybody should know where they stand in relation to that. Therefore, the follow-on application process should go smoothly.

Although we have lengthened the process in some ways, we are trying to streamline and co-ordinate it so that things run in parallel or at the same time rather than after one another. We recognise that a lot of people comment on SEPA controlled activities regulations—CAR—applications on issues that are relevant to local authorities and vice versa, so having them work together in this space will be important.

**Rhoda Grant:** That sounds like it is adding more complexity rather than streamlining, to be fair.

**Jill Barber:** The intention is streamlining. Obviously, we are working with the sector to explore whether the exemption for marine licensing has been used. It was reported to us that fish farms were applying for different things at different times in a linear way, rather than in parallel. That was taking a long time, and the various bits were not speaking to one another. We are working on running those processes in parallel and making them speak to one another.

We want to have a look at EIA processes, because there have been reports that there is duplication there. We want to streamline and ensure that things are as targeted as possible, but we need to maintain the robustness of assessment and community engagement. That is what we are trying to do.

The pre-application process is working well, with four pilots currently under way. We have an independent evaluation of the initial process that we have come up with, but we want to move on to look at the EIA process and the onward application process, following exactly the same principles. Who are the two case officers? How can we run the processes in parallel and consult at the same time so that, from the outside, it looks like a singly managed case flow process that runs at the same time and not in bits?

I hope that I have explained that well.

**Rhoda Grant:** You say that you are evaluating the process. How are you evaluating it? What does success look like? What are your timescales? If it is a success—if you have achieved what you were looking to achieve—when will the process be rolled out?

**Jill Barber:** We had four outcomes for the consenting task group, which were about removing duplication; making sure that there was opportunity for community engagement, and that that was embedded in the process and enhanced; and ensuring the overall robustness of the process. We will use those outcomes to evaluate. We have appointed an independent evaluator, Aquatera, which is doing some evaluation for us and will, I think, report in February or March.

A key message is that this is a continuous improvement project. We have been meeting constantly to evaluate how things have gone. We have brought in new processes and new templates, and we have different applications doing slightly different things. We will learn from those. Once we have the independent evaluation, we will meet with the consenting task group to discuss whether we want to continue in Shetland and Highland—if we need more pilots there—or whether we want to pilot in new areas. The intention is very much to design a process that works for everybody and that can be rolled out Scotland-wide.

**Rhoda Grant:** When will that happen? It sounds almost like a rolling programme with no real timeframe.

**Jill Barber:** We will be more informed on that once we get the evaluation back and we have discussed that with the consenting task group.

**Mairi Gougeon:** I would be happy to provide the committee with that information as soon as it becomes available. I appreciate the concerns that Rhoda Grant expresses about the potential timescales, but this is a new process that we are working through, so it is important that we take the time to get it right, to do the evaluation and to see what further roll-out could potentially look like from there.

**Rhoda Grant:** Thanks.

**Emma Harper:** I was going to ask about the pilot process, but Rhoda Grant just covered that. I note that the consenting task group was established in November 2022 and met nine times in 2023, and it seems to have met only in May this year—that is all that is on the Government website. Is that because the work on the draft consenting pilot process is under way and, until you evaluate that, further meetings are not needed in 2024? What is the plan?

11:30

**Jill Barber:** I will be honest about that—it was to do with resources. Our next meeting will be at the end of this month. I would have expected us to have a meeting in between, but we will meet at the end of the month.

**The Convener:** The industry representatives said that there has been a lack of progress, so there is some need for urgency. Some indication of when the pilots will be concluded and reported on would be helpful to the committee. Is the Government likely to report on the findings of the pilots and on what further action it is taking on the back of them? When are we likely to get such a report?

**Mairi Gougeon:** I would be happy to furnish the committee with further information on the timescales and what future iterations of that work will look like.

**The Convener:** Thank you—I appreciate that.

**Beatrice Wishart (Shetland Islands) (LD):** The REC Committee report recommended introducing mechanisms in the planning system to enable the relocation of fish farms to more environmentally and economically suitable locations. We heard from industry representatives that they were disappointed that swift action had not been taken following that recommendation. Ben Hadfield from Mowi Scotland said:

“There is no mechanism for dealing with a situation in which it has been identified that the relocation of a site would bring about a series of environmental or economic gains”.—[*Official Report, Rural Affairs and Islands Committee*, 2 October 2024; c 65.]

Why has that recommendation not been implemented?

**Mairi Gougeon:** I point to a response that was given earlier in the evidence session. You just heard at length about the work that is being undertaken through the consenting task group. It is important to point out that that could be a future iteration of that work. How we take that forward could relate to moving sites or something else. That would still have to go through the application process, but that could be part of a future iteration of that work.

The overall theme, which I hope that I have been able to express today, is that, ultimately, we want the right development in the right place. The frameworks that are being developed are aiming towards ensuring that we have that. That will continue to be a work in progress.

**Beatrice Wishart:** What is your response to concerns that environmental management plans that accompany planning decisions are not being monitored or enforced? What other mechanisms does the Scottish Government have in place to allow the sectors to discuss and resolve disputes?

**Mairi Gougeon:** Environmental management plans are ultimately a matter for local authorities; it is up to them to monitor and enforce those. Environmental management plans were designed to be an interim measure until the delivery of the

sea lice framework, which has just been implemented. As I said, that work will continue over the next few years. There are discussions about what that transition will look like where environmental management plans are in place but, ultimately, it is up to local authorities to enforce the plans.

**Rhoda Grant:** We spoke earlier about microjellyfish and the like. When we visited fish farms, we spoke about what actions are taken to avoid microjellyfish. Would it be possible to have the ability to move fish farm cages? When microjellyfish in the area were coming towards a fish farm, would it be possible to move that fish farm? Given that planning consent and where to put the fish farms is so complex, could there be the ability to move them in an emergency? We have heard about fish being moved but, if the farm could be moved, that might be less traumatic for the fish.

**Mairi Gougeon:** That would very much depend on whether it was a temporary measure or something more permanent. Does Jill Barber have more information?

**Jill Barber:** I do not think that the sector gets much warning about such events, if at all. What Rhoda Grant describes would probably be a temporary measure, and it would probably be quite challenging because, as far as I am aware, it is not a quick task to move an entire farm. However, there could definitely be discussions about that.

Ms Gougeon has outlined that, for the longer term, with regard to the layout and the efficiency of the estate, any such new locations would still need to be assessed if they were to be permanent. We are trying to work through the consenting task group to make sure that that process is as efficient as possible, because we can see the gains for everybody in freeing up space that farms do not want to be in any more and improving environmental and fish health performance.

**The Convener:** We go back to Shetland and Beatrice Wishart.

**Beatrice Wishart:** Thank you, convener. I thought that somebody else was going to ask the next question, but it is okay. Is this the marine planning question?

**The Convener:** Yes.

**Beatrice Wishart:** Thank you. Will you give an update on the implementation phase of the marine plan? I understand that Shetland is still waiting for the plan to be formally adopted by ministers to enable that to go ahead.

**Mairi Gougeon:** My colleague the Cabinet Secretary for Net Zero and Energy is leading the work in relation to marine planning. I would be

happy to provide a written update on the status of the Shetland plan, if that would be helpful.

**Beatrice Wishart:** Yes—that would be helpful.

How will the Scottish Government ensure that planners have sufficient data and understanding of the offshore environment to consider the suitability of locations and the risks of unintended consequences for animal welfare?

**Mairi Gougeon:** That is where the processes that we have been talking about are so important. I highlight the fact that a piece of work is being undertaken not only in relation to aquaculture but on planning in general, where a variety of issues are being looked at. I would be more than happy to provide the committee with further information on that work, which is being led by colleagues. The work of the consenting task group is important here, too, because it is about bringing all the bodies together at an early stage and sharing their expertise.

**Tim Eagle:** I will pick up on the offshore issue, which was mentioned in the REC Committee's report. A move further offshore seems to make sense, given that there is a bigger water flow, but risks come with that. Do you have any early thoughts on that? I say "early thoughts", but we had hoped that progress would have been made. It is clear that there is a lot of work to be done. I am not quite sure of the timeline for that, but what are the Scottish Government's thoughts on that? Do you still have concerns about what impact that approach might have on wild fish stocks and so on, or is it worth fast tracking?

**Mairi Gougeon:** I think that it absolutely is. In our vision, we set that out as an area that we are keen to look at and to progress. A consultation is open on extending the range of local authorities' planning powers out to 12 nautical miles—at the moment, those powers apply only to the area out to 3 nautical miles. There was discussion about that a few years ago, but the zone was not extended because we were not considering offshore development in that space. That consultation will be open until about mid-December.

When I went to Norway last year, I visited an offshore fish farm, and it was really interesting to see such a development. I think that that was the first place in the world to have an offshore site. From the evidence that we have seen, that approach is better from the point of view of the environmental impact, and it has positive impacts on fish health and welfare.

It is a new area for us, which is why the consultation that we are undertaking is important. One of the benefits of being offshore is higher dispersal levels, but we need to consider all the issues in the round and ensure that the move

offshore would have a positive impact on fish health and welfare, too.

**Hazel Bartels:** How offshore is defined is a really interesting question. Some of the benefits that we might be looking for from offshore sites could be achieved via higher-energy sites that are closer inland. There are companies that are already looking at that—Cooke Aquaculture in Shetland is one such company that I am aware of, but there will be others that are looking to utilise different sites for different purposes and are thinking about energy flow as much as they are thinking about how far from the land the sites are. There is nuance to the use of the word "offshore" that is worth being aware of as we go into the next stage.

**The Convener:** I have a couple of questions about the capacity of local authorities. A lot of weight is put on them when it comes not only to planning but to enforcement. Earlier, we touched on animal welfare cases. Before we move to questions from Edward Mountain, will you clarify local authorities' role in referring welfare cases for prosecution? Given all their obligations, do you have confidence that our local authorities have the resources to do what is necessary?

**Mairi Gougeon:** That ties into a couple of points. As I said in response to Beatrice Wishart, I will write about more work that is being undertaken on planning; I know that that is not specific to aquaculture, but it is relevant. There was a recent consultation about ensuring that planning authorities have the resources and skills that they need, as well as other matters around fees.

The consenting pilots will help with that, because they are all about identifying a lead person in SEPA and the local authority to take things forward. It would be helpful if I sent more detail, because that work is being led by ministerial colleagues. I will provide more of that information, as that work will help to address some of the problems.

**The Convener:** That will be helpful. Are there also capacity issues in the Scottish Government? We have received correspondence from Loch Long Salmon, whose planning application for an innovative semi-enclosed caged farming system might well address some of the issues that we have. That application has been sitting with the Scottish Government for two years, waiting for approval or otherwise. When it comes to planning, is there an issue in the Scottish Government?

**Mairi Gougeon:** I cannot comment on that, because I do not deal with that area. I presume that that would be led by the planning minister, who will make a determination. Again, it is not for me to comment.

**The Convener:** Thank you. I call Edward Mountain.

**Edward Mountain:** I am sorry that, when a member goes at the end, they sometimes have to go back to areas that have been covered. I am sure that you will understand that, cabinet secretary.

I want to recap. I am delighted that you have said in your evidence that a key problem for the industry is how to deal with global warming. The REC Committee report, which was written in 2018, was based on the evidence that we had then. I would like to remind you of the evidence that Ben Hadfield gave on 2 May 2018, which I will quote. He said:

“a 7 per cent mortality rate in the seawater phase would be top of the pile, and that is where Scotland was from 2009 to 2011. Since then, we have had ... a ‘perfect storm’”,

as he called it in a letter to the committee.

“We had El Niño conditions, which raised the Atlantic’s temperature and meant ... warmer seas and coastal areas.”—[*Official Report, Rural Economy and Connectivity Committee*, 2 May 2018; c 34.]

At that stage, when he was writing to the committee, mortality had just drifted above 15 per cent. He did go on to say that it would decrease and that things would get better. That was the basis on which the report was written in 2018.

In 2023, however, we find mortality at 25 per cent, with 33,000 tonnes of salmon being disposed of, compared with the 17,000 tonnes that were being disposed of in 2018. If the committee had seen that or had known that those figures were coming, do you think that it would have written its report slightly differently?

**Mairi Gougeon:** Jill Barber will correct me if I am wrong, but I think that things have remained relatively consistent when we look at the overall mortality rates in the surveys that we have produced and at the survival targets over the past 20 years. I do not think that that detracts from the fact that we all want to tackle the serious issue of mortality as best we possibly can. As I have stated throughout my appearance before the committee this morning, it is not in anybody’s interests to see such high mortality levels.

**Edward Mountain:** I accept that, but the fact is that mortality has gradually increased, and 2023 was perhaps a bad year. This year might be slightly better, as it has been somewhat cooler, but nevertheless the rate has increased. The other day, Ben Hadfield gave evidence to this committee, and he said that he was confident enough to predict a 2 per cent drop in mortality every year. That is the figure that Mowi is looking at, and it means that it will take us about five years to get back to the 2018 figures. If we want to get

back to the 2009 figures, we are looking at a lot longer than that. Does the industry have to speed up reducing mortality, or can the situation be allowed to continue as it is?

**Mairi Gougeon:** I think that the industry is already doing everything that it can and, as I have outlined today, we are assisting in some of the work to drive down mortality as much as it is within our control to do that.

I do not think that there could be a bigger incentive to drive down mortality than there is at the moment. Having high mortality levels does not make economic sense, and we do not want to see it from a fish health perspective, either. The rate could go down, but that could change, depending on the environmental conditions. That is where the work that I talked about is critically important—it is about identifying the challenges, thinking about how to address them and trying to predict what the next challenge to come down the line might be.

**Edward Mountain:** As a farmer, I understand that mortality happens when you are farming animals. However, if mortality on a land-based farm more than doubled because of the way that the industry was operating, the farmer would not be able to get away with it. Recommendation 9 of the Rural Economy and Connectivity Committee’s report, which I remember discussing at some length, says that

“no expansion should be permitted at sites which report high or significantly increased levels of mortalities, until these are addressed”.

That was a key recommendation, which prevented the committee supporting calls for a moratorium, as referred to in recommendation 3. Have the requirements of recommendation 9 been met?

**Mairi Gougeon:** Again, we are dealing with issues and mortality events that are complex to address. I do not think that it is necessarily fair to say that there should be no expansion where there are high mortalities or to penalise fish farms where that has happened, depending on what the cause of that might be, as the issue could be completely outwith the farmer’s control or the control of anybody at that site.

Again, because of the nature of the issue, some of the events that have led to the high mortality rates are ones that we could not have predicted and are now trying to address.

**Edward Mountain:** I would like to come back to that point. In 2018, the industry predicted problems with the diseases that we are seeing now—they were being talked about at that time, so we did know that the issue was happening. As farmers, we know that, for example, if there is an outbreak of pneumonia in a cattle shed, you do not just keep stocking the cattle shed. Rather, you do one of two things: you either vaccinate the calves

against pneumonia or increase the ventilation in the shed. However, with regard to fish mortality, what is happening is that the industry is continuing to restock the same sites where there are problems.

**Mairi Gougeon:** First, it is important to ensure that we do not conflate different issues. As I noted earlier, there is a difference in a situation in which you are dealing with mortalities that are because of a disease on that site, a listed disease or issues that involve environmental concerns that you cannot predict.

Jill Barber wants to come in.

**Jill Barber:** Mr Mountain said that mortalities had doubled, but, as Ms Gougeon has outlined, the figures are relatively consistent, although the ones that we have just reported were higher than what had been the average previously. We cannot speak for Ben Hadfield, and it is great that he has those targets, but the main message from the sector was that it has just published its fish health plan and has invested a lot in fish health and welfare.

Our position is that we have progressed the fish health recommendations on sea lice and mortality reporting, and we have discussed the challenges that arise around closing down sites with high mortality one year and not another year, because the situation is really quite complex. We remain committed to working with the sector through some of those issues. It has major strategies coming through. It is investing in its freshwater wellboats, and we are trying to do the work around consenting in order to allow facilities to move if things are not quite working in one location. That all needs to come together.

**Edward Mountain:** I accept the point that you make, but, according to the industry's figures, we have gone from 7 per cent in the period from 2009 to 2012 to 25 per cent. You can talk about whether the numbers are more or less. My concern is that, if I had known where we were going to be five years later, I would have been one of those committee members who voted for a moratorium on expansion for the industry until the problems had been resolved.

I am not sure how there can be a disagreement about the figures that the industry itself is putting forward. Do we disagree that the level has gone from 7 per cent to 25 per cent?

**Mairi Gougeon:** Charles Allan wants to respond on that point.

**Charles Allan:** The 7 per cent figure is not an industry-wide number. It is a subset.

**Edward Mountain:** So, what was the figure, if it was not 7 per cent. Was it 12 per cent?

**Charles Allan:** I cannot remember off the top of my head what the mortality rate or the rate of survival was in 2020. I am sorry.

**Edward Mountain:** I am talking about the figures in 2018 or 2009.

**Charles Allan:** Even then, Scotland—

**Edward Mountain:** This is where we are boxing over figures that we do not know.

**Charles Allan:** We have figures for the industry as a whole. I cannot recall the figure, but I do not think that Scotland's industry as a whole has ever had a survival rate of 93 per cent.

**Mairi Gougeon:** I realise that Edward Mountain is picking out evidence that was given to the REC Committee at that time, but we would need a fuller understanding of exactly where the figure came from to know whether we are comparing like with like in terms of data. We are getting into a discussion about figures that are not necessarily comparable.

**Edward Mountain:** I kind of hear what you are saying, but we know that, in 2012, mortality was 12,000 tonnes and, in 2023, it was 33,000 tonnes. I understand that there has been an increase in production, but that is more than double.

**The Convener:** I understand how critical those numbers are, but it is difficult to get the figures right now, because we know that they are sometimes reported in different ways, whether that is based on biomass, individual fish or percentages. Given the questions that Edward Mountain has asked, could we have some clear indicators or comparisons from 2018 up to date for the committee to look over?

**Mairi Gougeon:** Yes.

**Edward Mountain:** Thank you, convener. I would like to push that just a wee bit, because the evidence to the 2018 committee was based on figures from 2009 onwards. It would be helpful to extend the information that you have asked for to cover that, which I am sure is within the cabinet secretary's remit.

I will move on to my final question. Based on everything that we have heard today, very few of the 65 recommendations in the REC Committee report have transpired into anything, and the industry has pushed on. If we reran recommendation 3 in the report and put the issue to the committee now, would you be surprised if it took a different view?

**Mairi Gougeon:** First, I challenge the point about overall progress on recommendations. As I have outlined, a significant amount of work has been done across a number of areas to address some of the recommendations, and some of that work is on-going.

On the committee's recommendation 3, which was on the call for a moratorium, I hope that the committee would not agree to that if the issue came up again today. Throughout the various sessions that the committee has had, we have outlined the complexities that exist around the issues of mortalities. The situation has not been helped by the data issues that we have talked about, such as how the data is recorded, how it is expressed and the reasons for which it is collected by different organisations. The data is transparent and out there, but we have to recognise that what is important is what is causing the mortality and that we are taking action to address it.

If there was a moratorium on new businesses, we would be penalising the industry. Some issues are beyond its control. All the work that we are undertaking through the sea lice risk assessment framework and the new framework that SEPA has introduced is about guiding the development to the right places. That work has been really positive and is achieving that aim.

Ultimately, given all the environmental concerns, if a fish farming business wants to get started, it has to go through the process and show that there will not be an environmental impact. All the work that is done on modelling and all the advances that have been made on that are critical. I believe that we have the right regulations in place for the industry to deal with challenges where they exist, but it is important to recognise the sheer volume of work that is going on and the work that the industry is doing to invest in all the key issues to try to address them.

**Edward Mountain:** To clarify, recommendation 3 was about the "expansion of existing sites", so it was about not allowing sites to get bigger—that was the recommendation. I take the cabinet secretary's point about the industry doing a huge amount of work and all the work that you are doing behind the scenes, but deaths have doubled as a percentage—that is a fact.

**The Convener:** I have one last question. There were 65 recommendations in 2018 and concerns were raised about the industry at that time, which led to the use of the now well-used phrase:

"the 'status quo' ... is not acceptable."

Do you believe that sufficient progress has been made to address the status quo from 2018, which was not acceptable?

**Mairi Gougeon:** I believe that a lot of progress has been made. As I hope that I outlined in my previous response, we need to look at some of the developments that have taken place in relation to points that were raised about sea lice in those recommendations. We have the introduction of the sea lice framework and the regulatory review that we have undertaken to try to get to grips with the

issues, and we have driven forward work on that through the consenting task group. There is also the work on science and innovation that we are taking forward. We have identified the areas where work is still to be done, and we have set out that we are still keen to take that forward.

However, we are in a completely different place from where we were in terms of overall openness and transparency. That situation has very much improved over the period since the report was published. I am pleased with the progress that we have made on the recommendations, although, as I said, there are some areas where we still need to do further work.

**The Convener:** As it has been such a long session, inevitably, there is a list of further information that you have committed to provide. On the committee's timetable, it looks like we want to deal with the issue and report by the Christmas recess. Will you provide timely responses to some of the requests for further information?

**Mairi Gougeon:** Yes, I will. On some issues, the information will be easier to provide than on others, but we will ensure that we get that to the committee as soon as possible.

**The Convener:** I appreciate that. Thank you for what has been a lengthy session. Your feedback and responses have been hugely helpful.

That concludes the public part of the meeting and we will now move into private session.

11:56

*Meeting continued in private until 12:33.*

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