OFFICIAL REPORT
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DRAFT

Rural Affairs and Islands Committee

Wednesday 4 March 2026

Session 6

The Scottish Parliament
Pàrlamaid na h-Alba

Wednesday 4 March 2026

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RURAL AFFAIRS AND ISLANDS COMMITTEE
9th Meeting 2026, Session 6

CONVENER

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

DEPUTY CONVENER

*Beatrice Wishart (Shetland Islands) (LD)

COMMITTEE MEMBERS

*Alasdair Allan (Na h-Eileanan an Iar) (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)
*Evelyn Tweed (Stirling) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Michael Bruce (Firebreak Services)
Dr Zakary Campbell-Lochrie (University of Edinburgh)
Jon Henderson (Scottish Fire and Rescue Service)
Calum Kippen (Scottish Gamekeepers Association)
Grant Moir (Cairngorms National Park Authority)
Professor Robin Pakeman (James Hutton Institute)
Dr Mike Rivington (James Hutton Institute)

CLERK TO THE COMMITTEE

Emma Johnston

LOCATION

The Mary Fairfax Somerville Room (CR2)

Scottish Parliament

Rural Affairs and Islands Committee

Wednesday 4 March 2026

[The Convener opened the meeting at 09:02]

Decision on Taking Business in Private

The Convener (Finlay Carson): Good morning, and welcome to the ninth meeting in 2026 of the Rural Affairs and Islands Committee.

For the committee's information, there will be a fire alarm evacuation exercise in certain areas of the building at 10 am, which is expected to last for 10 minutes. The good news is that it is not expected to disrupt the meeting. It would be appreciated if everyone could remain in the room between 9.55 am and 10.15 am. That includes those in the public gallery, because if anyone leaves the building, they will be expected to evacuate and will end up outside for half an hour. We will all be fine if we stay in the room.

I remind everyone to switch their electronic devices to silent. We have received apologies from Emma Harper, and Tim Eagle and Rhoda Grant are attending the meeting remotely.

The first item on our agenda is a decision on whether to take item 4 in private. Are we agreed to do so?

Members *indicated agreement*.

Wildfires in Scotland

09:02

The Convener: The second item on our agenda is an evidence session on wildfires in Scotland. We will take evidence from stakeholders who have expertise in, and an understanding of, wildfires. I will ask them to introduce themselves in a moment.

We have allocated about two hours for the discussion, and we have quite a few participants, so I ask everyone to be succinct in their questions and answers. You can indicate to me and the clerks if you wish to participate at any point, but there is no expectation that you will contribute to every question, particularly if a point has already been made or if it does not relate to your area of expertise. You do not need to work your microphones, as the gentleman in broadcasting will do that for you.

I ask stakeholders to introduce themselves, starting on my right.

Calum Kippen (Scottish Gamekeepers Association): I represent the Scottish Gamekeepers Association and Bright Spark Burning Techniques.

Professor Robin Pakeman (James Hutton Institute): I am from the James Hutton Institute. I am an upland ecologist and am interested in all things management in the uplands.

Jon Henderson (Scottish Fire and Rescue Service): I am one of the assistant chiefs at Scottish Fire and Rescue. I am the director for prevention and the strategic lead for wildfire.

Grant Moir (Cairngorms National Park Authority): I am the chief executive of the Cairngorms National Park Authority.

Dr Mike Rivington (James Hutton Institute): I am from the James Hutton Institute. My areas of interest are mostly the impacts of climate change.

Dr Zakary Campbell-Lochrie (University of Edinburgh): I am a lecturer in fire science at the University of Edinburgh. I am interested in fire behaviour and fire behaviour modelling.

Michael Bruce (Firebreak Services): I am from Firebreak Services Ltd, and I am also the director of Glen Tanar estate. I am the chair of the south Grampian wildfire group and vice-chair of the Scottish Wildfire Forum. I am sorry—I have too many hats.

The Convener: Thank you. We will touch on a number of themes this morning. The first theme that we will explore is the causes of wildfires and how fire-prone conditions can develop.

What is the most common cause of wildfires in Scotland? Who would like to kick off?

Jon Henderson: I will get to answering the question, I promise. Regarding the prevalent conditions, colleagues are probably better placed than I am to talk about what contributes to those. In relation to tracking causes and the investigation of fires, wildfires are pretty difficult to investigate in a general sense, especially if they are large-scale wildfires. It is difficult to determine, through our traditional fire investigation models, what the cause of the wildfire has been. We tend to find out the cause through witnesses or the like. More often than not, the key causes of wildfires are down to human behaviour, such as having barbecues or setting fires that ultimately get out of control. Within that, there are wildfires that are caused accidentally.

From a fire and rescue point of view, we use a United Kingdom national platform to track wildfires and their causes. We are moving to a slightly different UK national platform that should allow us to input that data more succinctly, so that we will be able to see those causes more over time.

Although the key causes tend to be human behaviour, we cannot necessarily pin it down to one particular thing, such as a barbecue. There are human behaviour-related factors, if that makes sense.

The Convener: This is a broader question for the scientists, if any witnesses would like to put themselves in that category. What is currently making wildfires more likely?

Professor Pakeman: What is more likely is not the ignition but the chance of the fire spreading and heat building within the fire to make the impact worse. The issues are changing climate, which Mike Rivington can talk about much better than I can, and changing management in the uplands—we are seeing perhaps less livestock and deer control, so there is the possibility of building fuel stocks. We do not know very much about how fuel loads drive fires, but there is anecdotal evidence.

Michael Bruce: There is available science relating to the relationship between fuel load and fire behaviour. Research has been published in Scotland—in particular, by Dr Matt Davies—that shows what the relationships are, and some of that research has been done on Glen Tanar estate. The research shows that, with deep heather—or even more so if you have gorse—you can get fire behaviour that is beyond the threshold of control. The threshold of control means that for each tool or tactic that the fire service or private land managers might be able to deploy to put a fire out, there is an upper limit on the flame length that it can extinguish. That has been the case for decades. I wrote the first strategy paper for Scotland in 2003, so these trends have been going on for a very long time.

There has been a reduction in livestock, especially in the north-west Highlands, and native woodland has been created over very large areas. Although people's end goal is a forest, before it becomes a forest there is growth of grass, heathers and bracken in the understorey, and it is that surface fuel that carries a fire. We saw that in the Dava-Carrbridge wildfire. Going back to what Robin Pakeman said, a landscape scale of continuous fuel—horizontal continuity of fuel—is what supports the spread of a fire. That fuel is never broken up, and it will continue to burn until the fire is put out or it runs out of fuel somewhere. As I indicated, the means at our disposal to extinguish fires are limited.

Dr Rivington: We are aware of the increase in the number of visitors to the areas where fires occur. We are experiencing what we call cool tourism, which is people avoiding going to their normal hot holiday destinations and increasing numbers of visitors coming to Scotland. That is very good for tourism numbers, but there is perhaps a lack of awareness of the risks of fire and of the access code. Local authorities' ranger services recently published a report that recorded the number of incidents of antisocial behaviour, rubbish being dumped and locations where fires were potentially being caused. There is an interesting dynamic between what is happening in relation to the vegetation and changes in the numbers of people, who might be the cause of the ignition, visiting an area.

The Convener: I want to broaden the discussion out. Last year, close to 12,000 hectares were destroyed, and there were wildfires on a huge scale in Galloway as well as in the Carrbridge area. Although there is no doubt that we are experiencing climate change, could these fires just be about weather conditions leading up to the spring? Everybody seems to be surprised that we have wildfires in March, April or May, but a lot of the wildfires in Galloway tend to happen at that time—not in the middle of the summer, when temperatures are warm, but when there is dead grass around, before the fresh grass comes through. Are we experiencing these severe fires as a result of particular weather conditions, and is there a pattern of that turning into a climate change-type scenario, rather than the perfect storm and the perfect weather conditions?

Professor Pakeman: You can never say that something is caused by climate change on the basis of just one year. Last year, we had particular conditions that coincided with a particular fire starting—Mike Rivington will give you chapter and verse on that. On the long-term trends and the number of dry days in the early part of the year,

different parts of the country will see different trends, but the risks are building because of climate change and climates becoming more variable. We might have a wet year followed by a really dry year, and that will be the issue. There might be a few years when it is really dry for extended periods, coinciding with peak fuel availability at this time of year, plus fires in the summer when everything is really dried out.

Calum Kippen: Wildfire seasons in Scotland have always been cyclic. Large-scale fires in Scotland are not a new thing. We can go back to the Allt Lorgy burn in 1943, which was at Carrbridge. These fires tend to happen in much the same areas for different reasons, but the one thing that has changed in Scotland is land use. We have taken away the herbivores. It used to be that, if we had three or four wet years, there would be no wildfires, but all that that means now is that there will be vegetation growth, and we will then have a proper wildfire season, as we saw last year. From there, we hit the perfect storm. Fires now have greater ferocity and are on a greater scale.

The Convener: A lot of that is to do with the increased fuel load.

Calum Kippen: Yes, absolutely.

09:15

Michael Bruce: I want to go back to talking about fire investigation. There are international standards for wildfire investigation, but they are not yet part of UK fire service training. However, the National Fire Chiefs Council has a project to develop training based on those international standards. I had the opportunity to be trained in South Africa, and I would encourage everybody to think about whether the cheapest way to bring new practices and innovations into a situation might be to copy them from somewhere else. The processes, projects, techniques, tactics and methods that are needed to address fire danger are being developed all over the world, but I often find that I am the only person from the UK in attendance at an international conference. On the way here, Robin Pakeman told me that the last time he was allowed and funded to go to an international conference was eight years ago.

We are now starting to spend a lot of money on fighting wildfire in its various guises, but we have to be cautious, because we do not know what we do not know. If people in other countries have the expertise, why do we not ask them to share it?

Jon Henderson: I agree with Michael Bruce on that point. We are not looking to reinvent the wheel. There are countries that are perhaps further along in their journey than we are when it comes to dealing with the impact of wildfires and learning from them.

From a fire and rescue point of view, we are linked to the National Fire Chiefs Council, which is the body for the whole of the UK. My colleague is attending a National Fire Chiefs Council meeting about wildfire this afternoon, and we are linked to colleagues in Canada, Norway, Spain and Australia on those conversations. I absolutely agree with the sentiment that we need to learn from countries that are further down the line, and we are actively engaged in those conversations. Their solutions and conditions will not be the same as ours, but we absolutely need to explore those things.

Grant Moir: I will respond to the question about what causes fires. We did quite a lot of work to compile statistics in the Cairngorms. The statistics from the Scottish Fire and Rescue Service for 2010 to 2023 list primary fires, secondary fires, how many of them were classified as wildfires and the primary causes of the fires. There is a lot of noise in those statistics, because it is difficult to ascertain the exact cause of every fire. We have published the statistics, so I am more than happy to share them with the committee.

There are a whole range of different things in there. Campfires cause 13 per cent of primary fires, bonfires that get out of control cause 4 per cent, and intentional burns that get out of control cause 19 per cent. As well as pulling together those statistics, we have all the ranger statistics from the past five or six years on campfires and the number of old sites and new sites. All of that information is in the public domain, and it gives fairly good background information on what you were looking for—the primary causes of ignition. The statistics do not go into detail about the land use at some of those sites, but they do give you a good idea of the primary causes of fires.

Dr Campbell-Lochrie: This might partly summarise what has been said. I certainly echo the points about international learning, particularly about the physics and chemistry of controlled fire behaviour and spread, which are universal laws anyway.

When it comes to the short-term versus long-term aspects of fire management, one central factor is a greater fuel load, which raises the maximum potential fire intensity and increases the available combustible fuel load. However, that is not the only thing. When you make a fire at home, you use a small amount of kindling and several large logs, so the ignitability and potential energy release are different. That hints at the other factors at play: the fuel's condition; its moisture content, which is controlled by humidity and weather; the size, shape and arrangement of individual fuel elements; the continuity of the fuel, which Michael Bruce mentioned; and the species or fuel type. All of that complexity arises in an increasing fuel load,

and, in turn, it is influenced by short and long-term factors such as the weather on a given day—for example, humidity—and by fixed factors such as topography. Further forward, those short-term conditions will change as climatic changes and land use changes continue over the longer term. That is a summary.

The Convener: Looking at the characteristics of wildfires, we see a perfect storm at the moment, as Calum Kippen said. In the past, the reason for a wildfire one year might have been load; another year, it might have been because we had a particularly dry spring; in another year, it might have been because lots of wild campers were setting lots of barbecues. Now, however, a combination of everything is creating that perfect storm.

Given the increased likelihood of that perfect storm, due to all those conditions coming together with climate change, land use change and more people accessing the countryside, are our stakeholders able to move at pace to address it? Are we doing enough to recognise that all those factors are coming together far more regularly than they might have done in the past? Is enough being done to make sure that we up our game?

Michael Bruce: The Scottish Wildfire Forum was established in 2004, after a particularly bad fire season in 2003. We have held two national conferences: in 2015 at Cambuslang—the headquarters of the Scottish Fire and Rescue Service—and in December 2024 at Aberdeen. We are a voluntary association that combines the public and private sectors. Everybody who participates is doing so on top of their day job.

There are no real resources behind the Scottish Wildfire Forum, and it desperately needs them. We have identified a huge number of smaller and larger projects that need what I will call cross-sectoral working. They need people from different civil service departments and from the private sector to focus on a particular problem, look at the regulatory, physical and resource constraints, and deliver a little project. For example, creating fire ponds, or dipping ponds, for helicopters, will need to involve NatureScot, the Scottish Environment Protection Agency and Scottish Forestry—a whole range of regulatory bodies—as well as the private sector because landowners will have to build the ponds on their estates.

Another example is creating fire response maps that the private sector can share with the fire service. We have been doing a project on that for the past six to nine months, and it is finally being resolved by the private sector; however, we will need some resources for publishing and training.

We have loads of ideas, big and small, but we have no resources to work in a different, cross-sectoral way. It may be uncomfortable, because people will be challenged about their responsibilities and about finding compromises that will work.

The Convener: I have probably encroached on our next theme, which is on short-term and long-term management to mitigate wildfire risk. I will bring in Tim Eagle.

Tim Eagle (Highlands and Islands) (Con): Thank you, convener. Feel free to encroach on anything. Yes, theme 2 turns to short-term and long-term planning.

I am up in Moray, so I was quite close to the big wildfire at Dava and Carrbridge last year, and I went out to see some of the communities afterwards. The two things that I heard from them were, how do we prevent wildfires, and what can we do once they happen? We will come on to the second question in a later theme.

I remember meeting Michael Bruce on his estate to talk about fire, many years ago, when I was working with Scottish Land & Estates. Maybe that was the point at which I appreciated just how bad a worry to communities the issue would become.

We have talked about ignition and fuel load, but what are the short-term and long-term plans?

I also feel that I have to ask about muirburn. Does that play a part in active fire management, these days? Recently, it has been widely discussed in the Parliament.

Jon Henderson: I will try to touch on some of that as well as echoing some of the points that Michael Bruce made in response to the previous question.

The Scottish Fire and Rescue Service has invested roughly £2.5 million in wildfire measures over the past four or five years and will continue to invest moving forward. The Wildfire Forum that Michael Bruce referred to is, I think, absolutely brilliant, and it is chaired by one of my colleagues from the Scottish Fire and Rescue Service. The beauty of the forum is that it encompasses what we are trying to do in this area, which is to bring in the expertise of landowners, land workers, the land management sector and those who have real rural expertise in what the conditions are likely to be and how the land is used. They also have the specific geographical knowledge of their areas that we in the Fire and Rescue Service cannot have. We in the FRS and the public sector can bring resource en masse to support that work and work together to deal with these issues. We are definitely taking a partnership approach to how we deal with these types of incidents.

I am also keen that we use existing civil contingencies and resilience partnership

frameworks, as they have been tried and tested for large-scale incidents, whatever they might be. We must ensure that, when it comes to wildfire, we do not move outside or too far away from those structures. We do need something that suits specific types of incidents, but if we already have structures that work, we should use them and, as I have said, we are very keen to do that as we move forward.

As for how we will continue to do that, the Scottish Fire and Rescue has brought more assets online this year, working with the Scottish Government and environment and forestry colleagues. As a result of the debrief from the Dava incident, we have a national action plan which has a total of 31 actions and is built around prevention, preparedness and response. As much as we focus on the response side of things, the prevention and preparedness elements are absolutely key, too, and in the very near future, we will be testing those responses more fully through SMARTEU—that is, the Scottish multi-agency resilience training and exercise unit. We will, in particular, be looking to test a response requiring a community evacuation procedure. If we had to evacuate a village or some other geographical location, how would we do that and what would that look like?

I hope that that covers some of the points.

Tim Eagle: Staying with Jon Henderson, I might have picked this up completely wrongly, but when I was speaking to people in Carrbridge, some of the gamekeepers told me that there used to be a system whereby equipment on the estate could be used, and was insured by, the Scottish Fire and Rescue Service. Obviously, the estates had equipment that could get over the hills where perhaps a fire truck could not. However, the system changed recently, and now the Scottish Fire and Rescue Service is not insuring those vehicles, which means that they cannot be used. Is that correct? If so, are you concerned about not having access to that equipment?

Jon Henderson: I do not know the answer to your question about insurance—that is not something that has come across my desk—but we do have our own equipment. We also have the support of landowners and estate workers and use their equipment to access whatever we need to access across a variety of incident types.

Our expertise in Scottish Fire and Rescue is in dealing with fire in a variety of settings, but we also bring that resource and command and control function to incidents in order to resolve them safely. Moreover, through the Wildfire Forum and further training that we will be doing, we will be developing that model to allow the expertise that we have to be applied in specific areas—in wildfire, say, or in certain geographical settings—within a structure that is designed to keep everybody safe at an incident.

Does that make sense? The command and control model is designed to keep everybody safe at an incident. Convener, you mentioned the fire alarm that is going to go off in this building; if there were an incident in the building, we would not, under the structure that we would deploy, allow anybody else apart from us or those with specific expertise to go in. We are applying the same type of thinking at wildfire incidents to ensure that we can co-ordinate our response and do not put people in unnecessary danger. As for equipment, we need to be assured that any equipment that we use is up to our standards.

The Convener: I will bring in Calum Kippen, to be followed by Michael Bruce and Grant Moir.

Calum Kippen: Tim Eagle asked a really interesting question, and it brings me back to the important role played by muirburn. The estate that I work for has invested more than £500,000 in firefighting equipment over the past 15 years.

When the Carrbridge-Dava wildfire happened, more than £3.5 million-worth of private equipment was taken to the fire because, on the third day, Michael Bruce put out a call for help, which arrived from all over Scotland. If you take away the right to muirburn or make it especially difficult, it would be very unlikely that the landowners would keep up that level of investment. At the end of the day, it was much easier to put out the part of the fire that was at the Carrbridge end, because of the amount of muirburn that had already been done. If we lost even 25 per cent of muirburn, a fire would become much more difficult to control.

09:30

Michael Bruce: I will quote from a United Nations document entitled “Spreading like Wildfire: The Rising Threat of Extraordinary Landscape Fires”. It says:

> “Over 50 experts from research institutions, government agencies, and international organisations from around the globe have contributed to this report. Their findings are that while the situation is certainly extreme, it is not yet hopeless.”

In particular, the report says:

> “However, to reduce the outsized costs from damage and loss – which greatly exceed all spending on wildfire management – we need to rebalance our efforts.”

It continues:

> “countries may consider rebalancing investments by up to 1 per cent for planning, 32 per cent for prevention, 13 per cent for preparedness, 34 per cent for response, and up to 20 per cent for recovery.”

At the moment, I suggest that the national budget

is not being spent on prevention. I will come back to that, because I know that the SFRS spends money on prevention. Some, although not a huge amount, of the budget is being spent on preparedness. Most of the money is being spent on response and virtually nothing is being spent on recovery.

If we look at the Portuguese Agency for Integrated Management of Rural Fires, or AGIF, which is a specific rural agency for wildfire prevention, it has a budget of €111 million. One of its main programmes is prescribed burning with small landowners. It is trying to rapidly increase the area that is burnt by prescribed burning as fast as it can. As a land manager, managing the fuel is one of the few ways that you can control the situation that you are in.

So many questions are being directed at the Scottish Fire and Rescue Service. There seems to be an implicit cultural expectation that it should be able to do everything, but it cannot. I have already indicated that fire intensity can get beyond the threshold of control. After that, you are in a different ball game. If the land has not been managed, how do you stop the fire?

The other issue that is certainly talked about in other countries is what happens when a fire service is stressed to the point that it collapses—we never want to see that happening and we do not want to see too many resources being diverted from the fire service's primary role, which is to protect property and life. How do we create the resources that we will need to cope with potentially very large scale events? I think that there has to be some form of surge capacity. The land management sector can contribute a huge amount to support the fire service in the provision of the surge capacity. It might need to be slightly better organised and managed but, although we can do those things, we cannot magic resources out of thin air.

The resources are already there and prescribed burning in advance is part of prevention. There are loads of things that we can do. The Scottish Wildfire Forum is starting to develop an integrated fire management strategy. Again, that is recommended internationally. I have got to page 22 of what I think will be a 50-page document. It is long and complicated and it will take time but, in the meantime, we are not stopping. We want to generate short-term projects, as well as project management groups and task and finish groups. There is a huge number of things that we can improve without a huge amount of money, but the Scottish Wildfire Forum needs core funding to enable all the different sectors to pool their existing resources and generate a few new ones.

Grant Moir: I have a number of points. Tim Eagle's point about insurance is a key one. Over the next couple of days, we will be having meetings with the Association of British Insurers on insurance on estates, the issue of workers on other estates dealing with wildfires and the different approaches of insurance companies. It is an issue that we have to get to the bottom of, and it also ties in with health and safety. There is quite a lot that needs to be unpacked to ensure that we have the right approach going forward. That is happening at the moment.

On different approaches in different places, Moray Council had its wildfire summit last week, which I attended and where we discussed how to take things forward. A lot of Moray landowners were quite taken by the Cairngorms integrated wildfire management plan, which covers the key issues that need to be taken forward. It is about reducing the risk of wildfires starting, improving the effectiveness of firefighting, and building wildfire resilience in a changing landscape. That is one of the key things for me. When we are talking about wildfire resilience, we are not necessarily talking about trying to get people to change their management. What we are requesting is that they build fire resilience into their management. There is a lot of work going on on things like locations of fire ponds in the Cairngorms. We are looking at where water tanks are. We have changed our guidance so that, when people come forward with forestry plans in the Cairngorms, they will also have to produce a fire plan. There is a whole load of different things in there, but we have the starting point for the right approach.

Burning plays a part, too, but there will be places where, for nature or other reasons, we are not looking to have burning. There will be places where we are looking to increase grazing and places where we are looking to decrease it. The point is that, instead of telling people that they have to change their management for wildfire reasons, we are trying to make those landscapes resilient. We have to ensure that, when people are doing their management, they take account of wildfire, because that is the key thing as we move forward.

There is a lot in there, but hopefully the wildfire management plan in the Cairngorms is a good model to follow. We will be looking at how that works over the next few years and then adjusting it as we go forward.

Tim Eagle: This is my final question. I do not want to use the term "silly question", because it can be quite a serious one, but it needs to be asked. Michael Bruce made a good point. It is more than just an issue for the Scottish Fire and Rescue Service—it is one for everyone. At the moment, a lot of fires are on open ground. Is there

a risk? There presumably will be a risk that, at some point, a wildfire will affect a community—we could see a village come under significant threat of fire. If we do not do enough or take the issue seriously enough in the next few years, is that a credible risk?

Michael Bruce: One of the projects that the Scottish Wildfire Forum has been working on since last summer—in other words, since before the Dava-Carrbridge wildfire—is a version of the Firewise programme. Firewise was started in the USA, and it is for individual households and small communities. There is an equivalent and separately generated programme called FireSmart in Canada, and we have been evaluating both approaches. The existing guidance from the Scottish Fire and Rescue Service includes quite a lot of the Firewise information, but it is very much a community activity. It needs an activist within a community to address the issue and bring on board all the households in that community.

What I am saying is that we have international examples. At the moment, with the chair of the Scottish Wildfire Forum, John Henderson's colleague, we are approaching the Canadians to see whether the Scottish Fire and Rescue Service can become a licence holder for FireSmart Canada, so that it can access all of FireSmart's material. We do not need to start from scratch, but we need an international outlook to speed up and to access programmes that are immediately relevant to our needs.

Grant Moir: We do a lot of similar things around flooding in Scotland. We have quite a developed approach to how we deal with flooding, and we also have local groups that deal with it. For example, there is a Ballater flood group that deals with local resilience in Ballater. We already have mechanisms associated with other things that are happening from a climate adaptation point of view, and there is the potential to consider how we can build wildfire into some of those. We have a lot of learnings from them. Good work is happening on fire plans for places such as Glenmore at the moment, taking account of that learning. It is about tying in with the resilience stuff that we are talking about at a national level and at a local authority level, to make sure that it also flows through into those different parts.

Dr Rivington: I will try to tie a couple of things together.

Research is going on, through the Scottish Government's strategic research programme, to develop a fire danger warning system. To pick up on Michael Bruce's point about the Canadian system, there is a lot of potential in that. However, we have tested it for Scottish conditions and, although it might be appropriate under forestry conditions, it is less so for upland, moorland areas. We are therefore looking at adjusting it and incorporating it into the system that we are using.

It is also about using remote sensing to identify hot spots, which relates to the potential for targeted responses from the fire and rescue services, because we can identify where there may be higher probabilities through the build-up of fuel load and fire weather conditions. We can apply that information, along with climate projections, to also identify whether there are areas at risk further into the future, which then relates to issues such as peatland restoration. I take Tim Eagle's point about the risk to villages. However, we also face substantial risks in relation to fires going underground and causing out-of-control peatland fires, which would have large consequences for net zero pathways and such things.

As I said, we are trying to develop a fire danger warning system through the research programme.

Jon Henderson: I will try to be brief, and I will make a couple of points.

I totally agree with Grant Moir's point about using existing structures related to flooding. I was trying to make a similar point earlier about using the Scottish resilience partnerships. Although flooding is different to fire, the principles are very similar, so we need to learn from that work.

To go back to Mr Eagle's question and to link to the international learning that we are doing, I note that Scotland is on the journey that others have been on. They are in a different place to us, so it is absolutely foreseeable that wildfires will start to interact with communities more than they do at present. Reference has been made to some of the actions that we are taking around that, and the warning and informing system is key to that. It is not only about having a system that can predict a wildfire or put out a message that a wildfire is there, but about communities understanding what to do when they receive that message and what action needs to be taken by which individuals at which points. That is why we are looking to exercise that system very shortly.

It also goes back to the point that Michael Bruce made about surge capacity, which I think is still a response surge capacity. I agree with that. Among the actions that we are looking to take in that area is the development of multidisciplinary teams that encompass experts from the likes of Bright Spark and others within the communities, the fire service's structure and resources, and potentially resources from other emergency response services or other agencies. It is about having multidisciplinary teams that can be specifically deployed to support incidents within a response structure. I mentioned the 31 recommendations that sit across the Scottish Government, and that

is one of those recommendations, which the SFRS is actively exploring.

Calum Kippen: To answer Tim Eagle's question, yes, there are villages in the Highlands that are in imminent danger from wildfire. In 2019, it was only topography that kept the Cannich wildfire out of the village of Tomich, and the Carrbridge fire could easily have ended up in Grantown-on-Spey.

The other thing that we have to consider with large-scale wildfires is the effects of smoke on public health. We do not address that, but we really have to pay attention to it. It is not just about flames.

Some village resilience groups in the Highlands have been in touch, and they have said that they have had people trained by Bright Spark so as to protect any infrastructure in their village until the emergency services arrive. People are taking it upon themselves to do some good work.

09:45

Professor Pakeman: We have been talking about short-term and long-term considerations, but we also have to change our small-scale and large-scale thinking. At a small scale, on our research farm, we are discussing how to do muirburn to protect the peatland restoration that we have done, and that means talking to our neighbours. All around Scotland, people will have their own plans for their own estates, but they have to co-ordinate that work with their neighbours.

The Dava fire went for many miles. If we could go back in time, could we redesign that landscape in such a way that that fire would spread for only a few miles? We need to start thinking about how, at a landscape scale, we can prevent fires from spreading a long way. We will probably never prevent them from starting, but we can start to think about how we can prevent them from going a long way.

The Convener: A number of members wish to come in. Ariane Burgess wishes to ask about this point, specifically.

Ariane Burgess (Highlands and Islands) (Green): How do we prevent fires from spreading, and how do we redesign the landscape? That idea has been floating around in the conversation, and I would like to nail it down. We have heard about the need to break up the horizontal fuel load, and we have heard about fire ponds and water tanks. We have also heard about work being done to identify hotspots and so on. What else do we need to do?

We have a big programme of peatland restoration, in which we are investing a lot of money. It would be awful if that were damaged. We have also heard that fire can go underground. Can you get under the hood of landscape redesign, Professor Pakeman, so that we understand it more fully? I do not know whether you are the person to answer that question.

Professor Pakeman: Probably not, but I can start off the discussion.

You can sit down with a map and say, "If a fire started here, where could we stop it?" People could start having those discussions for every local area. I am sure that the fire service thinks about that. It is a matter of developing that thinking.

We could think about changing vegetation management, perhaps only for small areas. At the very least, we could have a strip between two blocks of moorland where we manage the vegetation intensely, isolating the two areas. That is a simple approach. We could do more complicated things with landscape-scale fire modelling, for instance. We could consider what would happen if there was a south-east wind or a north-west wind, and so on.

Ariane Burgess: What about having more forestry management in general? When I went to Cannich after the fire there, which had started at a Scottish Forestry site, I found that there was a great deal of very dry wood and pine needles on the ground where it happened, which gave the fire an opportunity to take off.

Professor Pakeman: Yes. We have to think about things that reduce the fuel load in places.

Ariane Burgess: More management could address that.

Professor Pakeman: Yes. It might not be all about management, but it could be a matter of having enough management to stop the spread.

Emma Roddick (Highlands and Islands) (SNP): Grant, I want to come back to you about something that you touched on in relation to the previous theme, which is that the CNPA is doing a lot of work on prevention. How did you decide which methods to go with, and how will they be evaluated? Is there enough opportunity for you to share what is working with other authorities, on an on-going basis, so that they can adopt the same approach?

Grant Moir: The most recent national park partnership plan had an action to take forward an integrated wildfire management plan—that is as simple as it was said at the time. It was quite a long time ago, and we spent about 18 months talking to people at just about every estate in the national park, as well as to communities, public authorities and others, about what should be in that management plan.

We now have a set of actions in the management plan that are a good starting point. We will issue an annual update on how we are doing with regard to the plan—we are coming up to the end of the first year now, so we will produce a report in June. We will continue to do that over the years.

The key thing is to ensure that we are covering all three areas. As Michael Bruce and others have said, there is quite a focus on how we get the right resources to put out wildfires. We are trying to come at it from the other end, which involves asking whether we have the right things happening in the landscape that will give us a good chance of reducing the amount of ignitions. That is where things such as the byelaw that will come into force on 1 April are relevant. It also involves talking to landowners about their management and how that plays into fire prevention and resilience, which concerns things such as forest plans. Other relevant issues include grazing in woodlands and the need to re-wet the peatlands in some of the uplands. There is quite good evidence that the moorland that has been re-wetted in the north of England has become more fire resilient.

We need to ensure that all those different things are happening. There is no silver bullet that will resolve the issue, so we need to take action on all those different bits.

At the same time, we have things such as our climate adaptation fund, which businesses and communities put in bids for, which funds initiatives in the park. That is not just about fire—it also involves climate adaptation measures. I think that just more than £600,000 has been spent through that in the past two years.

We have the right level of resources to try to take forward those things, and we will tweak our approach as we go along. If better research comes out that says that we should be doing something differently, we will take account of that and make sure that we change what we are doing. I think that our approach ties in quite nicely with what the Scottish Fire and Rescue Service is doing.

With regard to the situation in other places, Moray is the other area that people are focused on, because of what happened in Dava. We are working very closely with Moray Council on that, but we are more than happy to talk to any of the other councils across Scotland, or anyone else, about what we are doing in the Cairngorms and to see whether we can help to replicate that in other places.

Emma Roddick: That sounds like the approach relies on people asking you for advice or working with you proactively. Do you think that there needs to be more co-ordination there?

Grant Moir: I am hopeful that what is going to come out nationally will help to co-ordinate some of those actions. A lot of what is in the integrated wildfire management plan has been replicated in some things at a national level, and I hope that that includes some of the learning that we have spoken about. However, as I said, we are more than happy to talk with people. I think that there are some good discussions happening with different organisations across Scotland.

The issue is definitely moving up the agenda. I think that, if you go back two national partnership plans ago, you will see that wildfires did not feature in the plans at that point. We are writing the next one now, and I think that wildfires will be quite a major topic in it, along with flooding, drought and so on, because the climate modelling that Mike Rivington has done for us around consecutive dry days and consecutive wet days points to the fact that adaptation will probably be the key thing over the next 10 to 15 years around land management in the park, and we need to think about how we deal with that in relation to the public sector and the private sector, because how businesses and communities react to that will be of key importance.

Michael Bruce: I have asked people in trade associations and in regulatory bodies whether there are any signs that wildfire prevention will become a fundable element of either a farming grant or a forestry grant, and the answer that I have had from those middle managers is that there are no signs of any changes to the grant schemes to take account of wildfire risk and wildfire prevention.

The Dava fire was finally stopped when it reached a grass field. That has an implication for communities. Why do we not just change the criteria in the farming grant a little bit so that there are a few more points and a little bit more money for the farmer if they graze intensively around villages?

A huge number of our issues are cross-sectoral, and we need to find new compromises between the different interests. I see the Scottish Wildfire Forum as being a good place for informal discussions about issues before they get too close to the decision makers, so that we can at least flesh out some of the ideas.

The other issue that I would raise is that we have a Scottish fire danger intelligence system, which I have been operating since 2014. It generates the information that the Scottish Fire and Rescue Service checks, and which then becomes the public warnings. We are trying to improve the resilience of that system, because at the moment it is just one person who is doing it.

However, we have something that works for open ground. On this point, I do not agree with the James Hutton Institute. The United Nations environment programme document "Spreading like Wildfire: The Rising Threat of Extraordinary Landscape Fires", which is another international document, recommends that the first step in developing a fire danger rating system is to develop accurate fire behaviour models. With the greatest respect to the James Hutton Institute—I know many of its members and work closely with them—it is our colleagues, the fire engineers, who need to be heavily involved in that project.

Again, I am hoping that, cross-sectorally, the money that is going to wildfire through the rural and environment science and analytical services will create interdisciplinary teams that include fire engineers. The statistical work that I have seen in the reports so far does not address some of the questions or the outputs that you need from a fire danger rating system. They are statistical approaches, not fire behaviour approaches.

Emma Roddick: You mentioned the need for a cross-sector approach, and said that the Wildfire Forum is a good place for informal discussion but perhaps not a driver of change or for co-ordination. Where should that role sit? Should the forum and its members have more of a role in directing policy?

Michael Bruce: It is not a policy-making body; it was set up to inform and advise. The people who are interested and involved in the forum are the type of people that you would want to be involved in projects.

As I said, there are a lot of projects, some of which are small and others are big. You have authorities, such as the Cairngorms National Park Authority, that have resources and are doing things. There are different roles to play, including co-ordination, governance and the sifting of ideas. In addition, there are little projects in which there is a need to set up a plan and work out how it can be delivered, after which it is given to an appropriate executive agency to deliver. You would want to try to audit that and show that you are monitoring performance, but a lot of the projects will be small scale and need to happen cross-sectorally.

It is very open. We have representation from all different sectors in the forum. However, it will need time to develop its ideas.

A lot of pressure has been put on the agencies, which have carried out many changes in the past nine months. We now need to see that follow through into implementation of projects. We must have some form of project management system to guide the projects. As for the running of the individual projects, I think that will be done by a various organisations.

Emma Roddick: If not the forum members, who should be driving implementation?

Michael Bruce: Let us get a plan first.

Grant Moir: A wildfire oversight group has been set up to do exactly that. Its members include the Cairngorms National Park Authority, the SFRS, the Scottish Government, Scottish Land & Estates and a few others. It is considering what the key national-level actions are to take forward, which is what Jon Henderson was referring to. When its work comes out, I hope that the governance around it—and, specifically, who is responsible for what—will also be set out clearly.

Jon Henderson: My point is very similar point to Grant Moir's. The Scottish Wildfire Forum has been established for many years. The phase that we are in is about continuing to develop the work so that it can help to inform policy and to enable stuff to be dealt with at the right level. The forum's work sits across a couple of different ministers and a couple of different areas of the Scottish Government. I am very enthusiastic about where we are now, how those things are getting surfaced and the resource that is being put in. Now, we need to follow through and start delivering against the actions. I am absolutely confident that we will do that. The forum has evolved over time, but the trajectory is positive.

The Convener: Before I move on to Alasdair Allan, I have a question. We appear to be focusing on the north. Is the south of Scotland represented on the forum, given that Galloway is probably the most afforested part of Scotland and we had one of the biggest wildfires in Galloway forest? Is the south of Scotland well represented in any of the forums?

10:00

Michael Bruce: The emergency planning officer for Dumfries and Galloway participates in the Scottish Wildfire Forum.

The Convener: Sorry—who is that?

Michael Bruce: The emergency planning officer.

The Convener: From?

Michael Bruce: From Dumfries and Galloway—Martin Ogilvie.

The Convener: But Martin wears about 15 different hats, dealing with flooding, storms and whatever else. Is that representation adequate? We have a lot of people around the table who are based in, and focused on, the north. I absolutely have huge respect for Martin Ogilvie, but is that

representation enough, given the challenges that we have seen recently in the south of Scotland?

Jon Henderson: There is a relatively open invite to the Scottish Wildfire Forum, and we are keen for the areas that are impacted to be involved in it. The Scottish Fire and Rescue Service is a national organisation, so we work in the north, but we also work in the south, too. Our responses and resources are structured so that they are in the places where they will be needed—which, in this case, traditionally, is the Highlands and the Borders.

We also work cross-border with the Northumberland Fire and Rescue Service and a few other fire and rescue services in particular to ensure that we have in place the right resources to respond to those incidents.

There is certainly an invite for the Borders to be involved in the Scottish Wildfire Forum, and we feel that that area is represented, but if there are other areas, or other people or agencies, that want to be involved in the forum, we would be more than happy to accommodate that.

Alasdair Allan (Na h-Eileanan an Iar) (SNP): Some of the issues that I want to raise have been touched on, but I am interested in what Michael Bruce said about working with the agricultural sector and—to put words in his mouth—creating resilient landscapes.

I am interested to know more generally what people feel about the relationship with land managers—in my area, I would think of crofters in that context, but it applies to all sorts of land managers. I am also thinking specifically about how we manage the issue of muirburn, and how we retain a sense of responsibility and skill among all land managers in the sector for dealing with that issue, rather than passing on all the responsibility to agencies, which are—as we have heard—quite pressed. I would like to hear your thoughts about all that.

Finally, I am interested in the legal angle on muirburn as part of land management and how that can be managed in the future.

Dr Campbell-Lochrie: I will make some general comments, and then others can come in with more specific points. Setting aside the legal aspects around the new bill, and thinking more broadly, maintaining those skills is definitely a big element. That has been shown internationally, through the work that my colleagues and I have done, in ecosystems around the world.

Twinning through co-creation is one of the most successful approaches—for me, coming from an academic perspective, that involves looking at modelling tools and things like that. We need to work co-creatively with line managers who have developed expertise in their specific area over a number of years. We need to maintain that as a powerful resource, and it becomes particularly relevant when we move from discussing the risk and the fire danger in given conditions and start to think about the mitigations that we are applying and how we are trying to adapt the resilience of a landscape.

Practitioners and land managers will have their own ideas around that. The Scottish Wildfire Forum is discussing best practice in that area, but that will need to be coupled with the evidence base and the on-going monitoring of effectiveness. The tools to do that allow us to compare fuel models for pre-treated and post-treated areas. Again, that relies on the co-creation element.

Grant Moir: We have good relationships with land managers in the national park and we discuss those issues. We have a fairly regular catch-up with all the land managers in which we talk about many things, and we usually cover wildfire as one of the topics.

There are some things we need to think about. One thing that we are thinking about, at a national level and at other levels, is the fact that, at present, there is a reliance on voluntary help to make things happen across many aspects. That includes estates across the country, and farmers and others who get involved in putting fires out. Without that level of resource that sits alongside the SFRS, we would not be able to deal with the wildfires that we have.

The question is, what system might be needed for the next 20 or 30 years if we get, as looks likely according to the climate modelling, more and larger wildfires across Scotland? What do we want to put in place? A number of different options are being looked at. A number of land managers have written to me and spoken to me about taking a more mountain rescue-style approach to wildfire volunteers. That is an option that we are looking at.

We have a good system that works currently. There are some aspects that need to be thought about, such as insurance and other issues that we talked about earlier, but what we need for the future, in 10 or 20 years' time, is slightly different. That needs to be dealt with between the private and public sectors, because neither side can do it alone. Both sides need to work together on that, which is a key issue for us going forward.

Muirburn is part of that. We can sometimes get a bit bogged down in the muirburn discussions, if I am honest—no pun intended—but we need to think about prescribed burning as a tool that can be used on the fire side of things. Again, muirburn is not a silver bullet for wildfires either; it is a tool that can be used in certain circumstances. We can

spend quite a lot of time on muirburn when there are a whole load of other associated measures that we need to take as well.

Dr Rivington: In relation to Alasdair Allan's question about the potential for things such as the agricultural reform programme, we have been advising that there are big opportunities among landowners and farmers—for example, within a catchment—to co-ordinate the selections of actions, such as the enhanced conditionality measures. I go back to Michael Bruce's point about having grazing areas around a village to protect it—there is perhaps an opportunity for local people and farmers who are applying for grants to co-ordinate to protect against the spread of fire. There is a lot of potential with that approach, and it applies to a lot of other things that we are trying to do. We might be able to identify synergies for multiple objectives. We have been talking about flood risk management, for example, and how you can do the spatial configuration of land uses within a catchment for multiple purposes.

There is a really big opportunity for co-ordination, but how you co-ordinate comes down to the ability of local communities to communicate and integrate their thinking on that. There are initiatives under way; for example, in the Tay bioregions, they are considering how to configure land use within the south Esk catchment, which is also a fire-risk area. We could explore how we might develop configurations of land use for multiple objectives. That could include things that are in the Scottish Government's remit, such as increasing biodiversity and climate change adaptation. It is a big area, and there is a lot of potential in there.

Calum Kippen: Due to the standardisation of training, the muirburn legislation that passed through the Parliament has had the effect of bringing people together. Because of the tie-in between muirburn and wildfire training, conservation groups, gamekeepers, crofters and communities have come together, and it has ended up as a really positive thing. We have a better relationship now with the Scottish Fire and Rescue Service than we have ever had. We are all working as a team, which has got to be a good thing.

Professor Pakeman: I will make one final point about muirburn. A new system is coming in, in which muirburn for the management of wildfires is an option for peatlands. However, we need to understand how NatureScot will interpret that—that must be monitored. If NatureScot is too conservative, it might mean that we have higher chances of fire spreading. We need to keep an eye on that. I do not know how it will develop and how NatureScot will think. That is just an open question.

Michael Bruce: To go back to the issue about crofters, I participated in a meeting at Sleat, at which the crofters said that it was difficult to get organised for muirburn. I asked what time horizon they needed. They said that they needed three days. I then said that they could use the European Forest Fire Information System's fire danger classifications that I use to give the three days' notice. In a few email exchanges, I taught them the system. That system could be applied across the country in risk management for all muirburn. We use it on Glen Tanar estate.

However, a hurdle that I cannot get beyond is that a person who gives advice about a risky activity needs to know how, contractually, that advice is to be used. There would need to be a contract between the person giving the advice—the training—and the person receiving it, and there would need to be clear boundaries as to how that advice was used. At the moment, there is no set-up in which I can work. There is no support for the crofters to say, "Okay, Michael, we want you to train us on how to use this system." I can devise a little training scheme—I could even do online training—but because there is no support for wildfire prevention measures in either the agricultural or forestry grant schemes, there is no funding mechanism to support the people who need to undertake that activity.

Professor Pakeman: There is a bigger risk out west. I have worked in a couple of places in which the number of active crofters is far too small to imagine their being able to respond.

We did some work in Trotternish. If a spark set that area ablaze, there are just not enough crofters, even if they were trained, to fight that fire, and I am not sure where the nearest fire appliances are. I suspect that we have a manpower problem in many parts of the country—and the further north and west we go, the bigger that manpower problem might be.

Ariane Burgess: Something has popped up about looking at land management and the idea of grazing around a village or town. Under planning legislation, councils need to bring forward local development plans. They are doing work on climate in general, but do local development plans involve wildfire?

Grant Moir: I should probably answer that, because our LDP is going to the relevant committee in a week's time. I need to go back and check, but I am not sure that wildfire has come through in the current round of LDPs. I suspect that it has not. It is probably something to have a think about. It has come up in some of the local place plans and, I suspect, in community action plans at local level.

Legislation that has been passed recently by the Parliament has a good hook: under the Land Reform (Scotland) Act 2025, all estates of more than, I think, 1,000 hectares will have to produce a land management plan. I would have thought that it would be key to have a fire plan for an estate as part of that land management plan; if you are being required to do a land management plan anyway, you should make sure that fire is a part of it. We would certainly like to see that. Now that that is in place, it seems a good hook to use.

I will certainly look into the LDP side.

Calum Kippen: In reply to Robin Pakeman's question about a lack of people to put fires out, we have never been better at putting fires out. A lot of that comes down to equipment. Given the equipment that we are using—and that can be used in the west—one or two people could probably do what was done 20 years ago by 10 people. We are training people in North Uist and South Uist this weekend. We have trained 30 or 40 people in Skye already. I do not want people to leave this room thinking that the west coast and the north coast are a lost cause because of a lack of numbers. Training and equipment are key.

10:15

The Convener: My final question in this section, which leads on nicely from what we have been discussing, is about tackling fires before they get big—for example, a couple of crofters being able to deal with it before it becomes a big issue. Zak Campbell-Lochrie, you are working on technology that would predict fires far more accurately. Our notes say that the technology would suppress fires or put in actions before a fire starts or before it gets to a point at which it has become a wildfire.

A 5G centre has been set up in Dumfries that works on the internet of things and has monitors all over rivers and catchment areas that will accurately predict when flooding is likely to occur—even weeks beforehand—by looking at weather forecasts or whatever. The committee also recently visited the Scottish Association of Marine Science, where people are working on models to predict when there will be influxes of microjellyfish around fish farms.

How big a role will the work that you are currently doing play when it comes to—I am trying to think of the word—pre-emptive strikes, if you like, whereby certain conditions are improved because of the modelling? Can we look forward to that in the next few years?

Dr Campbell-Lochrie: There are a few things in that question. I will refer back to what Michael Bruce said about the fire danger rating system. There is a warning system that feeds into the Scottish Fire and Rescue Service. The system, as I understand it, is intentionally meant to be a bit broader in scale with regard to how it is broken down throughout the UK. That is already a powerful planning tool, as Michael has spoken about.

There is more that we could be doing with the fire danger rating system. It acts as a measure of risk—last year, we had several cases of extreme fire warnings—and it can feed into public messaging so that action can be taken in a preventative sense. However, it could also potentially be used a lot more as a proactive element in planning muirburn or other management tools.

The fire danger rating system is already in place and, with the adequate resourcing to support it, has the potential to be used right now and a lot more—we have already heard some specific suggestions about how that could be done. It is a powerful area to focus on now and in the next few years.

Some of the other modelling will allow us to move on from focusing on risk towards focusing on the effectiveness of treatments and planning and prioritising different sorts of treatments. That is where fire behaviour modelling can come through more and augment and support the expertise that already exists among our land managers. For example, if people want to put fire breaks into landscapes or compare different proposed mitigation strategies, we can model things such as how the fuel load would be reduced and the fire intensities and spread rates that would occur under different conditions. The work that I and others are keen to do is about understanding the correct fuel models and fire behaviour models that are needed in order to support those things.

One of our challenges in doing that work is that the models are largely what we would describe as being empirically based, even if there is a physics framework around them. That means that they are appropriate for the conditions under which they were developed—they draw on experimental observations, field observations and real data—but we cannot just transport them outside of that context and assume that they will work. For example, we will run into challenges if we try to take fire behaviour models directly from Canada and the US, which are designed for different vegetation types that respond differently to moisture and fire. Thinking about the future, it will challenge the models as soon as we start to go outside their current bounds and introduce different climate factors. That is where some of the longer-term work is required.

There is technology that can support the modelling work, including by increasing the granularity of weather data and improving sensor

technology, but we need to augment and support that technology.

Those are the two bigger areas that we should focus on.

Jon Henderson: I will come at the question from a slightly different angle than Zak. On the point about tackling wildfires before they get big, there is, with any incident, a window of opportunity in which we can take action.

The Fire Service takes a calculated risk, based on that window of opportunity. To be honest, that is a concern of mine now and for the future.

To give you some context, I grew up with a crofting background in the Shetland Islands, and I know the risk appetite that my family would have to protect their locality and their friends' locality. From a fire and rescue point of view, we want to ensure that action taken to tackle a fire is well informed. Going back to Calum Kippen's point, it is about having the right equipment and the right training at the right times in the right places. It is not just about throwing resource at it. The people trying to deal with a fire need to have a level of knowledge and training to put well-intentioned action into effect, because, from our perspective, there is a real concern that well-intentioned actions could put individuals in an unnecessary amount of danger.

There is a balance to be found to ensure that we make the most of those windows of opportunity, but in a calculated manner, with the right training and the right equipment.

Michael Bruce: One of the key uses of a fire danger rating system is to pre-locate resources in appropriate regions and to raise the level of readiness of particular key resources. Helicopters are the obvious example. The wildfire danger assessments that I prepare are distributed on behalf of the Scottish Wildfire Forum to a wide range of organisations, including the helicopter companies. However, one of the issues is that the system is European and calibrated to European conditions. In the maps that you see being produced, the fire danger class boundaries are based on European fire danger classes, and I have to do a lot of manual interpretation to make them suitable for Scotland. We have done enough research that we have correlations with wildfires, so we can use these indices and maps, but it would be much easier if we had a map that was suited to the fire danger classes that we have identified as appropriate for Scotland. It would not cost a huge amount of money to do that. It would also improve the resilience of the system, so that it is no longer totally dependent on one person—me.

I see adaptive management, adaptive change, constant little steps and little projects moving us forward. It is not the best system—we know that it has flaws—but we continue to move forward. We also know that we are going to make mistakes. However, we need to accept adaptive management and innovation and taking risks so that we move forward to address the bigger problems.

Everywhere around the world, fire danger rating systems are key components of preparedness, readiness and response, but it starts with fire behaviour modelling, and that is the fire engineer's job. I have been involved in a variety of projects that the Scottish Government has supported, but once we have done a project the funding stops. We built our team—we had a huge group of people from the James Hutton Institute and the University of Edinburgh—and we built up a level of knowledge, but then the funding just stopped. It might be that we want a smaller amount of funding for a longer-term programme and that we agree all the research objectives that we need to address, but a process that constantly stops and starts means that we lose institutional knowledge all the time.

The Convener: I am tempted to ask another supplementary question, but we will move on to policy and resourcing towards the end of the evidence session. I will bring in Mike Rivington on the original question.

Dr Rivington: I just want to confirm what Michael Bruce was talking about—I completely and utterly agree. We hope that the tools that we are developing are part of that suite of things. With regard to the next strategic research programme, there is consistent mention of the need to address wildfires, so we hope that consistent funding will come through to build up knowledge and resources. It would be useful to clarify the difference between fire behaviour modelling, which is about what happens once a fire starts, and the conditions that precede it. We are looking at the things that precede a fire by monitoring using satellite data.

As Zakary Campbell-Lochrie mentioned, there is a lot of potential for network sensors, because they can help us to build a much better picture of when we are reaching a point of risk. To return to the point, we can then provide information to fire and rescue services, which can identify where—pardon the pun—hotspots might start to emerge.

The Convener: That moves us on neatly. We have talked about prevention, so we will now look specifically at the response to wildfires when they take place.

Evelyn Tweed (Stirling) (SNP): My questions are about community resilience, which we have

touched on. What more can we do for our rural communities to ensure that they are prepared for a wildfire outbreak? What should the role of local authorities be in building resilience?

Jon Henderson: To return to my point about resilience partnerships, it is absolutely key that local authorities are involved with local resilience partners. That is the approach that we take to incidents such as flooding to ensure that communities are aware of the risks and what actions need to be taken. We need to have in place the same model to tackle wildfires.

The SFRS has a preparedness arm—it is one of the functions that I am responsible for. The function is not only for wildfires; the preparedness is for dangers across the board. Some of the preparedness team's key activities include getting involved in communities, community partnerships and local outcomes improvement plans and ensuring that the relevant information is captured for the appropriate communities. The team must consider the key risks and ensure that they are thought about and planned for in the actions that need to be taken in the future.

Those systems are in place. The challenge is to ensure that the elements that colleagues have talked about, such as early warning systems, are built into them so that communities know what to do in the event that they receive a warning. We have talked about warning systems at a national level with colleagues across several departments in the Scottish Government. We need to look into whether such systems exist and work for dangers such as floods or heatwaves, and whether national bodies such as the Met Office can support them. We need to develop practice, which is already strong, and take the work that has been done by Michael Bruce and his colleagues, as well as work done overseas, and apply it to the Scotland and UK context. We need to apply it to the context of systems that already work and ensure that it feeds into the local level. That is how I see systems evolving in the future and where success lies.

Michael Bruce: I will start a bit of a debate now, because I do not agree with that. Wildfires happen in some of the most remote places, where the reach of local and national authorities is very limited—they are just not there. Rural communities are often resourceful and resilient, but they need the ability to organise themselves.

You can talk about the Met Office and the natural hazards partnership, but the information that they share does not reach anyone in the private sector unless they are a category 2 responder or a big company. Small rural communities do not have access to any such resources. They have only the resources that exist in their communities. That is why the FireSmart and Firewise programmes are bottom-up, not top down.

To address the issues that small rural communities face, they should be provided with access to FireSmart and Firewise materials. That will enable them to defend themselves to a large extent, which will prevent the creation of a dependency culture in which they rely on the authorities, because they will be self-reliant. That is where a lot of the preparedness work in Scotland is going. The materials state that each household has to be able to look after itself for 72 hours. We should not look to the authorities to do all the work for us; we should do it for ourselves.

10:30

Jon Henderson: I agree to a large extent with some of Michael Bruce's points. As I said, I was born and raised on the island of Unst, so I am from one of the most rural communities that there is; therefore, I understand the point, and I understand the resilience of the community. However, it is not an either/or situation—it is a both/and situation, and it is about the two meeting in the middle. It is not about the state stepping in to solve everybody's problems; it is about the state providing the resources and additional support for the solutions that already exist on the ground.

As I said, we know that these approaches work across various types of incidents, and there is no point in reinventing the wheel. We need to take the context and the learning from the experts on the specifics, and apply and adapt them to what we need to do. However, as I said, it is not an either/or situation; it is a both/and situation. It is about top-down and bottom-up approaches, and about meeting in the middle.

The Convener: I am listening to this, and I am aware of examples where that has worked and where it has not. In my constituency, the local authority hands out guidelines on community resilience under the guidance of the award-winning Martin Ogilvie. Certain villages and towns have purchased hot-water bottles, gas heaters and cooking utensils, which are stored in the village hall. For storm incidents, they have window stickers that people can use to indicate that they are okay. We have other communities that are particularly educated and well informed when it comes to flooding as well as storms.

During storm Arwen, some of our communities were particularly good and ticked every box, and they worked with the local authority, the Scottish Fire and Rescue Service and Scottish Power. However, other communities were left with nothing. That was because the chair of the resilience committee had retired and there was no succession planning. Nobody knew who to ring or

whatever. Those communities were left particularly vulnerable.

There is a grass-roots-up and top-down approach, but it is about getting the balance right. It is about whether smaller, more remote communities have a go-to person who can do everything the community needs without constant hand holding. We do not have a national park authority the covers all of Scotland—we have local authorities with stretched resources

Grant Moir: I will comment on a different point, but I will first say that I agree that it is not one or the other. It is about both sides coming together to ensure that it works from the bottom up and from the top down, so that the right resources get there. You are absolutely right that there are good examples, but there are also bad ones. We must work out how to ensure that the good examples become more widespread, and that the number of cases where there is an issue is reduced.

This is a more general point, but volunteer burnout across much of Scotland is a big issue. The same people are being asked to do more and more within communities, often—mostly—without any recompense. It is a problem for them, especially given that we saying to communities that they need to do more—that they need to do X, Y and Z. If it is always the same people, and they eventually say, "I can't be bothered doing this any more; I've been doing it for five or six years", and nobody else takes it up, what happens? That issue is wider than just wildfires—it applies to a whole range of things—and it links back to some of the issues at the bottom level of representation. What are the roles and responsibilities of community councils? Do they have resources to do the things that, in any other country, the lowest tier of municipal government would be expected to do? That is a major issue that needs to be properly considered.

I will quickly mention two points about comms. We need to get better at communications on wildfire stuff in general, because there is still a generic thought that Scotland is a really rainy country and wildfires are not anything to do with us—they are something that happens in Spain, Canada and other places, but they are certainly not an issue in the UK, including in Scotland. That thought is prevalent among the general population. We need to think about how we can crack that.

We should also ensure that that message is part of the work that we do on the education side of things. I know that we discuss wildfires in the junior ranger programmes, but more widely, when we are talking about adaptation, and when we are talking to schools about flooding and climate change, wildfires should be part of what is discussed.

There are other areas that we need to think about, but I think that the general belief of the Scottish population about Scotland being a rainy country is quite a big hurdle to get over when talking about wildfires.

Professor Pakeman: I will illustrate the point about community burnout. One of the other hats that I wear is as chair of our village community association. The association has done a huge amount of work. We are now much more resilient to storms, and the village hall is a community hub that can cope with such weather. However, that has been the limit of what we can do, because only a certain number of people in the village are willing to commit the time to do that work. If we were in a fire-prone or flood-prone area, we might have that push to do more, but it would be really hard, because the number of people who are engaged is relatively small.

Michael Bruce: The question that has come up again via Grant Moir is, why is our main fire season in the late winter-spring period? It is because the vegetation dies back through the winter and frost dries it out. When the weather starts to warm again in springtime, relative humidity drops on a daily basis, and that also dries it out. In early summer, we get the fresh flush of green growth and fire danger reduces. You can have a lovely day in early July and you will not get a warning from me, because the vegetation is all green. It is not until we get into the late-summer period after a long drought, when the grasses are seeded and start to go brown, that we get conditions in which burning can happen again.

Our main fire season is in the late winter-spring period, and always has been, because of winter senescence and frost. That is why it is difficult for people to make the connection. They are thinking of Spain—"I go on holiday in Spain and that is where there are fires. They happen in the summertime." No—our fires happen in the late winter-spring period.

The Convener: There is something positive about 40 days of rain and 40 days of mild, dull, horrible weather after all. We should be looking forward to a lower wildfire risk, given that we have had to put up with six months of horrible weather over the winter.

Michael Bruce: No—I was about to give a warning this week, but there was a conflict between Met Office information and European information, and Met Office information won out.

Professor Pakeman: There has been pretty dry weather in the north-west over the winter.

Michael Bruce: I have been watching it, but it has never got to that level.

Dr Rivington: Much of my work focuses on looking into the future, using climate projections. Building on Michael Bruce's point, we might see a change in the seasonality behaviour. There are really interesting dynamics in the reduced number of frost days. We are seeing a reduction in the amount of snow cover. Year-on-year differences in conditions will determine whether there is a higher or lower fire risk in a particular year. A particular concern for me is the potential for periods around September becoming much drier, raising the risk of fires breaking out then and spreading into our peatlands.

Beatrice Wishart (Shetland Islands) (LD): We have heard a lot about the wildfire response in rural Scotland. I represent an island constituency and, last year, Shetland had one of the best summers in nearly 50 years. We had a wildfire warning in July, so that is outwith the seasons that you are talking about, but Shetland's climate is different from that of the rest of Scotland.

Grant Moir was talking about the many people who are involved in doing different things and holding different roles in the community. I have heard you talk about training in Skye and Uist; how do we ensure that islands such as Shetland—and other areas that do not usually have fires—are prepared?

Jon Henderson: We have a variety of equipment and resources available in Shetland—across mainland Shetland and on different islands—to deal with incidents. Calum Kippen will keep me right, but I am not aware of any specific muirburn or burn-back techniques being taught in Shetland, because we have not historically seen that as a significant burden.

Based on our resource profile and our links with local authorities, I am comfortable with the resources that we have and our ability to deal with the current level of risk. We will continue to monitor any future level of risk and respond appropriately to that.

Calum Kippen: One of the Bright Spark trainers lives in Orkney. I was told last week that Orkney is putting together a wildfire group, with the same idea as Michael Bruce's south Grampian wildfire group, and it is looking for equipment. There would be nothing to stop Shetland going down the same route and, if we can help in any way, we will do so.

Michael Bruce: We should not forget the flexible helicopter resource. One of its abilities is to move quickly to different parts of the country. However, it must be recognised that that is a private resource currently and that, whenever you need it, it is already committed to another contract.

In other countries, they have contracts with private companies to provide a resource. If that resource in Scotland is fully utilised and there are continuing fires, where is our next nearest available support? It is Norway. Norway has a very sophisticated aerial firefighting resource, but you would need to go through what used to be the Department of Trade and Industry to get a licence to bring that across, and all that needs to be done in advance. There is the Norwegian Directorate for Civil Protection, or DSB, and the Swedish Civil Defence and Resilience Agency, or MSB, and we need to think about how we can work with our neighbours.

I keep coming back to this. Wildfire is an international issue, and a huge number of the solutions are found jointly between countries and regions. Very often, that is done not between one nation, such as the UK, and another, but between provinces or the equivalent of the arrangements that we have for Scotland. It is done at that level. Fire policy and land use policy are all within the remit of the Scottish Parliament, so we have the means to do that work, but it takes a long time to do and to establish the necessary relationships internationally.

Rhoda Grant (Highlands and Islands) (Lab): What progress is being made on the Scottish Fire and Rescue Service strategy? In the past, I have asked about equipment, and I wonder whether it is in place now. There are also concerns about staffing levels, certainly in the Highlands and Islands. Quite often, stations do not have the staff to allow them to respond. How would that be dealt with in the event of a wildfire?

Jon Henderson: Thanks for the question, Ms Grant; I will try to cover all those points.

I will just touch on Michael Bruce's final point about helicopter or aerial assets. For the assurance of the committee, I mentioned—and will no doubt mention again—the joint action plan between the Scottish Government and the SFRS. There are 31 actions in total, and one of those actions is specifically around broadening our resilience in aerial assets. I will not go into the details, but there are a variety of ways in which we would do that. That is one of the specific actions that is being picked up.

In answer to your question about the Scottish Fire and Rescue Service strategy, as I said, the action plan exists and we are developing the actions. Specifically, we have brought a couple of additional resources on board this year. We have a tiered approach to our wildfire response in a general sense.

Our tier 1 response is all our stations—350-plus bases across the whole of Scotland.

Our tier 2 response is 27 stations that have specialist wildfire personal protective equipment

and specialist wildfire equipment. Those stations are geographically located in the areas where we have historically seen or are likely to see wildfire.

Our tier 3 response includes 10 stations with all-terrain vehicles, which, again, are geographically located in the correct areas.

Our tier 4 response is 14 tactical advisers who have specific training and work with some of the companies that we have talked about in relation to backburn and muirburn techniques. They link into the National Fire Chiefs Council and the work that is going on nationally. We also have an ability to draw resources from England, should we need them at any point.

10:45

The additional stations that we have brought online this year are one each in Thurso and Lockerbie, and we have recently purchased for our stations additional personal protective equipment and other equipment such as leaf blowers. For those who may not be familiar, leaf blowers are key equipment in the area under discussion.

Our tactical advisers have recently developed a mobile app that works with tablets, which allows them to track resources and risks on an incident ground and our management of those things.

Significant progress has been made, but the action plan is still developing and further progress still needs to be made along those lines.

When it comes to our overall resource and structure, we have, as I said, 350-plus locations across Scotland. Many of those locations—80 per cent of our landmass—are covered by on-call firefighters. We constantly support and manage the availability of those firefighters so that it is as full as it can be. When it comes to how that interacts with wildfire incidents or other types of incident for which we tend to get a run-in or early warning, as Michael Bruce mentioned previously, we will mobilise resources to areas in which we know that we have issues or for which we have had warnings. We will bolster resources. For that, there is a real benefit in being the national Fire and Rescue Service and covering the entire country, with 350 stations to choose from. We can move resources from the central belt or the Borders to put them into the locations where we need them to be.

There is no one clear answer—it is a variety of all of those things working together. That puts us in a very solid position, but we do not rest on our laurels at any given moment. We are always trying to develop and improve on that as we move forward.

Rhoda Grant: Will you clarify about the movement of resources—especially people? Does what you have said mean moving crews to make sure that fire stations have full crews—or even more than full crews, given the level of risk?

Jon Henderson: Yes. It can mean either moving specifically a fire appliance or some of the specialist resources that I have talked about into strategic locations, or moving personnel to locations that have resources. We recently purchased a variety of personnel carriers to move people to the places in which we need them to be. In answer to your question, it is a bit of everything. All those tools are available to us.

The Convener: Our final theme is policy and resourcing. We have touched on that a bit already.

Ariane Burgess: We have touched on it throughout the conversation, in a way, but I am generally interested in current policy and resource for wildfire response, mitigation and management. I will pick up on a few things.

Jon, you talked right at the beginning about the challenge of investigation and I am interested in hearing about that.

Mike, you talked about there being a lot of international lessons that we could learn. You mentioned Canada as an example and I am aware that the Fire and Rescue Service has been sending people to northern Spain for training. Can we learn from other countries?

More generally, there has been mention of the wildfire oversight group, which, I think, came out of the summit—is that right?—and which has made quite a lot of recommendations. You have referred to a number of them, Jon, and I have been ticking off things that have been covered. For example, the point was made that a commitment came out of that summit to expand and to overcome challenges with the community asset register; that is a bit opaque to me, so I am interested in understanding that a bit more. That question is not only to you, Jon, but to the witnesses in general.

I have highlighted a few things but there may be others. What key policy does the committee need to flag up or bring to light? We have heard, clearly, that resourcing is an issue, and I am aware that an outcome of the summit was the Government's commitment to increase the SFRS's budget for 2026-27. I am also interested to know whether that increase in the budget is adequate.

Jon Henderson: I will try to cover off a couple of those points, but please come back if I miss anything.

Although I was trying not to start with the budget question, I find myself compelled to do so. We are in the middle of analysing our budget provision and

trying to understand where that fits across a variety of things. The chief is on the record at a meeting of the Criminal Justice Committee as feeling that we did not get our specific ask. We feel that we made a compelling case for that ask, which was for managing the legislative and compliance response and health and safety response that we need and for setting out the Fire and Rescue Service's vision for moving those things forward.

We did not get the entirety of our ask. That has an impact in the wildfire space, because some of the money that we asked for was specifically dedicated to wildfires. That is not to say that money will not go to wildfires, but we will have to reshuffle where the moneys go.

We have invested money in wildfire response over the years, and we continue to do so. As I said, we have bought additional PPE, we are bringing additional stations online, we are buying additional equipment and we are continuing to evolve, including with training courses. We have training courses in Scotland and some colleagues have recently gone to background courses in Wales to understand different techniques. We are doing a variety of things.

You touched on the community asset register. Positive work has recently been done to continue to evolve that. To touch back on some of my earlier points, if we are to call for community assets to come to an incident ground, we need a level of assurance about the type of asset that is coming and the training and ability of the individuals who are coming with it—how they fit into our command structure and risk structure and how they understand those things.

There is a lot of work at the minute to continue to develop that and bring more assets online. From a wildfire perspective, at least three organisations have reached out to us since last season with an interest in being on the community asset register. We are keen for that to happen. As I said, we need to make sure that we engage with those assets, and with land managers and estates, to develop an understanding of SFRS's requirements and expectations on the incident ground, including simple things such as—to go back to the fire drill—whether we would evacuate; what the signals would be if we had to remove people; whether they understand the terminology; and where we would go.

All those things apply to the community asset register, but we try to do it pre-emptively. Before they can get on to the asset register, therefore, they need to understand those things and prove that understanding. If we call on them, we are calling on them in a moment of need, so we need that understanding and a quick response. We therefore try to circumnavigate those things beforehand.

Ariane Burgess: What about fire investigation?

Jon Henderson: Grant Moir helpfully provided some additional context, information and stats for that. To summarise, human behaviour is the major cause.

Ariane Burgess: What about the resourcing for that?

Jon Henderson: We have specific fire investigation teams in the Fire and Rescue Service. Generally, they are based roughly centrally, but they respond to incidents across the whole country with any type of fire investigation that is needed, whether for a dwelling fire, a building fire or, ultimately, a wildfire.

As I said, it is, traditionally, difficult to ascertain the cause of a wildfire. Different countries have different methods but, traditionally, it is difficult to ascertain. We continue to develop in that area. I do not mean to trivialise when I say that it comes back to human behaviour, which is key for us to influence, whether on barbecues, cigarettes or any other type of fire.

Grant Moir and I will be at an event in Pitlochry tomorrow—a joint communications launch between the Scottish Government and some of SFRS's partners—about influencing those behaviours and making people think about the actions that they take in such situations. It is not about trying to stop people enjoying the countryside or having fun. We definitely want people to visit those places. However, we need them to think about the potential impacts of their actions.

Ariane Burgess: That brings up a point—

The Convener: I will bring in Michael to respond to those initial questions.

Michael Bruce: I remind the committee that the skills needed to do wildfire investigations are different from those needed to do structural fire investigations. The National Fire Chiefs Council is developing specific training in order to develop those skills around the country.

Ariane Burgess: Jon talked about the Pitlochry event. Grant, I will come to you on policy, because you have the first byelaw on barbecue prevention. Do we need to look at that policy more when it comes to behaviour change and making people more aware?

Grant Moir: The byelaw allows us to be more specific in saying to people, "You are not allowed to light a fire or a barbecue in the countryside between X date and X date." It is obviously trickier under the Scottish outdoor access code, because

there are some caveats around that. However, it allows our comms message to be much clearer, and we will be doing an awful lot of comms around that over the next month, as we lead up to the introduction of the byelaw.

The resourcing point is interesting. We had a conversation about that at the Moray summit the other day. We have 20 Cairngorms National Park Authority rangers who will have the powers to enforce that byelaw. In due course, that will also be done through fixed penalty notices. There are also another 30 rangers in the national park, some of whom are grant aided by the park authority, others through the private sector. The equivalent in Moray is that they have one and a half rangers. We cannot simply replicate the byelaw in Moray if there are not the resources to enforce it. We are also paying for extra police patrols and such things within the Cairngorms national park. Once we have had a season of it and seen how it has worked, we will look at the resourcing point again; we are still in advance of the byelaw coming in and being able to use that information.

If we are looking to do something in relation to the access guidance around fires in the future—whether at different local authority levels or at a national level—we have to think about what resources need to be put in alongside that in order to make those changes. The key point is that it is not simply a case of putting something in; we also have to be able to enforce it.

The Convener: Is there a risk that awareness-raising campaigns simply make it look like things are being done? Is there any evidence that such campaigns actually prevent wildfires?

Grant Moir: We are doing a lot of work on a campaign, the whole point of which is about nudging people's behaviours. Such campaigns are aimed entirely at changing behaviours. This campaign will involve local people from the area saying, "I wouldn't start a fire, because"—followed by them saying why they love the area. It is about appealing to people with reasons as to why they should not ruin the area. Most people do not want to come to a national park, or anywhere else nice, and light a fire and cause a wildfire. They want to enjoy the place, and we can try to ensure that their behaviour changes a wee bit, so that having a campfire or a barbecue is not seen as the be-all and end-all. That is the key bit. The evidence shows that, if you get your campaigns right, they work.

Jon Henderson: From an FRS point of view, outside the sphere of wildfire, we have had very successful prevention campaigns and a very successful prevention journey over a number of years. Communication is one of the key things. As Grant Moir said, it is about the continual nudge theory and trying to move people. There are no silver bullets; no one thing will make all the difference. However, comms is a key part of the system.

The Convener: We have no further questions, which means that we are almost bang on time. It has taken me five years to do that. [*Laughter*.]

Thank you very much for the time that you have given us. This has been a hugely helpful evidence session and I hope that some of the comments and views that we have heard will help to form future Government policy.

I suspend the meeting for 10 minutes to allow witnesses to leave the room.

10:59

Meeting suspended.

11:09

On resuming—

Subordinate Legislation

Official Controls (Location of Border Control Posts) (Scotland) Regulations 2026 (SSI 2026/61)

The Convener: Our next item of business is consideration of three negative Scottish statutory instruments, which I will deal with individually. Do members have any comments on the first negative instrument?

I see that there are no comments.

Sea Fish (Prohibition on Fishing) (Firth of Clyde) Revocation Order 2026 (SSI 2026/95)

The Convener: Do members have any comments on the second negative instrument?

Ariane Burgess: I think that the committee broadly agrees that revoking the Clyde cod SSI was the right thing to do. We saw that from all perspectives during the committee's round-table meeting. It is important that there is something in place to protect Clyde cod. Ideally, there will be a new SSI early in the next parliamentary session that offers better protection measures. We need external scientists, such as those from the University of Strathclyde who came to the meeting, fishers and conservationists around the table, with the marine directorate, to find a workable solution.

From the letter that the cabinet secretary sent to the committee this week, we have learned that a science programme is under way, but it is my understanding that that does not include the academics from the University of Strathclyde, despite their having produced the most comprehensive research that we have on the condition of Clyde cod stocks. In light of that, I want to raise my deep concern about how meaningful the science programme will be. Without proper impartial science, it is unlikely that future protection measures will be effective.

Clyde cod is important because it is unique and because the Clyde could once again be a sustainable fishery, given the space to recover. To create a sustainable fishery, we need the Government to urgently review how it approaches science and to recognise the evidence from the scientists who attended our round-table meeting a few weeks ago. It is only with rigorous peer-reviewed science that we can begin to work out how to protect the Clyde cod and enable its recovery. The revocation of the SSI is important. It was a considerable effort on everybody's behalf to raise with the Government the fact that what it was doing was not working, but we absolutely need the right people in the room for the next steps.

The Convener: Thank you. I see that there are no other comments.

Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2026 (SSI 2026/57)

The Convener: Are there any comments on the last negative instrument?

Beatrice Wishart: I have a couple of comments on matters that arose in the consultation responses. First, Shetland Islands Council does not agree with some of the de-designations because, in 2023, around 84.3 per cent of the mussel production in the whole of Scotland took place in Shetland; it is a significant business there. The concern is about the mussel spat sites, so it would be helpful to have an understanding of the Government's position on that.

Secondly, although it did not disagree with the proposed designations, the response from Seafood Shetland referred to SEPA's monitoring programme, which it considers amounts to little more than reviewing data supplied by Food Standards Scotland. Seafood Shetland believes that that process does little to provide an informative and accurate picture of the true state and health of the wider shellfish water protected areas. Therefore, the committee might like to have an understanding of the Government's response to those consultation responses.

The Convener: Thank you. We can certainly ask for clarification.

Rhoda Grant: My comments are along the same lines. One of my concerns is that these areas are often fished by very small inshore fishers, who are not part of larger organisations. If we are writing to the Scottish Government, I would like to clarify with it that it has taken steps to ensure that anyone affected by the changes has been contacted and spoken to and that, if there is any displacement, steps have been taken to help them with that.

The Convener: Thank you. We can certainly do that.

Does the committee agree to make no recommendations on the instruments?

Members *indicated agreement*.

The Convener: That concludes our business in public and we move into private session.

11:14

Meeting continued in private until 11:29.

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