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Pàrlamaid na h-Alba

Official Report

# RURAL AFFAIRS AND ENVIRONMENT COMMITTEE

Wednesday 27 October 2010

Session 3

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## RURAL AFFAIRS AND ENVIRONMENT COMMITTEE
**22nd Meeting 2010, Session 3**

**CONVENER**

*Maureen Watt (North East Scotland) (SNP)

**DEPUTY CONVENER**

*John Scott (Ayr) (Con)

**COMMITTEE MEMBERS**

*Aileen Campbell (South of Scotland) (SNP)
Karen Gillon (Clydesdale) (Lab)
*Liam McArthur (Orkney) (LD)
*Elaine Murray (Dumfries) (Lab)
*Peter Peacock (Highlands and Islands) (Lab)
*Bill Wilson (West of Scotland) (SNP)

**COMMITTEE SUBSTITUTES**

Rhona Brankin (Midlothian) (Lab)
Jim Hume (South of Scotland) (LD)
Jamie McGrigor (Highlands and Islands) (Con)
Sandra White (Glasgow) (SNP)

*attended

**THE FOLLOWING GAVE EVIDENCE:**

Nick Bailey (Marine Scotland)
David Brew (Marine Scotland)
Dr Paul Fernandes (Marine Scotland)
Allan Gibb (Marine Scotland)
Richard Lochhead (Cabinet Secretary for Rural Affairs and the Environment)
Coby Needle (Marine Scotland)

**CLERK TO THE COMMITTEE**

Peter McGrath

**LOCATION**

Committee Room 1

# Scottish Parliament

## Rural Affairs and Environment Committee

*Wednesday 27 October 2010*

[The Convener *opened the meeting at 10:00*]

## Decision on Taking Business in Private

**The Convener (Maureen Watt):** Good morning. I welcome everyone to the committee's 22nd meeting of the year, and I remind you all to turn off your mobile phones and BlackBerrys, as they impact on the broadcasting system.

Our first agenda item is to decide whether to take in private item 4, which is consideration of the evidence on fisheries that we will hear today. Do we agree to take item 4 in private?

**Members** *indicated agreement.*

## Subordinate Legislation

### Beef and Pig Carcase Classification (Scotland) Regulations 2010 (SSI 2010/330)

### Sea Fishing (EU Recording and Reporting Requirements) (Scotland) Order 2010 (SSI 2010/334)

10:00

**The Convener:** Item 2 is subordinate legislation. We have two negative instruments to consider: Scottish statutory instrument 2010/330 and SSI 2010/334.

The Subordinate Legislation Committee has made no comments on either of the instruments, and no motions to annul have been lodged. If members have no points to make on either of the instruments, does the committee agree to make no recommendations on SSI 2010/330 and SSI 2010/334?

**Members** *indicated agreement.*

# Fisheries

10:01

**The Convener:** The committee will now take evidence on fishing opportunities for the Scottish fleet in 2011, in advance of the conclusion of current discussions among coastal states and of discussions within the European Union on quotas and fishing effort controls, which will be settled at the end of the year at the fisheries council.

I welcome the first of the two panels that we will hear from, which comprises scientists from Marine Scotland—Nick Bailey, fisheries management advice co-ordinator; Dr Paul Fernandes, sea fisheries group leader; and Coby Needle, fishery systems group leader.

I thank Nick Bailey for his submission, which we have all considered with interest. To maximise the time available to us, we will go straight to questions, if that is all right.

**John Scott (Ayr) (Con):** Good morning, gentlemen, and thank you for coming here again. I want to talk a little about maximum sustainable yield and about the commitment to move towards MSY by 2015 with our much depleted stocks. Is that commitment achievable? Is the implementation of measures reasonable, bearing in mind the scientific advice? Are the interactions within and between the groups of stocks good enough to support a premise that MSY can be achieved for all stocks simultaneously?

Those questions contained many points for you to discuss.

**Nick Bailey (Marine Scotland):** As at previous meetings, I will make a start. I will then give my colleagues the opportunity to add their comments.

We need to be clear that the MSY principle—talking about maximum sustainable yield and dealing with stock sizes—is one thing, but that the particular advice this year is on FMSY, which relates to the rate of removal of fish from the sea that is designed, if you like, to deliver MSY.

Mr Scott asked whether the commitment is deliverable. It is possible to control fishing activity and to regulate the sorts of things that go on, so moving towards FMSY by 2015 is potentially achievable for some stocks—depending, however, on the speed at which you do it, for example. We should not forget that some stocks are already being fished at FMSY. One of our classic stocks—the haddock—is an example of that.

Broadly, we feel that that is a good place to go. Scientists generally support it—for the long-term sustainability not only of the stocks but of the industries that depend on them.

Mr Scott also asked whether things could be achieved simultaneously among mixed fisheries. I detected some scepticism in the question, which is shared by many scientists. However, we have a long way to go to achieve systems that can truly deliver FMSY across a range of stocks. It is highly unlikely that we will reach a point in the environment at which all the stocks are simultaneously at MSY.

However, we are where we are; we are not starting fishing as a new activity. Historically, stocks have been in particular states. We are moving towards FMSY, and when we get to 2015 it would be useful and sensible to pause and see what actually happens. In all honesty, we have little idea about what the responses of the different stocks will be under the current environmental conditions.

**Dr Paul Fernandes (Marine Scotland):** The situation is not necessarily new. Stocks that have been at reasonably sustainable levels for several years—such as North Sea haddock, herring and mackerel—are all subject to management plans, which have been one of the success stories of the common fisheries policy. Those management plans are predicated on a consistent long-term yield that has an associated fishing mortality rate, which is very much on the lines of FMSY. In many regards, we are either already there, or we have aspirations to be there for the management plans. We are not dealing with systems that are completely new.

**Coby Needle (Marine Scotland):** I will add to Nick Bailey's comments by mentioning two key problems with the MSY approach. The first is whether you can estimate FMSY in the first place. With several stocks, it can be difficult to come up with a precise estimate for FMSY. However, if you are fishing at quite a high rate and all your estimates for FMSY are lower, that is a sufficient signpost that fisheries management should attempt to move into that stock. Getting tied up in questions of what a precise MSY estimate should be is perhaps missing the point slightly.

Nick Bailey also alluded to the big difference between ensuring that a fishery operates at a fishing mortality rate of FMSY, and expecting that fishing mortality rate to produce the maximum sustainable yield—the MSY—that is intended to go along with FMSY. It all depends on the existing abundance of fish, the existing biomass, and, crucially, the number of young fish that come into the population each year. Managers are not yet in a position to be able to do anything about that. All that we can do is advise on what the fishing mortality rate should be. It is then a natural process whether that actually generates MSY or not.

**John Scott:** Thank you very much for your paper, in which this point has been explained, but will you talk a little more about what is meant by FMSY? Somewhere in the paper you talk about F and a factor of 0.4. What does that mean? I suspect that others are not entirely clear about it either.

**Nick Bailey:** The fishing mortality rate—the F value—is a measure or descriptor of the rate of removal of fish from the sea. The formulation with a value of 0.4 means something in a particular kind of equation. It equates to something like just over 30 per cent of the stock being removed each year. An F value approaching 1 equates to something around 66 per cent of the stock, I think. It is not a linear scale, but it gives a flavour of how much fish we are taking from the stock each year.

You can come up with all sorts of values for F that you think are suitable harvest rates for the removal of fish. The faster you take the fish from the sea, the faster you remove the old ones, and you tend to end up with truncated populations containing lots of young fish. If you fish at a very low rate, you allow the fish to stay in the population and grow. There are benefits to that, but, of course, if you are not careful and if you leave fish in the sea for too long, they start to die of old age or get eaten by other things, and you will be forgoing some of your yield. The trick is to get a fishing mortality rate that provides some sort of optimum. FMSY is one of the approaches in trying to achieve that.

There are other targets that are related much more to economics. There can be an MEY—a maximum economic yield. In practice, that tends to be slightly lower than the maximum sustainable yield, but perhaps the discussion is becoming a bit too general. Do you want us to add more?

**John Scott:** No, that is probably enough. Is the generality of what you are saying that the sustainable catch is in the region of 15 to 20 per cent of the total biomass, although it varies from species to species?

**Nick Bailey:** It varies quite a bit from species to species. For some stocks, the figure is as low as that, but not for others. Coby Needle can comment, but I think that the haddock figures are a good bit higher than that.

**Coby Needle:** For haddock, the MSY has historically been higher than we might expect on the basis of the stock. That is because haddock depend on the occasional large year class that comes into the stock, which tends to sustain the fishery for longer than would otherwise be the case. With haddock, when there is a large year class and a lot of young fish come into the population, the trick is to try to sustain that year class for as long as possible.

**Liam McArthur (Orkney) (LD):** I thank the witnesses for their written submission. I suspect that the suggestion that management plans have been a success of the CFP might come as a bit of a surprise. You will probably find that one or two people in the industry would take exception to that. Perhaps the biggest problem in recent years has been the year-on-year fluctuations in the quotas and efforts. Does the fact that FMSY is not a new phenomenon suggest that we will be able to smooth out some of those peaks and troughs, or is the situation an inevitable product of what happens to the fish biomass, which means that we will have to continue to respond to that in the way that has proved to be problematic in the past?

**Nick Bailey:** I am afraid that your latter analysis is probably the closest to the truth. The situation varies from stock to stock. Taking the range of marine organisms, some show much greater stability in recruits, as we call them—the young fish coming into a population—than others. However, for a great many of our major fish stocks, I am afraid that fluctuation will always exist and we will have to live with it. There is a trade-off between the ability to control the catches on an even keel from year to year, which usually implies accepting that we will fish at a very low level through time, and a system that has slightly greater fluctuation, in which case fishing mortality can generally be a little higher.

Most of the long-term management plans, which, incidentally, are discussed with the industry during their establishment, contain some kind of total allowable catch constraint clause, which is often of the order of 15 per cent. That tries to reach a compromise between the wild biological swings and providing some stability.

**Liam McArthur:** I accept that the industry is involved in the discussions on management plans, but the problems are created because, having set that course, it appears that almost on an annual basis there is an attempt to dig up the roots to see whether the plan is working. There is an instantaneous response, but the science on issues such as causal effects does not become clear until slightly later. Is that lag factor in the scientific understanding likely to improve?

**Coby Needle:** One driver behind trying to fish many stocks at the FMSY is that, if they are fished at generally a lower rate from the current one, that builds in a buffer in the population so that, everything else being equal, such fluctuations are less likely. With fishing at a high rate, a lot of the fish are caught before they get old and can join the spawning population, so the fishery is directly dependent on the number of young fish that come into the population each year. Whereas, with fishing at a lower rate, some of those young fish that come into the population are allowed to get

old and therefore will contribute to the fishery for many more years than they would have done if they had been caught when they were very young. So, everything else being equal, with fishing at a lower rate, the yield will be higher in the long run and some fluctuations will tend to be smoothed out.

10:15

**The Convener:** I presume that the fishermen at the grounds cannot readily identify the amount of older fish as opposed to younger fish that they take. Can that be controlled by using the size of the nets that will let the younger fish out so that they can continue to grow and spawn?

**Nick Bailey:** Yes. For many fish species, size is a not unreasonable proxy for age. For the practical operations that take place on a fishing boat, the technology that we have at the moment cannot distinguish between age groups, but it can certainly do something in relation to size. That is how the mode of capture operates, even with long lines, in which adjusting the size of the hook can adjust the size and the kinds of fish that are caught. So yes, mesh size is one of the tools that our trawl fisheries can use.

**The Convener:** What are the others?

**Dr Fernandes:** Fishermen are aware of the distribution of different sizes of fish. At a certain time of year, they know that there is a spawning aggregation and a lot of older fish, so if they want to avoid older fish, they do not fish there. They also know where they are likely to catch younger fish at other times of the year in the nursery areas and so on. There is a distributional and temporal aspect to directing fishing effort, which can help in picking out one part of a population as opposed to another.

Obviously, that is not precise. Fishermen have to put down a net and see what comes up. However, it is not that random either. An experienced fisherman knows a lot about what he is likely to catch when he goes fishing.

**Bill Wilson (West of Scotland) (SNP):** I am curious about the maximum economic yield and the FMSY. If the maximum economic yield is greater or lower than the high fishing rate, is that related to fish size? Does that apply to current fish stocks? Are there any fish stocks now where the FMEY is lower than the FMSY?

**Nick Bailey:** I do not know whether my colleagues can comment, but I cannot give you specific examples. I am talking about the generalities of analyses and comparisons that have been done across the world. I am sorry; I do not have the information to hand to give you. I do not know whether the others do.

**Dr Fernandes:** As far as I know, we have never done an economic analysis, simply because, from theory alone, one would predict that MEY is at a lower fishing mortality. Because we are so far away from FMSY in many cases, and because it is such a controversial move to go there, no one has thought of going further and cutting fishing mortality to a theoretical MEY.

**Bill Wilson:** You say that it is a theory so, theoretically, why is the FMEY lower than the FMSY? One might think, "Well, you're taking more fish if it's FMSY." Is it related to fish size?

**Dr Fernandes:** It is more about the costs associated with more activity. The costs rise in an almost linear way. As fishing effort increases, it costs more, and there is a trade-off between the costs and the profits.

**The Convener:** We move on to dealing with specific species. John Scott has a question about mackerel.

**John Scott:** Mackerel is the most contentious subject, I think. I see that further negotiations start in London today around trying to resolve the mackerel wars that are upon us.

How might the current level of catches of mackerel impact on the future sustainability of the stock? I am talking about this year's catches, and the unauthorised catches.

**Dr Fernandes:** This year, the estimated catch is 930,000 tonnes, which is something like 60 per cent in excess of what the International Council for the Exploration of the Sea advice recommends. That is clearly unsustainable, and if that catch was to continue in absolute terms, the stock would rapidly approach unsustainable biomass limits within the next three to four years. Going back to our initial conversation, that catch represents a fishing mortality rate that is higher than sustainable. It equates to a fishing mortality rate of 0.31, when an F of 0.2 is considered to be sustainable. If we were to take fish out at the current rate of 0.31, as the stock decreased we would not take out 930,000 tonnes next year. We would take out less, but we would still be at extraction rates that are unsustainable. The stock would begin to decrease and, although projections vary, I would expect it to be five or six years before we got to precautionary limits. In either case, the amount being taken out at the moment is unsustainable.

**John Scott:** And do you say that the stocks will crash in three to four years in a similar way to blue whiting?

**Dr Fernandes:** It depends. At the absolute rates there would be an accelerated decrease, but under the relative rate—the 0.3—it would take a little longer to crash.

**John Scott:** So it is imperative that agreement is reached. Are you optimistic that agreement will be reached? Has anybody's position changed in that regard?

**Dr Fernandes:** I could not comment on whether that is a possibility. That is not a scientific issue; it is political.

**John Scott:** Will you give us some information on the record about why mackerel are available in Icelandic and Faroese waters? I know that the reason involves migratory patterns, but I am sure that you will explain it more elegantly than that.

**Dr Fernandes:** There has been a lot of talk about changes to migration, but that is not what we currently understand to be the case. By and large, the migration pattern is dynamic, and its timing changes subtly. One thing is sure: mackerel is a dynamic stock and it migrates a huge distance. The adults spawn off the coast of Ireland and down into the Bay of Biscay, but after they spawn in the spring they commonly all move in the summer into the Norwegian Sea. They spend the summer feeding in the Norwegian Sea, and then they move down into the North Sea in the autumn, where our fishery takes them. In later winter, they start their migration back down the west coast of the British isles, ready to spawn again in spring.

The month in which the events take place changes slightly from year to year, but there has not been a northerly shift or a significant geographic change in the migration pattern. The general pattern has stayed the same. What has happened, however, is that the stock is at significantly higher levels than it has been for the past 20 years. The spawning stock biomass size—the total weight of mature fish—is around 3 million tonnes, which is about 12 billion individuals. It is much bigger than it was before and it is occupying a larger area.

As the mackerel stock spreads in size, it cannot expand to the east because it is landlocked on that side, but we have noticed that there has been a westward expansion. There has certainly been a westward expansion when it spawns off the west coast of the British isles. For example, when we carried out an egg survey this year, we found eggs—the products of spawning—further west than ever before, way beyond Rockall. It is therefore not surprising that the expansion west also occurs when the mackerel go into the Norwegian Sea in the summer. The evidence that we have of distribution in that area is weaker. It comes largely from catches, and the provenance of those catches needs to be confirmed—indeed, I understand that European inspectors are looking at the Icelandic fishery to determine whether it really is catching mackerel. However, the evidence suggests that there is an expansion to the west, such that the Icelandic fishery is now able to catch mackerel in greater numbers than before.

To a certain extent, the mackerel has been a victim of its success, in that the stock has enlarged and expanded and now occupies a broader range of waters.

**John Scott:** You said that EU inspectors are checking whether Icelandic fisheries are really catching mackerel. Are you suggesting that the catch might not be mackerel?

**Dr Fernandes:** That was the suggestion from a couple of years ago, which is why the EU inspectors are making those checks.

**John Scott:** What stock of fish could it be?

**Dr Fernandes:** Herring and blue whiting also occur in that area at that time. The Icelandic fishery has traditionally been one for fishmeal; it would mash the fish up together and supply fishmeal, so it is slightly different.

**Liam McArthur:** I do not want to pit scientist against scientist, but there seems to be a discrepancy between what the Icelanders are saying about migratory patterns and what you are saying about an expansion in the stock.

Icelandic scientists were quoted in *Fishing News* last week as suggesting that what Iceland was doing was within the limit in the ICES guidance. What you are saying this morning flatly contradicts that; I would be interested to hear your view on the matter.

You suggested that the overall tonnage of the allowance this year was some 60 per cent larger than the ICES advice specifies. Not all of that is made up by the unilateral increase in TACs from Iceland and the Faroes, which would suggest that the other coastal states—the EU and Norway—are between them going significantly beyond the ICES advice on the stock. Is that a cause for concern, given what you have said about the health of the stock in general and the expansion over recent years?

**Dr Fernandes:** Yes. One of the current signatories to the agreement—the Faroes— has also taken a significantly larger quota than it had done previously. You are right: there are some small components from other nations that are in excess of what would have been expected.

Can you remind me of your first question, on the migration pattern?

**Liam McArthur:** The Icelanders seemed to suggest in *Fishing News* last week that what they had allocated themselves outwith the coastal states agreement was within ICES guidance. Your answer to that is presumably, "No, it's not."

**Dr Fernandes:** It is a difficult one to answer, because ICES does not allocate quota among nations; it simply sets the total amount that should be removed. If one nation that does not have a track record or a history of taking fish from that stock suddenly adds an additional quota of that magnitude, ICES can only point the finger and suggest that that is an unsustainable course of action.

**Bill Wilson:** With regard to your reference to fishmeal, it was suggested to us in previous meetings that the quality of the mackerel in Faroese and Icelandic waters is lower, particularly in terms of size. Is that the case? Might it change as the population expands?

**Dr Fernandes:** I am not entirely sure about the quality issues that are associated with those fish. I think it is more to do with the tradition of those fisheries and their access to markets, but I am not familiar enough with the quality issues to comment.

**Bill Wilson:** The suggestion that we received was that because the fish in Icelandic waters had been smaller in the past, they were more likely to be used as fishmeal, presumably because they could not be sold to fishmongers. Do you know whether that is the case?

**Dr Fernandes:** I cannot comment; I do not know about the composition of those areas.

**Peter Peacock (Highlands and Islands) (Lab):** You described the growth in the mackerel stock and how it is expanding. Can you say a bit more about why that is happening? Is it related to the decline of other species? Is the stock occupying territory that was previously occupied by other species? If it is not, will the expansion have an impact on other species?

**Dr Fernandes:** I would like to think that, as I mentioned before, it is one of the success stories of the management plan. At the start of the decade, the spawning stock biomass was at its lowest in the 20-year time series, and the F was at its highest—we had an F of about 0.45 in the early noughties.

As a result of various management measures, the F has gradually been declining, and it has now been at low levels—FMSY levels—for about four or five years. There has been an increase in the spawning stock biomass associated with that reduction in the rate at which fish is taken out. I suggest that the success in expansion has been entirely a product of the good stewardship of the stock.

**The Convener:** We move to the issue of herring.

**Bill Wilson:** The ICES advice says that the nine-year average recruitment of herring from 2002 to 2010 is half that in the previous nine-year period. Can you explain why there is a reduction in the recruitment of herring?

10:30

**Dr Fernandes:** No. It relates back to our earlier discussion. The value of stocks can go up as well as down. Ultimately, it is recruitment that drives the success of a stock once we are at fishing mortality levels that are sustainable such that fishing is not driving them so much.

In the case of North Sea herring, for nine or so years we have had levels that are, on average, just below what we would have expected in the previous 15 or 20 years. We have tried to consider various factors associated with the biology of the stock, but so far we have been unable to pin anything down. We do not think that it is anything associated with the productivity. Initially, we thought that there might be some sort of parasitic infection, but that has been ruled out. We are not clear why that reduction is happening.

**Bill Wilson:** We have also been told that there was

"a revision of the size of the 2006 year class ... The herring in this year class also grew larger and matured quicker than expected."

Why has that happened? For example, is it related to global warming? Is it likely to happen again in future?

**Dr Fernandes:** Again, we do not know why that has happened. It has been suggested that it is due to what is called a density-dependent effect, in that because there has been such low recruitment, the amount of food relative to the number of individuals in the sea is such that they are able to put on weight much more rapidly than they would have been able to do in the past.

**Bill Wilson:** Does that indicate that you might expect a few more years of accelerated size classes? If so, are you also expecting a greater level of spawning, and therefore perhaps an enhanced recruitment, with larger fish producing more eggs?

**Dr Fernandes:** The other comment to make about the estimates of weight and individual age is that they are quite variable from year to year. We can only really rely on empirical data—data that come from our own measurements. Forecasting that, which is the issue at hand, is quite difficult. We always have a forecast based on some average over the past few years, and we revise that forecast once we have some hard data. In this particular case, the hard data for the 2006 year class—and others—suggest that they have put on more weight than we expected. We do not necessarily know why.

**John Scott:** To go back to the fact that twice as many fish are now producing half as many young, who is looking into the potential causes of that? What research is being done, or is it just being accepted as a fact? Obviously, it is a matter of concern. Will you give me a fuller answer about what is being done?

**Nick Bailey:** I am afraid that we have limited opportunities to look into some of those interesting but extremely challenging issues. We have been posed that question once or twice before. I have to say that very little research is directed at that issue, much as we would like such research to take place.

**John Scott:** So your role really is to observe the trend rather than to do anything about it, other than to advise.

**Nick Bailey:** Unfortunately, it is not always possible to provide an explanation without diverting resources from one of our other assessment or survey functions.

**John Scott:** Could the European Commission or coastal states be considering that issue? If there was a problem in any other harvested stock of animals in the world, in that fertility was reduced by 75 per cent—if my arithmetic serves me well—it would be a matter for enormous concern. It is a matter of enormous concern for me that it appears that no one considers it important enough to do any research into why it is happening.

**Nick Bailey:** My understanding of the situation—Paul Fernandes can correct me if I am wrong—is that there is not a problem with the fertility of the fish. The problem is with the survival of the young fish once they reach critical stages. Various surveys of larvae at the very small stages suggest that, in many years, there are plenty around but they do not survive. The challenge of trying to sort out what is causing that in an area as large as the North Sea is a big one, involving enormous amounts of resource. It is the kind of project that the EU has funded in the past, through its various co-ordinated schemes involving several laboratories around big sea areas. However, I repeat the point that, at the moment, the challenges are so great in so many other areas of science that the problem has not been elevated to one of the most important, recognising that it would suck up an enormous amount of resource.

**Dr Fernandes:** I reiterate Nick Bailey's point. We had a look at the situation three or four years ago, as I mentioned, in examining parasitic infections. We did that because we have an idea of the productivity of the adult stock—the spawning potential—by monitoring the larvae as soon as they hatch from the eggs. A co-ordinated European larval survey takes place in the autumn and winter, which is used by the assessment to produce the figures. Those numbers suggest that the amount of larvae being produced is similar to the amount that has been produced for many years in which there has been a lot of recruitment.

What is happening over Christmas—we have pinned it down to that time—is that the larvae are dying. We have another survey in January, which looks at the post-larvae, as they are called—the small young fish that one can actually see—and the numbers are much reduced from our recruitment estimates, so there is a period of two months in which the larvae are not surviving. We had a project, which was partly funded by Seafish, that explored the theory that there was perhaps a parasitic infection of the younger fish over that two-month period. However, that was proven not to be the case and we have drawn a blank on that line of inquiry.

**Coby Needle:** I want to make a point that is not specifically to do with mackerel or herring but which will give you an idea of the scale of the problem. The difficulty in trying to forecast the size of the incoming year class—the recruitment number—has been well known as one of the key unsolved dilemmas of fisheries science for more than 100 years. Ever since it was first realised that it would be a problem, people have been chipping away at it.

An adult female cod, for example, will produce about 5 million eggs in a spawning season—that is, every single year. In order for that animal to replace itself and the accompanying male, only two of those eggs need to survive to adulthood. The fecundity of the fish is very large, but the mortality rate experienced by the eggs, larvae and juveniles is very high, and very small changes in the mortality rate between the egg stage and the adult stage are sufficient to lead to enormous changes in the number of young fish that enter the population each year. Only two eggs out of 5 million are required for the species to survive at its current level, but having only one egg out of 5 million surviving leads to a big difference in the subsequent recruitment, although it represents only a small difference in the mortality that is experienced by the eggs.

There is a long period of time between the eggs being spawned and the fish recruiting to the adult population. There is a lot of mortality, and very small changes in how that mortality operates are sufficient to lead to a large year class, a small year class or something in between. The issue is that it is very difficult to predict what the changes in mortality will be from year to year. In the case of a whale species, in which each female will produce a maximum of one pup a year, it is much easier to predict how many young will enter the population. When a species has high levels of fecundity and

mortality among its young, it is much more difficult to do that. That is the basis of the problem.

**The Convener:** I think that the fishing industry's perception was that the MSY approach could have allowed herring catch to increase, but it would have meant departing from the long-term management plan, so it was not done. That creates tension between the scientific advice and what the fishermen themselves are experiencing. Do you have any comments on that?

**Nick Bailey:** We touched on that earlier in the meeting. I think that Liam McArthur mentioned the year-on-year niggles and negotiation. When science, at the request of the Commission, produces a new set of advice—in this case in relation to FMSY—and the options include the wonderful carrot that it looks like you will be allowed to take several hundred more tonnes of fish than you could have taken under the method that you already have, that is clearly very attractive and people start to ask questions.

One difference between the FMSY prediction approach and sticking to the long-term management plan is that the long-term management plan contains some kind of consistency in catch from year to year, with the TAC constraint. If you start abandoning that, you could get into an awful rollercoaster of ups and downs.

It is not particularly a scientific issue but a management issue about which risks and options you want to take. The presentation this year of new advice in a slightly different format that gives a different value has clearly generated a discussion.

**The Convener:** Let us move on to cod.

**Elaine Murray (Dumfries) (Lab):** The ICES assessment of North Sea cod suggested that there had been a sharp increase in fishing mortality post 2007. You and the Centre for Environment, Fisheries and Aquaculture Science carried out an alternative assessment—you still think that there needs to be a reduction in fishing mortality to achieve the management plan, but you do not agree that there was a large spike in 2008-09. What is the explanation for the fact that your findings are so different from ICES's findings on that?

**Coby Needle:** I will answer that, because I was at the ICES working group in May. Scientists from CEFAS run the assessment, but what comes out of the assessment is essentially a working group decision. The working group could not reach a final conclusion on the ICES assessment. The report said that the update assessment was not accepted as the final assessment for 2010. The working group's suggestion was for further work to be done on the assessment over the summer to reach a final conclusion by about this time of year.

There was concern about the survey, which a number of countries in Europe run, in the third quarter of the year, which appeared to indicate a change in the distribution of the fish over time. The older fish in particular seemed to be moving further north than before. There is an issue about whether fish are moving outside the area of the survey, which means that they are being missed. That did not appear to be a problem in the first-quarter survey. All that stuff is going on.

There were potential issues with the Norwegians not being involved in the survey in 2009, although that seems to be a bit of a red herring.

There was also the problem that the indications from the survey were of a spike in fishing mortality in 2008-09. What apparently drove that was a large unaccounted-for mortality or removals from the stock. That particular assessment works on the basis of total removals from the stock, some of which is down to natural mortality, which is kind of partitioned off. Then there are landings, which we know about, because they are reported, and discards that we can estimate on the basis of our observer programme and the observer programmes from the rest of Europe. However, a substantial unaccounted-for proportion—about 50 per cent—of the total amount of removals could not be easily explained, even though buyers and sellers throughout Europe are registered, black landings are very difficult if not next to impossible and, with performance measurement system data and so on, it appears to be difficult to misreport anything.

10:45

Given that it could not easily explain the stock dynamic trends in the assessment and its concerns about the survey data that were going into it, the working group concluded that further work needed to be carried out on the assessment over the summer, which is what we have been doing in collaboration with CEFAS colleagues. We have been looking at different assessment models and CEFAS has been focusing on the survey data, but we are reaching very similar conclusions on what we think is a more representative assessment.

ICES, with its review process, advice drafting groups and so on, then took over and concluded that what the working group had presented should be accepted as the final assessment for North Sea cod. The assessment had been done in accordance with the process laid out for that particular stock and, according to the ICES review group, the working group had done what it should

have done and there should have been no concerns about the assessment that emerged. We do not necessarily agree with that part of the process, but obviously we cannot disagree with the conclusions of the working group, given our involvement in them.

The picture is complicated because of the number of different North Sea cod assessments that are going around. I guess that, when built into a subsequent forecast, they will all end up in more or less the same place and indicate that next year's quota should be reduced by, I think, 20 per cent. As far as I can tell, what happens with the quota decisions is not necessarily a function of the examination of which of the assessment models will be taken up as the final assessment. What is important is the perception of changes over the past couple of years in fishing mortality and in those unaccounted-for removals. If the strenuous efforts that have been taken in Scotland to reduce cod mortality and to avoid directed cod fishing are seen on the basis of the currently accepted assessment not to be working, that will raise issues within the European Commission and further afield.

That is really the driver for concerns about the existing assessment as accepted by ICES. The issue is not so much what will happen with the quota regulation, given that all the alternative assessments that we are undertaking with CEFAS come out with a 20 per cent cut—which is, in any case, the maximum cut allowed in the management plan.

**Elaine Murray:** Does all of this affect the number of kilowatt days that the white fish and nephrops fishermen are likely to be allocated?

**Nick Bailey:** There are two points to make in that regard. First, cuts in kilowatt days are associated with the North Sea route map on changes in mortality. In that respect, a further 10 per cent cut for 2011 is in the recipe book.

The second—and more uncertain—feature, which will be the subject of management discussions, relates to member states that have opted to use measures other than direct effort cuts. In our case, we have used article 13 in Council regulation 1342/2008, which has allowed us, for example, to run conservation credits. In principle, any such measures should be evaluated to assess whether they have done enough or have had the same effect as the effort cut, and if not they have to be corrected with further effort cuts.

The European scientific advisory body—the scientific, technical and economic committee for fisheries—has had a first look at the issue but, because of the difficulties associated with the assessment and in showing clearly the relationship between fishing mortality rate and fishing effort, it has found it difficult to advise on the matter. As a result, it is difficult to know to what extent there will be additional correction to the kilowatt days pots of member states. There is certainly a route map for at least 10 per cent cuts, until such time as F, the fishing mortality rate, comes down to 0.4.

**Elaine Murray:** Is the matter likely to be resolved over the next few weeks? Is progress likely to be made?

**Nick Bailey:** To update you, I can say that a letter has gone from the Commission to ICES, seeking a re-look at the assessment. We have sent to ICES summaries of the new results, and it has access to the raw data and the workings of the assessments. We understand that some other countries are similarly concerned and that they, too, have made representations. Beyond that, however, it is difficult to know where we have got to.

In a couple of weeks' time, the STECF will meet for its third autumn plenary session. The autumn plenary tends to focus on some of the issues that need clearing up before the end of the year. That plenary provides another opportunity to raise the matter as a serious point.

**The Convener:** When people go to the fishmongers at a certain time of year, they are astounded that they can buy cod roe, yet cod are supposed to be the most threatened species. I realise that cod are a bycatch sometimes, but would there be any point in saying that during the months of X, Y and Z it is not permissible to catch them, so as to allow more roe to mature?

**Nick Bailey:** Those measures are in the toolbox. Coby Needle touched earlier on the recognition that there are spatial patterns in spawning areas. One of the ideas behind the real-time closures component of conservation credits was that it would pick up aggregations of spawning fish, with the areas concerned being closed according to a rolling programme. Last year there were 144 such closures, quite a lot of which applied through the spawning period. That will have contributed, one would think, to stopping some of the capture. Nevertheless, real-time closures do not pick up all the spawning aggregations, and spawning fish are caught sometimes. I suppose that, once the product is on board, it will be marketed.

Closing whole spawning areas or shutting down the fishery for a period covering the spawning has serious implications for all the other fisheries in the mix. It has been discussed. Back in 2002, the Commission had emergency measures for a large closure in the North Sea through the spawning period, in order to stop the capture of cod, which was not particularly popular. Allegedly, it caused

movements of fishing activity into inshore areas, targeting young haddock and so on. There were unintended or other consequences as a result of those measures.

It is a difficult topic, but the protection of spawning fish is one of the tools in the toolbox. When people see the roe of those fish, they might indeed wonder what is going on. I can understand that.

**Liam McArthur:** We have covered quite a bit of the issue now. It is interesting that the conservation credits scheme has allowed some flexibility on how the management is operated through the technical measures and through the permanent and temporary closures to which you have referred. Ministers have understandably sought to draw attention to the effort that is being made on behalf of fisheries managers and the industry to respond to the challenges around stocks. The Government has not always found a faithful echo in the Commission, which has often tried to downplay expectations in this area. It seems from what you are telling us that you fall somewhere in the middle, with scientific disagreement about the impacts of the scheme. Clearly, however, if the scheme is not delivering in the way that we would want, there will be associated costs to the industry.

When are we likely to get a degree of clarity? We do not have clarity on the impact of the scheme from last year, and we presumably do not have clarity on the impact this year, and yet the consequences of not reducing cod mortality to the level that we want is not just a 10 per cent reduction in the North Sea but potentially a 25 per cent reduction on the west coast. That would be curtains for many in the fleet.

**Nick Bailey:** I can answer that. As part of the exercise throughout 2009, it was recognised that we had to collect a variety of materials to demonstrate progress in the Scottish scheme. We discussed the ICES assessment of the international scene earlier, and not everyone has contributed or played the same role as we have. Different countries have taken different approaches to the overall cod recovery plan. Scotland has implemented the method of conservation credits, and it was always clear that we would have to provide a justification. That took place during the summer at the STECF plenary meeting, when we presented a raft of information connected with real-time closures, the gear measures that were put in place and so on, with attempts to evaluate the contribution that they made.

For Scotland, one key indicator has to be a reduction in the quantities of discarded cod. Unfortunately, in the North Sea we have a record of rather high rates of discarding cod, so a key signal would be a reduction in that rate as a result of the range of activities that are taking place. The exercise performed before the STECF suggested that we have reduced discarding from 60 to 40 per cent. When we apply that to the ICES assessment and try to break down the overall mortality rate into the contributions by different countries and member states, against the background of the overall rise—which we still disagree with—we find that the Scottish partial F on the discard component has dropped substantially. No other member state has achieved anything like that.

**Liam McArthur:** Is there scope within how the regulation works to allow that granularity to be reflected in effort allocations for next year, or are we all sunk by the fact that the measures are not making enough of a difference across the piece?

**Nick Bailey:** At a talk at an ICES meeting earlier this year, I described the situation as another version of the tragedy of the commons. You have just articulated the risk that we do some good things that are lost in the big picture. Our argument is that we need to find ways to elaborate on the message of what our contribution has been and ensure that it gets through. However, providing that information is a serious challenge for all member states, and it is confounded to some extent by the fact that some member states unfortunately still do not provide discard or full catch information, which means that the calculations of the partial contributions are difficult to make. All that we can do is present our information as completely and openly as we can, present the good points in it, and keep banging the drum to show what we have done despite what might be seen in the overall picture.

We have discussed the alternate assessments, and Coby Needle mentioned the issue of perception. The assessments tend to suggest that, rather than rising, the fishing mortality rate has come down. The rate has not gone far enough, so we would all sign up to the fact that there is still a need to do more overall, but it has come down and stabilised at a much lower level than it was four or five years ago. Against that background, our contribution looks pretty good. We will continue to make that point and to try to devise ways to work, given the new results-based management. That is what we are talking about—in essence, the managers put down the challenge that, if we can demonstrate that we can do certain things, they will give us the provision and facility to do so. The challenge is to find the tools to present our case as clearly as we can, which is what we are trying to do.

**Liam McArthur:** I will take you on to catch quotas. You have illustrated some of the problems in taking action and talked about whether action is

rewarded through allocation of future effort or quota.

There has been disquiet about the implementation of closed-circuit television cameras and what they may achieve, but it is clear that that is the thrust of the approach that the Scottish Government is taking. Where might that approach go? What species could be covered? What about the reliability of the data that would be expected to flow from that?

11:00

**Nick Bailey:** I will start and then hand over to Coby Needle, if there is time to do so.

It is clear that things such as catch quotas have potential. It looks as if they could be a useful tool, particularly at this time, and it is clear that they are a possibility for stocks for which we have measurable discard information and for which there are forecasts for future discards. They can then be converted into a landed component, waste can be stopped, and discarding can be cut out. We are working on control and reliability, for example, particularly vigorously in the laboratory and with compliance colleagues, and we are trying to ensure that systems are produced that allow us to have confidence that new catch quotas will not be exceeded and will constrain mortalities inside the limits that we want them to be within.

**Liam McArthur:** I presume that there are application difficulties in a mixed fishery. To which parts of the fisheries can a catch quota regime be applied? How might that work? In the absence of other member states collating discard data—which, as you have said, undermines aspects of the conservation credits payback—will we butt up against the same problems with catch quotas?

**Nick Bailey:** The UK is not the only member state that has an interest in the matter; quite a number have signed up to the initiative. Therefore, I think that the days of discard data shortages are numbered. The situation will certainly improve, and a move towards catch quotas will accelerate that process.

It is difficult to make a judgment on the scope of such a regime in the mixed fishery. We see enormous potential, but we need to see the kinds of methodology that Coby Needle and his team are considering bedded down. I am talking about, for example, the ability to identify different species as they pass through conveyor belts on boats to ensure that everything that is seen can be recorded. I am sure that there is room for implementing various types of image analysis, but some measures are quite new and it will take some time. Therefore, it is difficult to give you a definitive answer. That said, we must put in as much effort as we can.

Coby Needle may want to elaborate on that.

**Coby Needle:** Last week, a colleague of mine was in Vancouver on a fact-finding mission in the British Columbia fisheries. Those fisheries are fully monitored by CCTV cameras. I think that catch quotas are in place for all species that are fished there. Such a system appears difficult to operate, but my colleague asked the fishermen whether they would go back to their original system, with no monitoring and the allowing of discards. All those in the industry in British Columbia said that the current system is much better, as they could demonstrate to their markets that they are not discarding and wasting fish but are using the resource to the best of their ability.

There is a very flexible individual transferable quota system in British Columbia, which needs to be seriously thought about here. If someone is fishing and they catch a lot of a particular species for which they do not have a quota, they will tend to phone around their community and say, "Can some of you guys either sell or lend me some quota?" There is a very flexible local market for quota. I think that the limit has never been reached for any particular species in the scheme's history. That is just as well, because any vessel that reaches the limit and cannot get quota from somewhere else would have to stop fishing altogether. That has never happened, because the ITQ system is very flexible. Of course, such a system is easier to operate there because of the single-nation fishery: people simply have to sort things out for themselves. That is more difficult in a European context. New Zealand, for example, also has a similar system.

To get something like that to work, we would need good compliance from the industry, full observation of what it does and a flexible quota system, however that would be operated. We would also need a hierarchy of penalties so that vessels that had no history of misdemeanours would have a fairly light level of observation—perhaps 10 per cent of the footage from their CCTV cameras would be monitored—but, if they were observed to be breaking the regulations in some way, they would move on to the next level of observation, which would be much more stringent.

I think that, in British Columbia, someone who is observed to discard fish that they are not allowed to discard is immediately moved on to 100 per cent monitoring and has to fund the costs of that monitoring. That system is very penal, but a much greater atmosphere of compliance has developed in British Columbia because the fishermen realise the benefits that come out of the scheme, such as marketability.

It is not enough to say that catch quotas will solve everything although, in theory, they are a

valuable tool in association with other changes to the management structure.

**John Scott:** Consider the problems on the west coast, where the stocks of cod and haddock virtually crashed. Although whiting is still most successful, major problems remain. This year, the Scottish Government submitted alternative proposals for technical measures, which it had worked up with the industry. What evaluation of those proposals has been done for the management plan, particularly for haddock in the west of Scotland fishery?

**Nick Bailey:** There are several points related to that question. I will get Coby Needle to deal with the haddock management plan, which is one issue.

A series of proposals concerning some of the technical measures has already been put to the European Commission. Even as we speak, scientists from the STECF are examining those proposals with a view to a judgment on them being given, we hope, within two or three weeks when the STECF meets.

Do you want more detail on the management plan, which is related to that?

**John Scott:** Yes. I want to know what action will be taken to try to start reducing or resolving the problem.

**Nick Bailey:** I described the evaluation that is in place, which relates to four issues. One is the proposal to change the bycatch regulation in the current rules, which limit the proportions of cod, haddock and whiting, in order to deliver a much more flexible system for haddock such that, if a certain proportion of the TAC was not used by a certain date, the bycatch limit could be relaxed for the latter part of the year.

The second issue is to do with relaxing the strict 120mm mesh for some vessels that target megrims particularly, because there is damage to fish in the larger meshes.

Changes to the regulation on the length of the square mesh panel for nephrops boats are wished for so that the smaller powered boats can have a shorter panel. That, too, is being evaluated at the moment.

The French line is also being re-examined. That necessarily involves quite a bit of discussion of French data as well, because it affects not only Scotland. Any movements to the French line to alleviate problems may create problems for another member state, so the Commission has turned that question around and asked for a review of the French line. That is in train.

Coby Needle can give you an update on how far we have got with the haddock management plan. A plan is certainly quite well described. I think that it needs to be adopted formally by the Commission and the Council of Ministers, but it is in train.

**Coby Needle:** In consultation with the north-west waters regional advisory council and the various industries and stakeholders that are involved, it was decided earlier this year that the draft form of the haddock management plan for the west coast would have more or less the same structure as the North Sea haddock management plan. Therefore, the basis of the management plan is essentially a target fishing mortality that is related to FMSY as best we can estimate it, and constraints on the amount that TACs can change from year to year.

Using computer simulations, Marine Scotland evaluated what was likely to happen if the management plan were implemented, and in its report to ICES suggested that there is a low risk of the stock becoming unsustainable. That is not to say that it would not happen, but as far as the risk analysis is concerned the risk is quite low. ICES reviewed the report and essentially agreed with its findings. At the moment, an analysis of the economic consequences of applying the management plan is being carried out by Seafish, I think, and will be presented to the STECF. ICES has given approval with regard to the biological risk analysis of the management plan; it is now in the realm of an economic risk analysis, but I do not know where we are with that.

**John Scott:** What is the timescale for implementation?

**Nick Bailey:** In our minds, the long-term management plan will be implemented as soon as possible, but I do not know how that will play out in the Council or whether it will end up as one of those measures that gets put to the European Parliament. The issue about the technical measures that I have described will not be resolved until next spring and will, I believe, be dealt with by the European Parliament, not the Council.

**John Scott:** Will you speculate on the current state of the cod and whiting stocks, given the dangerously low levels at which they appear to be?

**Dr Fernandes:** Your initial comment was right: all three gadoid stocks—haddock, cod and whiting—are in a parlous state on the west coast. However, the slight difference with haddock is that we have been able to demonstrate that fishing mortality in the stock has reduced in recent years and that the stock itself is suffering more than most from poor recruitment. That is just an unfortunate natural circumstance.

The issue with cod is slightly different. Because of the history of the catch data, we do not

necessarily know the fishing mortality of that stock. Moreover, cod stocks have also been subject to a high natural mortality that we suspect might be a result of the huge increase in the seal population over the past decade. Indeed, we discussed the issue with the committee last year and the situation has not changed. That very high total mortality is preventing the recovery of cod, which was at historically low levels in 2005. There was a slight recovery from one year class—2005, in fact—that brought things up a little bit, but levels are still very low and, as I say, we suspect that cod is being maintained at that level because of the high levels of natural mortality.

Whiting is in a similar state to cod in that it is at a historically low level, but we are much less certain about effects on the species. We introduced assessment procedures for whiting in line with all the other stocks only last year, which means that next year we should have a better impression of what is happening with it.

**The Convener:** Liam McArthur has a quick question. I point out that we have only five minutes to get two more questions in.

**Liam McArthur:** Great stuff.

Obviously, the safety valve for many west coast fishermen has been Rockall haddock and, to an extent, monkfish. There is a prospect of a cut of anything between 25 per cent and—as some have recommended—almost 50 per cent in next year's Rockall haddock quota and we are seeing cuts that, although smaller, are still cuts in the monkfish quota in the North Sea, although there has been a roll-over in the west coast. What observations can you make on the scientific evidence on Rockall haddock and on monkfish? Has the situation with monkfish, which has been patchy up to now, improved and is it likely to improve more?

**Nick Bailey:** I ask Paul Fernandes to respond on the question of monkfish and to talk about megrim, which I am not sure that our submission says much about. Coby Needle will comment on Rockall haddock.

11:15

**Dr Fernandes:** On monkfish, there is light at the end of the tunnel. We have much better information now as a result of Scottish initiatives. We have a dedicated industry-science survey, which has been running for six years, so we have good information. The picture is a little mixed. At Rockall and on the west coast, the indications are that the biomass is being sustained, but in the North Sea abundance and biomass have declined, so the recommendations might be for a cut in the North Sea area. Although that assessment process is not a formal one in the ICES tradition, it has been made with a lot of industry input. Because of that, monkfish is the one stock on which there is no debate. The industry is not happy with the situation, but it is happy with our evaluation of the situation in the North Sea. It recognises that the biomass has declined in the North Sea. On the west coast, the biomass has been sustained. I do not expect a change to the monkfish quota on the west coast or at Rockall—not that that distinction will be made.

On megrim, on the basis of Scottish and Irish initiatives, we have been looking at the picture with industry-science surveys. The situation in the North Sea for megrim is pretty much the status quo, but on the west coast it looks as though there has been sufficient biomass increase to suggest an increase in the quota. So, there is good news on megrim for the west coast.

**Coby Needle:** For Rockall haddock, the assessment this year indicates that the fishing mortality rate is very low and is below what we consider to be a proxy for FMSY. However, as with other gadoid stocks on the west coast, recruitment has been lower than expected for a number of years, so even with a very low fishing mortality rate, the spawning stock biomass in that stock is declining and will do so until we get another substantial recruitment. It is not clear why the low recruitments are occurring.

Another issue with Rockall haddock is that it is a mixed fishery that includes the Russian fleet. Members might be aware of the history of negotiations with Russia to try to generate a joint management plan for Rockall haddock. The Russian fishery is different from the European one—it is more industrial and has very small-mesh nets. The Russians keep everything they catch, whereas our industry has larger meshes and a history of discards. It is therefore difficult to bring the two fleets together and manage them jointly. We have been working on that for 10 years. Following a meeting in Edinburgh in September this year, a draft management plan is on the table and is being discussed. It is probably one step behind the situation with haddock on the west coast, because we have not had the sort of scientific evaluation that we require of that management plan. However, at least the Russians have agreed that there should be a draft management plan, which is one step forward. A major benefit of having a management plan is that we will not get the large 50 per cent fluctuations in TAC.

**The Convener:** Finally, we come to nephrops.

**Peter Peacock:** On west coast nephrops, the market for the product has declined substantially because of the recession, so fishing effort has declined, too. As I recollect matters, the effort has been below quota for a number of years, but there is a recommendation of a further 15 per cent cut.

At one level, that would be a cut only on paper, but if the recession ends or trading conditions become better, will that 15 per cent cut begin to have a material effect on the fishery and its economics, given the trends in past catches?

**Nick Bailey:** It is difficult to answer that, because there are a lot of ifs and buts. We should remember that the move to the 15 per cent cut is a move towards fishing at the FMSY, which we believe in the long term is a good place to be. Any difficulty that is created must be balanced against the fact that, recently, most of those stocks have been at among their lower levels in the cycle, but they have been a lot higher and there is no reason to suppose that the cycles will not continue and we will not have good abundance again. In that case, within a couple of years, we might be predicting increases in TACs, even though we are fishing at that new lower level. I do not think that the prognosis for nephrops is too bad. We just need to hold our nerve. If a cut of that kind is required, harsh as it sounds, given the current limitations in markets, it is, in a sense, not a bad time for it to happen.

**Peter Peacock:** Given that the fishing effort has reduced because of market conditions, is any monitoring done of the impact of that lower effort on stock recovery?

**Nick Bailey:** The stocks are surveyed every year using underwater television systems. There is no question that the stocks need recovery—most of the stocks that we are talking about are cycling in a perfectly acceptable way that is well above their biomass trigger, or the point at which more serious action needs to be taken, so there is not an issue of recovery.

**John Scott:** We understand that the clear scientific advice is that the stocks should be managed stock by stock, rather than as a total. Why is that not happening?

**Nick Bailey:** There are a variety of reasons for that. That is a question for managers and industry discussion about the benefits of moving to such a system. The clear indication from the science is that the stocks would benefit from being handled individually. There are some examples of nephrops stocks—mercifully, not in our waters at present—in which there have been issues and problems and the stocks have shown some decline. In one or two cases, that is a result of uncontrolled activity moving into an area. That is the kind of thing that the science is advising we should try to avoid. There is a variety of ways of achieving that. ICES gives advice on TACs for those stocks, and the interpretation of that is that it means individual TACs.

Other tools could be used. For example, activity or effort regulation on grounds is another route. However, the issue will take some time to discuss, because the industry has built up expectations of where it can go, what it can do and what its total allowable catch portfolios are. Those have to be factored into the discussions about which is the best tool to achieve more localised management. The answer is that it is a slow process, but it is going on.

**John Scott:** Is there a lack of political will on the part of ministers to make that happen, given that it should happen?

**Nick Bailey:** I am sorry—I cannot comment on that.

**John Scott:** Possibly not.

**The Convener:** That has exhausted our questions. The session has been extremely informative. I thank our witnesses very much for attending. If there is any other information that you think we need to know quickly, please provide it to the clerks.

I suspend the meeting for a five-minute comfort break.

11:23

*Meeting suspended.*

11:29

*On resuming—*

**The Convener:** I welcome the second panel to give evidence today. Richard Lochhead MSP, Cabinet Secretary for Rural Affairs and the Environment, is joined by Nick Bailey, who is with us again in his role as fisheries management advice co-ordinator; David Brew, head of sea fisheries; and Allan Gibb, head of sea fisheries compliance and licensing—all from the Scottish Government.

We move straight to questions, and Peter Peacock will start.

**Peter Peacock:** CFP reform appears to be as elusive as ever. It is like the search for the holy grail. It is about 18 months since the green paper came from the Commission, and the Scottish Government has given its response to that. Cabinet secretary, it would be interesting to hear your perceptions of how the Scottish Government's position has been received, and of the direction of travel on CFP reform that you detect.

**Richard Lochhead (Cabinet Secretary for Rural Affairs and the Environment):** I thank the committee for the opportunity to come along this morning. I will do my best to answer members' questions. I hope that the committee saved all the

scientific questions for my colleagues who were on the earlier witness panel.

We have a golden opportunity to reform European fisheries management, and I know that we have cross-party support in grasping that opportunity and changing some of the regulations that have done so much damage to our fishing communities during the past few decades.

Peter Peacock is right to say that it is now quite a few months since the green paper was published. Since then, there has been a lot of engagement between the Scottish Government, other member states and the European Commission around the fact that we want to see radical changes to fisheries management, and that we believe that the common fisheries policy has failed. One refreshing aspect of the green paper was the fact that it acknowledged that the CFP has failed, which was quite a good starting point.

Our driving principle is that, as long as there is a common fisheries policy, we want to decentralise as much of the decision making as possible. We have made a lot of effort to engage other member states and to recruit their support for decentralisation. We have met a number of those states at EU fisheries councils and at events that have been held here in Scotland. As recently as two or three weeks ago, we hosted a conference in Aberdeen of North Sea fisheries ministers, at which we discussed two things. The first was our ambition to decentralise decision making, and the second was changing the way in which fishing is managed by introducing catch quotas and other measures. I am sure that we will come back to talk about those shortly.

My feeling at the moment is that there is a lot of support for decentralised decision making among some—but not all—member states. Some member states are being very cagey, but I think that there is an appetite for it among North Sea member states. I also think that the Commission supports the idea of decentralised decision making.

The Commission also appears to be enthusiastic about agreeing some of the general aims of fishing policy at EU level, with the detail of achieving policy aims and reaching targets being agreed on a regional basis by member states. That is a good direction, but I detect that the Commission does not yet know how to achieve that, given the constraints of the treaties. A lot of work is being done at Commission level to identify how, within the current legal regime and under the treaties, it can find the flexibility to allow more decisions to be taken at the regional level.

**Peter Peacock:** Does that have an impact on the timescales that are envisaged for making some progress? Are we looking at a longer timescale, or is there a defined time within which decisions should be made?

**Richard Lochhead:** In Brussels in November, there will be a gathering of stakeholders and, no doubt, representatives of Governments and Administrations across Europe. I hope that that conference will give us a better idea of what the Commission is proposing. The communication that will give us the first indication of what the Commission envisages for the future of the CFP will probably come in March or April. That is the current timetable, and there is no indication that it will change because of some of the Commission's difficulties in identifying how to decentralise fishing policy.

**Peter Peacock:** That is very helpful. Thank you.

**The Convener:** Let us move on to fishing opportunity and the future of the Scottish fleet. The *Fishing News* reported that about 40 boats have accepted an offer of a Scottish Government grant to be scrapped. At the meeting on 6 October, Bertie Armstrong was asked about that, and he explained that it was needed to help the remaining vessels stay viable. What would have happened without that scheme? Why does the Government need to intervene instead of allowing natural wastage to occur?

**Richard Lochhead:** The question is fundamental to the future of our fishing industry and our white-fish fleet, which has gone through a torrid time in the past 10 years and particularly the past couple of years, when we have had the combination of the draconian restrictions that the cod recovery plan delivered, which have had a big impact on that fleet, and the recession, which has had an impact on prices for the white-fish and prawn sectors. I do not need to tell any member of the committee that the past couple of years have been difficult for a number of vessels—but by no means all—in the fleet.

We have had to cope with the days-at-sea regime and the restrictions that the cod recovery plan imposes on the North Sea. Of course, the recession has led to a decline in prices, particularly for the prawn fleet in overseas markets. That has all compounded many of the challenges that face the white-fish fleet.

We have had to work closely with the fishing industry in 2010 to ensure that the vessels that were suffering the most could get through the year. In the discussions, we asked the fishing industry for its ideas. One idea from the white-fish fleet—of course, the prawn fleet had a view on the proposal, too—was licence parking, which allows businesses to amalgamate to cope with rising costs and reduced fishing opportunities.

We now have such a scheme, which we are funding to the tune of £8.1 million, and 41 vessels

have applied to it. That scheme will allow business amalgamation when businesses feel that that is in their interests and want to cut costs and combine the fishing opportunities and effort of perhaps two or three vessels in one vessel. That allows existing fishing entitlements to be spread throughout the year and costs to be cut, which is good for the business. When businesses that had perhaps two vessels want to have just one, or when two businesses come together to form one business, that removes the cost of one vessel. The scheme is essential to help the bottom line and profitability of businesses that feel that it will benefit them. It should also help the wider sector's profitability.

**John Scott:** What will happen to the quotas of decommissioned vessels? Will skippers be obliged to sell quotas or will they be able to continue to lease quotas to other boats?

**Richard Lochhead:** The scheme that we are funding is different from previous schemes—it is not a decommissioning scheme per se. Vessels might be removed, but fishing entitlements and capacity will be transferred to remaining vessels—for instance, the effort that was allocated to two vessels would be amalgamated for one vessel.

Previous decommissioning schemes tried to remove capacity, whereas fishing capacity will largely remain under the new scheme. The fishing effort will be similar, because we are not decommissioning fishing effort. The quotas and effort will be available to the vessels that have the combined licences.

The licences for the vessels that are being scrapped will be suspended and made available again in 2016. If, as we hope, fish stocks improve in coming years, and if people have a case for reinstating some vessels—if people want to buy a vessel or to have an extra vessel for their business and need a licence for it—the licences that have been surrendered under the current scheme will be made available.

**Peter Peacock:** I have a small point. The arrangement that you describe makes eminent economic sense for the businesses that are involved. What impedes them from taking such action anyway, without a Government scheme or incentive?

**Richard Lochhead:** That relates to the ability to transfer effort from one vessel to another.

**Peter Peacock:** That effort attaches to a specific vessel.

**Richard Lochhead:** Yes. The effort would be attached to the licence that was removed from the vessel. Basically, licences are being amalgamated. The financial support helps with vessels.

**Peter Peacock:** Will that help with new vessels or just decommissioning?

**Richard Lochhead:** The help is to remove a vessel.

**Peter Peacock:** Is that because a debt might exist on the vessel?

**Richard Lochhead:** Yes. Businesses can get up to £250,000 to help them remove a vessel. For example, two businesses may decide to become one business, or two skippers may decide to share one vessel. There are different models. The financial help would help with removing one vessel, and the legislative help, if you like—the Government's intervention—would help to amalgamate the licences.

**Peter Peacock:** I guess that in other sectors of the economy, people would be expected to have to bear that cost. I am interested in why we need such a financial incentive if it makes business sense to do what you are suggesting anyway.

**Richard Lochhead:** Some businesses are taking advantage of the ability to transfer their effort to one vessel—they are taking advantage of the scheme but they do not require the financial help. The financial help is available for businesses that require it, but if a skipper feels that he can sell his vessel and get more money than we are offering him through the scheme, he can do that and can still take advantage of the scheme by amalgamating his effort.

**Liam McArthur:** There has been quite a bit of interest in taking up either the element of transferring the effort or the financial support. Has that interest been concentrated on a particular component of the white-fish fleet, in terms of size, regional spread or whatever? Can you give us any sense of the impact of the licence parking scheme?

**Richard Lochhead:** I will check with officials whether we have the breakdown in front of us, but the applications have come from across the white-fish sector and the prawn sector. Certain sectors can apply, but within those sectors there has been a spread of applications. The applications have not all been for white-fish vessels, as there have also been some for prawn vessels. Although, for obvious reasons, a fair number of the vessels are from north-east Scotland, there is also a geographical spread among the applications.

**Liam McArthur:** It would be interesting if you could provide the committee with the figures. The implications for the shore-side component of the industry will be interesting.

**Richard Lochhead:** I will send the committee a formal note, but the split between the industry sectors is roughly as follows: there are 16 white-fish vessels, 24 nephrops vessels and one scallop

vessel. That gives you a brief breakdown, but I will give you the figures and the locations of the vessels in a formal note.

**John Scott:** I am interested in the business model of providing £8.1 million to people who are essentially leaving the industry. Do you see that being rolled out in, for example, agriculture, where single farm payments could be transferred to another farmer?

**Liam McArthur:** Are you declaring an interest?

**John Scott:** I declare an interest—thank you, Liam.

Do you see potential for farmers parking their single farm payment with another farmer for five years until there is perhaps an upturn in the industry? That is a very similar scenario. Have you given consideration to extending the scheme to other areas of industry, as Peter Peacock hinted?

**Richard Lochhead:** As you will appreciate, the two regimes are completely different. Single farm payments are largely determined by EU legislation. We also have to abide by EU legislation in relation to how we use the European fisheries fund for the scheme that we are introducing. However, as long as it comes under broad headings, we have the flexibility to use the resource for that purpose. Farming and agriculture legislation is different. Of course, £0.5 billion of single farm payment goes to the agriculture sector, whereas there is no direct support for the fishing sector, so you are not comparing like with like.

**The Convener:** You mentioned that recipients of parked licences may be able to revitalise them after 2016 and may be able to build a bigger boat if the prospects in the fishing industry are better. What payments do people make for the parked licence? Is the scheme effectively the same as a tie-up scheme? Is it value for money in comparison with permanent decommissioning?

**Richard Lochhead:** We think that the scheme is value for money, which is why we have introduced it. It is about underpinning the profitability of the white-fish fleet, because helping X number of businesses is still to the benefit of the rest of the sector. Of course, the scheme also benefits the onshore sector by allowing the remaining vessels in the fleet to be profitable. It is about looking at the white-fish and nephrops fleets as a whole and trying to intervene, in this case at the request of the industry itself, to benefit their profitability.

As I said, the scheme involves scrapping vessels, but it is not a traditional decommissioning scheme because the licences will not be permanently removed from the industry. Existing fishing entitlements will remain. They will just go to the one business that is amalgamating. In effect, the licence is being suspended. We have said that, if the conditions are right, they can be reintroduced in 2016, so those who have surrendered licences will be able to apply for them again. Of course, they will have to buy another vessel at that time, if they can afford to do that.

11:45

**David Brew (Marine Scotland):** Perhaps it will help if I explain that the conditions of grant are such that, if someone wished to revive a licence once the first five years were up, they would be required to repay the full grant with interest in order to exercise that facility. The condition of providing grant to the vessel owner is that, if they wish to revive the licence entitlement in due course, the full grant must be repaid with interest.

**John Scott:** What is the rate of interest?

**David Brew:** It would be determined by the public sector borrowing rates, as I understand it.

**John Scott:** Thank you. On the broader picture, cabinet secretary, what does your crystal ball suggest might happen to the white-fish and nephrops sectors? Regrettably, I am not optimistic that the boats will return in 2016. Do you share that view? Will those sectors go in the same direction as the pelagic sector and be concentrated in the hands of fewer and larger boats?

**Richard Lochhead:** From my experience of three and half years of doing this job, I have two things to say. First, as has been touched on in previous answers, we need some fundamental changes to fishing policy to help to conserve fish stocks. That is essential. Secondly, I put my hands up, as I hope every other politician in the Parliament would do, and say that, in the past 10 or 11 years of devolution, we have spent so much time discussing regulations and coping with the common fisheries policy and what it foists on Scotland that we have perhaps taken our eye off the ball in terms of the market for seafood. Ultimately, what matters for any business is its income, its outgoings, its profit and its bottom line. That is influenced as much by the market as it is by regulations and by how much quota is allocated to a vessel.

We have lots of examples of where quotas go down—of course, there are lots of analogies in the agriculture sector—but value and profit go up. We do not pay enough attention to that. We have to be honest and say that the days of high-volume landings are over for the foreseeable future. People in the industry are the first to acknowledge that, in the past, the pile them high and sell them cheap philosophy has been evident, and it has not been the best philosophy. At a time when quotas are not what they used to be, we have to change

our mindset and look at what we are getting for what we land in Scotland. Because we land fantastic seafood, we should put a lot more effort and resource into getting much more value from that. Ultimately, a fisherman should not have to go to sea 365 days a year and land lots of fish at the quayside to make his living; he needs to get good value for what he is landing.

**John Scott:** So better supply chain management and catching for the market has to be the way forward. Do you foresee more co-operation between boats, or even the formation of vertically integrated co-operatives? We discussed that with Bertie Armstrong last week. Do you see that as a possibility?

**Richard Lochhead:** Yes. I and the Government have put in a lot of effort in the past year or two to try to get that much higher up the agenda. We have funded consultancy work—at significant expense—for the industry, which has very much welcomed that. We have been doing our best to bring the processors and the catching sector closer together, involving, of course, the retailers as well. You are right—improving the supply chain relationship is the key to the seafood sector getting much more value from the marketplace. There is a lot of good work going on across the industry to improve the supply chain.

We could arrange a presentation for the committee on this, because I think that you would find it very interesting. The consultant, who deals with global supply chains, told the industry that, in all his experience of dealing with supply chains in different sectors across the world, the most disjointed one—the one that was missing out on a huge economic opportunity—was sea fishing in Scotland. There are a lot of historical reasons for that. We are talking about hundreds if not thousands of individual businesses, so there is a lot of competition. The catching sector in particular has traditionally been comprised of small, competitive businesses and it has not always been in their interest to co-operate. However, we have seen the impact of the recession in the past couple of years. Given that we have reduced quotas, without the high-volume landings that we used to have in the 70s and 80s, it is time to change.

**John Scott:** I utterly agree with you.

**Peter Peacock:** I want to follow up what you said, cabinet secretary, which is interesting. You recognise the realities of where we are for regulatory and market reasons. Equally, however, it is important for people to think through what that means for the shape of our fishing communities. The traditional view is of harbours jam packed with small boats, which are all trying to make a living and which have been making a living in that way for many decades, but in future we can expect far fewer boats. Does that imply that there will be larger boats, as John Scott said? Will there be a move to be more like the pelagic sector, with a few very large and very efficient boats, which effectively concentrates the business and the wealth in fewer hands? Is that trend inevitable?

**Richard Lochhead:** That will very much depend on the pace of change in fishing management and policy. The sooner we change some of these policies, the sooner we can put the fleet in Scotland on a much more stable, sustainable footing.

It also depends on the extent to which our fleets remain diverse. The solution for a prawn trawler in Stornoway is radically different from the solution for a large white-fish vessel in Fraserburgh or Orkney. There is no one-size-fits-all solution. It is not as simple as saying that there have to be fewer but bigger vessels in the future. That might be appropriate for some sectors and some businesses—some businesses own lots of vessels and they might find it more efficient to have fewer, bigger vessels.

One issue that is difficult to articulate when there are economic difficulties and lots of restrictions is that many vessels in Scotland are making a handsome profit. We hear from the vessels that are suffering, but in any industry there are better businesses and not-so-good businesses. There are lots of vessels that have got their act together and are making a good profit. They put a lot of emphasis on the quality of their catch and they get more money in return from the processors and the markets. Those businesses are doing well, and they are not volume driven. More and more fishing businesses want to go down the road of concentrating more on quality, rather than just quantity.

**Aileen Campbell (South of Scotland) (SNP):** I want to get your thoughts about the way in which the Commission is implementing the maximum sustainable yield. Do you think that 2015 remains a realistic target date for all stocks?

**Richard Lochhead:** That is a good question. The obligation to achieve maximum sustainable yield by 2015 underpins the cod recovery plan, which I believe is seriously flawed—I do not think that it is delivering what it is supposed to deliver. Although in principle it is a good thing to have targets for getting all stocks on to a sustainable footing, what is difficult is the lack of flexibility in how to get there. At the moment, the MSY targets are often in ranges. We do not have to achieve a particular target by a certain date; we have to achieve within a range by a certain date, which gives us a wee bit of flexibility.

The way in which we achieve the targets is the key. If we do not have flexibility, we will not

achieve them. They are ambitious targets that we signed up to through international treaties back in 2002; here we are in 2010 trying to use current circumstances to achieve 2015 targets.

**Aileen Campbell:** There has been a mixed response from the industry. We have heard that it has not yet seen the benefits of the move towards MSY, even in those cases in which quota increase would have been in accordance with MSY. How do you respond to that? When can the industry expect to see a benefit from MSY?

**Richard Lochhead:** Again, it comes down to how we achieve the 2015 target. At the moment, we have a rigid cod recovery plan. We have maximised the flexibility that the plan gives us in Scotland, but we need more flexibility. The plan does not reward those countries that make a disproportionate contribution to cod recovery. That is wrong. It is vital that the negotiations this autumn reward the Scottish industry, which, in the case of cod, has made a disproportionate contribution to stock recovery.

Of course, the cod stock is going in the right direction—it is recovering—but, as you rightly say, according to the 2015 target it is not getting there fast enough, which is why we still face a potential cut in the cod TAC for Scotland.

**Aileen Campbell:** We heard evidence from the previous panel about activity in British Columbia, where there has been a sort of trading of quotas. If a vessel has caught a particular type of fish that is not part of its quota, it can call up another vessel and say, "I've got this. Can I use some of your quota?" What is the Scottish Government's approach to discards?

**Richard Lochhead:** This committee and most rational, sensible people would agree that discards are the biggest blight on the common fisheries policy. Right now, for instance, more cod is being discarded in the North Sea than is allowed to be landed in the whole of the United Kingdom. At a time when we are supposed to have a cod recovery plan, we have policies that are forcing us, as we all aware, to throw the stock back into the sea dead, which is a complete economic and food waste. We want to eliminate discards as soon as possible. It is not simple—there is no silver bullet to achieving that—but the right approach is if we all sign up to try to stop that waste.

Catch quotas are proposed as one way in which we can reduce discards in the North Sea and our other waters. The question then is how that can work and how it can be viable for the vessels that participate in a mixed fishery. At the moment, about 17 vessels are participating in the catch quotas pilot in Scotland, which we think has been successful. More important, the boats involved think that it has been successful. The aim is to stop discards of cod. We feel that there is a strong case for expanding the pilot, because the benefit of catch quotas that are available for cod at the moment is that you can have a system in which you can catch less but land more. By stopping discards, you can take fewer fish out of the sea in the first place. Because there are no discards, not only do you leave more fish in the sea but you can allow vessels to land more of what they catch. That is what the catch quotas are all about. In return for not discarding, vessels are allowed to land more of what they catch. The fact that they catch less in the first place helps the stock to recover. We see that as the future.

On how that would operate in practice, the example you highlighted is an extremely good idea. At the moment, there are catch quotas for cod. If one quota is exhausted, people must stop fishing completely. If we extend catch quotas to haddock, which is another key North Sea stock, and, at some point in the future, to whiting, there may be a way of building in real-time swaps among vessels at sea. If someone exceeds their quota, there may be an opportunity for another skipper to allow them to use part of that skipper's quota to bring whiting ashore, so that they continue fishing for the other stocks for which they still have quota; I hope that that explanation makes sense. It is worth exploring real-time swaps at sea and trying to put them into practice in the future.

**The Convener:** Liam McArthur has a question about mackerel.

**Liam McArthur:** It may make sense for me to stick with catch quotas and to come back to the issue of mackerel.

You have touched on the proposals to extend catch quotas to haddock and, possibly, whiting. Earlier this month, Bertie Armstrong was quoted in the *Fishing News* stressing the importance of close liaison with the industry on those proposals. Can you set out in more detail what is proposed for 2011 and the feedback from the Commission that you have received at commissioner level, or which your officials have received at official level?

12:00

**Richard Lochhead:** We have spent a lot of time trying to persuade the Commission that there must be fundamental changes in the way in which the cod recovery plan is implemented. I think that we are making progress on that. We see catch quotas as one fundamental way of changing the plan. Our aims at the autumn negotiations are to be given the opportunity to expand catch quotas in Scotland, because the scheme will work only if there is a reward for the fishermen who participate. That reward must be negotiated. If an

increase in quota is to be given to those fishermen who participate, as a reward for participating in stopping discards, that must be negotiated through the EU-Norway negotiations and within the EU. We cannot do that without the EU's and the commissioner's support.

We want to negotiate the ability to expand catch quotas and to extend them to new species and stocks. The obvious one is haddock. Under the management plan for haddock in the North Sea, we face a 5 per cent cut, at a time when more of the haddock quota is being caught. Clearly, the more the quota is reduced, the more it is caught. In some past years, not all of the quota was caught; in such cases, cuts do not make much difference, because not all of the quota is caught in the first place. However, as the years go by, we are catching more and more of our haddock quota, because it is becoming slightly smaller under the management plan. Catch quotas offer one opportunity to increase the quota that is given to vessels that participate in fishing for haddock.

**Liam McArthur:** So haddock is the stock for which you would like to introduce catch quotas in the next couple of years.

**Richard Lochhead:** Whiting is also a candidate. We are in the middle of discussing with the industry our preferred negotiating stance. The inclusion of more stocks in the catch quota regime would give us the opportunity to give more quota to the participating vessels. The more we expand catch quotas, the better the result for our fleet.

**Liam McArthur:** Some concerns were expressed about the way in which CCTV proposals were instigated and rolled out. Many of those have been taken up. I do not want to read too much between the lines of what Bertie Armstrong was saying the other week in *Fishing News*, but there is a concern to ensure that there is close engagement with the industry every step of the way. I appreciate that it is difficult to do that in negotiations, but how do you envisage consultation with the industry developing through the dynamic process of your engagement with the Commission?

**Richard Lochhead:** I will ask Allan Gibb to comment in a second, because some meetings are planned and a great deal is happening to ensure that we have close engagement with the industry on where we go with catch quotas at this year's negotiations. The industry will acknowledge that the relationship at the negotiations has been close in the past few years. We have gone to great lengths to ensure that there is real-time consultation with the industry during the complex negotiation at the annual fishing council, at which mistakes are easily made and very complex regulations for a host of different fisheries—not just in Scotland, but throughout Europe—are discussed. That is why real-time consultation with industry leadership in Brussels is important.

**Allan Gibb (Marine Scotland):** As you would imagine, there is on-going engagement with the 17 vessels that are involved in the trial that is being undertaken in Scotland and with Bertie Armstrong and representatives of the Scottish Fishermen's Federation. The next formal session is planned for 3 November in Aberdeen. It will be very detailed, and a lot of time will be set aside for representatives from Marine Scotland science and compliance and sea fisheries policy to meet Scottish industry representatives to discuss the very issues that are being raised today.

Those issues include considerations such as the situation with other species; whether we are sure that we will not fall into the trap of unintended consequences; and what the barriers are and how we work together as managers and industry to get round them or build platforms to get over them and carry on with the catch quota. That is the next key meeting ahead of the EU-Norway negotiations, so that the industry can inform us of the fine technical detail and the issues of which we must be aware.

That process has been on-going, involving the participants in the trial and the federation representatives, and it has been extremely helpful. One issue that we are asked about all the time is the expansion of stocks and how we will bring that about. The issue is cod right now, but what about other species?

We have identified haddock—as the cabinet secretary has pointed out—as the most likely candidate, with whiting and plaice perhaps following on. We are clear that we need to have confidence in the scientific observed discard data for the species, otherwise we are just guessing. We will fail if we do not have a sound platform from which to operate, and for those four species at least there are very good observed discard data to work with.

The Scottish fishing industry is nervous about whiting because the available quota is so small. If you follow the principle that if you catch everything, you have to stop fishing, you will think, "Well, if I catch all my whiting I'll have cod and haddock left and I'll have to stop fishing; I'm not so sure about that". That is a valid point.

There is activity that can help for haddock and whiting, but we are now very much thinking—as was mentioned earlier—about the interaction between species, and whether we can have some trading flexibility between species or even a multispecies quota concept. I am talking not about this year or next year, but about evolving radical change in fisheries management in the future, much as has happened in Canada, which was mentioned earlier.

If somebody genuinely has unintentionally caught all the fish, but a partner vessel has a lot of the same fish left over, why should there not be some flexibility for swapping the quota between vessels? We would be very keen to explore such a model.

**Liam McArthur:** The idea of an ITQ system was raised earlier. I know that that will not necessarily gladden the cabinet secretary's heart, as there are issues in the European context that do not arise in relation to British Columbia.

How do you envisage that quota trading would work? Would it be within producer organisations? Segmenting within the UK has clearly proved problematic in the past.

**Richard Lochhead:** We oppose the international trading of quotas because it effectively involves, in my book, the privatisation of historic fishing opportunities. What matters is that a nation is given its historic fishing opportunities each year—that is the baseline. What happens with our country's fishing opportunities thereafter is more flexible.

At the moment, countries already transfer between one another. If Scotland or a Scottish producer organisation is facing a shortage of one stock, it can get a transfer from another country and swap to get something that it wants. That happens already; those are in-year transfers. That is quite a sensible thing to do, because otherwise we would face a situation in which one country ended up not using its quota in a particular fishery while another country faced overfishing in the same fishery or having to tell its vessels to tie up.

Even though the scientists would say that X can be removed from that fishery, we would, because of the way in which the distribution of quotas works, end up by missing a big opportunity. There is no reason why fleets and producer organisations cannot have in-year swaps and transfers, and that practice should continue. We are talking about a real-time situation in which a vessel at sea can keep a catch and land it rather than discarding it into the sea; the catch would come out of someone else's quota, so there would be no overfishing. It would be in everyone's interest to bring about a real-time transfer system.

**Liam McArthur:** Talking of real-time issues, can I take you on to the issue of mackerel quotas? Negotiations are taking place in London today and, possibly, tomorrow. A serious issue has arisen in recent months, and you are quoted in the oracle of *Fishing News* as suggesting:

"We need to get a deal on mackerel. But not at any cost."

That implies a recognition that there is negotiation to be entered into and that we are unlikely to get all that we want. I do not expect you to roll out the Government's negotiating position, but perhaps you can give us an indication of what an acceptable deal would be. We have all heard the horror scenarios of a blue whiting situation arising in relation to mackerel, and of Iceland and the Faroese being rewarded with an historic track record for what they are taking, at this stage, on the basis of a unilateral award. What do you see as an acceptable deal on mackerel?

**Richard Lochhead:** At the moment, we are involved in a complex negotiation to resolve a difficult situation in the absence of some of the parties that we need round the table to sign up to the international agreement on the future of the mackerel stock. The fact that two countries have set unilateral quotas poses a big risk to a massive stock that has been really well managed for the past 10 years. We want the stock to be well managed for the next 10 years, and it is in everyone's interest that we ensure that.

Scotland's position is that we recognise that there must be a compromise deal but that we must not reward irresponsible behaviour. We cannot send out the message that, by setting massive unilateral quotas, Iceland and the Faroes will somehow get a big benefit in the final agreement. We must be very careful that we do not reward irresponsible behaviour.

The negotiation is tricky because we must reach a deal, and the sooner that we do that, the better. You mentioned the blue whiting stock. There will have been a 93 per cent cut in the quota for blue whiting over the past six years by the time that this year's advice has been taken into account. I do not think that anyone wants to be in the position, in six years' time, of having a similar situation with the mackerel stock given how many jobs in Scotland are dependent on that industry.

Our position is clear: we want a deal and will take as long as it takes to get it, but we may need to give something. All parties that are sitting round the table will have to give something. We do not want to give more than we need to, as we are the country that has helped to manage the stock very well over the past 10 years. Indeed, it is because we have managed the stock so well that the Icelanders and Faroese feel confident that they can take as much out of the stock as they have set in their unilateral quotas. They can do that simply because of the work that other countries have done.

**Liam McArthur:** When we had Ian Gatt and Bertie Armstrong before the committee just after the summer recess, Ian Gatt was at pains to point out that the mackerel stock is one of the success stories of the CFP structure—indeed, the coastal states structure—and that a move towards a more localised management structure, which is the

direction of travel that we are trying to pursue in white fish, would be disastrous for the pelagic sector. In the negotiations, is there any distinction between the position of the Faroese, who are inside the coastal states structure, and that of the Icelanders, who are knocking on the door? Could we reach a deal with one but not the other? Would that be acceptable, at least in the short term, as we try to unlock this?

**Richard Lochhead:** Yes. Our preference is for both Iceland and the Faroes to sign up to the international agreement. However, if that is not possible, we would support the idea of signing a deal with the Faroese. The more countries that we get to sign up to the international agreement, and the sooner that they do so, the better. That is our approach, and the European Commission has a great deal of sympathy for that position.

We must do our utmost to have both Iceland and the Faroes in the agreement. The negotiations on that are taking place as we speak and throughout this week. Getting Iceland and the Faroes on board must be our objective, but we must accept that, if Iceland will not play ball, getting the Faroes on board will be a much better position than the position that we are in just now. Of course, the Faroese have been party to the agreement in the past.

12:15

**Liam McArthur:** Given your staunch criticism of the CFP in the past, would you care to offer an observation in relation to Ian Gatt's comment about how it operates in the pelagic sector?

**Richard Lochhead:** I point out that Norway is an influential negotiating party in the international agreement, and it has the biggest share of the mackerel stock. It is not part of the CFP, of course. That reminds us that, whether we are in or out of the CFP, we still have to be part of international agreements. The CFP clearly just involves European nations, and countries outside Europe also have a stake in some international stocks.

**Elaine Murray:** We heard some interesting evidence from the previous panel regarding the differences between the ICES analysis of the North Sea cod stock, particularly regarding the perceived spike after 2007, and the research that has been done by Marine Scotland and others. My understanding of what was said is that there is likely to be a reduction in fishing effort, of perhaps 25 per cent, with the quota possibly being reduced by that amount. If the ICES assessment takes precedence over the other assessments, there could also be a reduction of 10 per cent in kilowatt days. Is that your understanding of what might happen? What are your chances of negotiating downwards and securing a possible reduction?

**Richard Lochhead:** There are two issues there. First, there is the cod recovery plan, which envisages year-on-year reductions in fishing effort. As you know, that is controlled through days at sea. We face a further cut in days at sea for those vessels that are caught under that regulation, both at this year's negotiation and at next year's. In effect, that will happen by default, as the cod recovery plan is there—it is not up for review. That is why we are putting a lot of effort into securing changes to the way in which we implement the cod recovery plan, so as to help the vessels that are affected.

For instance, vessels that are taking part in the catch quotas initiative are exempt from days-at-sea controls—they do not have to worry about days and so on, as they have a different regime. It still comes under the recovery of cod, but the vessels are not subject to days-at-sea provisions. It is because we are facing a further cut in days at sea for the fleets that we are considering alternative regimes under the cod recovery plan—to escape the pain for the vessels concerned. We are facing more cuts.

The review of the cod recovery plan will happen in 2011. I am not saying that there does not need to be one, but we hope that we can secure fundamental changes to the way in which it is implemented.

**Elaine Murray:** My understanding was that the ICES assessment would result in a reduction in kilowatt days, if it prevails through the negotiations.

**Richard Lochhead:** There are two issues there. First, there is the target, under the cod recovery plan, for what the cod stock should be by 2015. That leads to the proposed cut in the total allowable catch. The proposal for that is likely to be 20 per cent, as the management plan says that there is a 20 per cent ceiling to what the cut in the cod quota can be. That is the science with regard to the cod stock. As for the effort regime, we have not achieved our 2015 target yet, so the planned cuts in effort through days at sea will continue until that target is reached.

**Elaine Murray:** What are your plans regarding conservation credits next year?

**Richard Lochhead:** Through the conservation credits scheme, which has won plaudits throughout Europe for its new approach to how fleets are incentivised to conserve cod stocks, we have offered buy-backs so that, although there is a baseline cut that keeps being delivered by the cod recovery plan—say, another 10 per cent—vessels can mitigate that, as we will reduce that cut in response to their adopting new conservation measures. If vessels change behaviour and

protect cod stocks, we will mitigate the cut and give them more days back at sea.

**Elaine Murray:** If the evidence is there, the scheme can continue. It takes a while to analyse the effects of such schemes—are you confident that it will be able to continue?

**Richard Lochhead:** The scheme will continue. Clearly it will be more relevant to vessels that are not on catch quotas, as they will still be affected by cuts in days at sea and will be looking to adopt new conservation measures to buy back days. Vessels on catch quotas are not in the days-at-sea regime and therefore do not have to worry about that quite as much. All of this forms part of our attempt to mitigate the cod recovery plan's impact on vessels.

Although over the past two or three years the cod recovery plan has delivered a 35 per cent cut in days at sea for the fleet, that cut in the amount of time that vessels can spend at sea has been reduced to 10 per cent because of the buy-backs that we have offered under the conservation credits scheme. In other words, we have been able to reward the fleet with time at sea for adopting more conservation measures. In that respect, the scheme has had a positive impact on the viability of the vessels concerned and the STECF, which is part of the European Commission, has recognised that the conservation credits scheme has helped to conserve fish stocks and has made a positive difference.

**Elaine Murray:** You have been quite critical of the cod recovery plan, saying that it is seriously flawed, is not delivering what it should be and is not sufficiently flexible. However, you said a couple of minutes ago that it was not up for review. It was last reviewed in 2008—when is the next opportunity for a review?

**Richard Lochhead:** The plan is up for review in 2011.

**Elaine Murray:** I am sorry—I must have misunderstood what you said.

**Richard Lochhead:** I said that the principle of cod recovery is not necessarily up for review, because the policy is still to recover cod stocks. However, the current plan is up for review in 2011.

**Elaine Murray:** What are the chances of an improved plan being renegotiated?

**Richard Lochhead:** There has to be a chance. We do not necessarily argue with the principle of having a cod recovery plan, but the plan itself—as I said, it is up for review—has to be changed, and we have to use the review to ensure that we make the changes that we want to be made.

**Elaine Murray:** What needs to be altered?

**Richard Lochhead:** The plan contains a number of fundamental flaws. First, the days-at-sea regime is fundamentally flawed because it measures the time that a vessel spends at sea, not the time that is spent actually fishing. Given that we are trying to influence the amount of fish that is being taken out of the sea, that, and not the time that a vessel spends away from port, is what should be regulated.

The current approach is having a detrimental impact. As soon as the vessel leaves port, the clock is ticking. That influences where the vessel goes to catch its quotas, which, in turn, has an impact not only on a vessel's viability but on conservation, because if the best place to fish more sustainable stocks is located far from port the vessel needs time to get there. However, the days-at-sea regime does not take that into account. It sets a fixed amount of time at sea and how that time is used is up to the fishermen. They want to save time, so they go to places that are closer to port, but those might not be the best places to fish.

Fishermen have brought it to my attention that the days-at-sea regime is also counterproductive. They want to improve the quality of their catch—after all, they get a better return on a better-quality catch—but the regime says, "Okay, you might want to go out for a day and bring back very fresh fish to port, so you can get more money for it, but you'll have to use up a day steaming back to port to deliver your fish to the quayside." The fishermen then think, "That'll use up two precious days, so instead of going back and forth using up days I'll stay at sea for an extra few days and get a bigger catch." Of course, the quality of that fish is not as good and the fishermen suffer that way as well. The regime is fundamentally flawed.

**John Scott:** Apparently, an impasse has been reached on the adoption of new management plans for west of Scotland stocks as a result of a dispute between the European Commission and the Parliament post the Lisbon treaty's enactment. What are the chances of getting the technical measures on the west coast changed? What is the likely timescale for that happening and will it require the European Parliament's approval?

**Richard Lochhead:** I am sure that the committee is well aware of the history of this issue and of how angry and infuriated the Government and, more important, the industry on the west coast were when the emergency measures were imposed on Scotland. We were pleased that we were able to prevent the complete closure of the west of Scotland fishery, but the emergency measures that were put in place instead of complete closure, which still allowed the fleet to go to sea, are far from perfect and are extremely painful for the west coast. Initially, of course, we

were told that they were going to be temporary, but, in effect, they keep getting rolled over to the next period by the Commission. We are angry about that and will continue to complain about it.

Things have moved on, to an extent, in that we have now agreed with the Commission that we can put in place an alternative regime for the west coast that we hope will mitigate some of the pain that is experienced by the west coast fleet. A series of alternative measures is being proposed to the Commission. We are looking for feedback for that in November. Currently, the relevant committee in Europe is considering the proposals to determine whether they will achieve the desired stock conservation aims.

The plan is for the proposals to go through the co-decision process, which complicates matters, as the European Parliament now has to agree the regulations in the first half of next year. Although it is taking far longer than any of us wanted, the alternative is having a roll-over of the regulations for a further 18 months. Having the changes put in place in the first six months of next year is at least better than having to wait 18 months.

We are hopeful that Europe will support what we are trying to do. If it does, the European Parliament will deal with the proposals as one of the first issues to go through the co-decision process on fisheries.

**John Scott:** Slightly tangentially, I note that it was raised in the earlier session that one of the reasons for the continuing decline of the fish stocks on the west coast might be the seal population. Have you any views on that?

**Richard Lochhead:** All the evidence that I have seen shows that the mortality that is caused by the seal population is a small fraction of unaccounted-for mortality of stocks in our waters. It is important that we pay attention to that, but I stress that I have met few people who believe that the seal population is responsible for the overall decline in some of our fish stocks.

We must also remember that, although we keep talking about declining fish stocks, many of our stocks are being fished sustainably. Nine of our commercial stocks are being fished under long-term management plans and a further three, including haddock, are going to be under long-term management plans shortly. Of course, although those stocks are being fished sustainably, we still have to build up our stocks to the point that they were at in previous years.

**Liam McArthur:** You have pointed out the pain that is caused by these emergency measures. It is generally accepted that the catch composition component was nigh-on unworkable.

I understand that an alternative set of proposals to the proposals that are with the Commission was being developed by the industry, in discussion with the RAC, and that the proposals that the Government put forward replaced those. Is it your understanding that there were two sets of proposals at one time and that either they have come together as one or the industry's proposals have been replaced by the Government's officials?

**Richard Lochhead:** That is not my understanding. The proposals that we have put forward were developed through work with the industry.

Lots of different proposals have come forward from different sectors and stakeholders, but we are confident that the package that we have produced for the management of west coast stocks reflects what the industry would like to be put in place. Although I cannot sit here and say that every stakeholder in every sector supports every measure that we are putting forward, we have general support for the measures, as a package.

**Liam McArthur:** Has the industry had an adequate opportunity to comment on those proposals? I have been told that they were given between 24 and 48 hours to comment on them before a key meeting took place to agree them.

12:30

**Richard Lochhead:** A lot of work has been put into this over the past year to 18 months, and I assure you that the industry has been involved a lot. Once we had the final package after discussions with the industry, we presented it to the industry and then submitted it to the Commission.

**The Convener:** Bill Wilson wants to ask about Rockall haddock, monkfish and megrims.

**Bill Wilson:** Yes. Obviously, Rockall haddock, west coast monkfish and megrims are important sources of alternative catching opportunities for west coast boats. Can the cabinet secretary tell us anything about the quotas for those species for 2011?

**Richard Lochhead:** In last year's negotiations, we were pleased finally to get flexibility on the North Sea and west coast quotas for monkfish. That allowed the fleet a bit of flexibility on where to catch the quotas. The industry had asked for that for many years, and it was a big breakthrough.

According to our scientific advice, there has been a slight decline in the monkfish stock in the North Sea, but the stock on the west coast is in a better position. We hope to secure a good monkfish quota in this year's negotiations,

although I do not think that there is much prospect of an increase in it.

The megrim quota is also valuable to Scotland; in fact, that quota has rocketed in value in recent months and is a good income stream for those who catch it. There has been a phenomenal increase in the price of megrim, which is a godsend for those on the vessels involved. We would like to see a roll-over of the megrim quota.

**The Convener:** We move on to nephrops.

**John Scott:** What is the cabinet secretary's position on the way in which the MSY approach is being applied to setting quotas for nephrops and the prospects for 2011?

**Richard Lochhead:** The nephrops quota is, of course, the second most valuable in Scotland after the mackerel quota. As we all know, many vessels have diversified into the prawn fishery over recent years. We are therefore paying close attention to the nephrops quota this year. We are facing a proposal to cut the North Sea quota by 8 per cent. There is a bit of a cushion, of course, as we do not catch our full nephrops quota in the North Sea or on the west coast, so the fleet should have available to it next year the same fishing opportunities that it has taken this year. However, we continue to pay close attention to the nephrops quota proposals.

In the past, there have been debates about the scientific methodology relating to nephrops, and we are continuing to have a debate with Europe. That debate involves many issues, such as functional units, which are now on the agenda.

On the west coast, the figures show that the actual quota that is taken will fall far short of what is available to Scotland. Therefore, the proposed cut on the west coast could foreseeably be a cut on paper, with the fleet still having the same opportunity next year to catch what it catches this year.

**John Scott:** I appreciate that much of the low catch is down to there not being a good return from the market, but does regulation play any part in that as an inhibitor or barrier to catching?

**Richard Lochhead:** Would you say that again? I am sorry.

**John Scott:** I appreciate that there is currently a lack of market demand for nephrops, but does regulation present any barriers to catching them?

**Richard Lochhead:** It is clear that an issue with the cod recovery plan is that it impacts on other stocks. Notwithstanding any cuts that may happen this year, we have healthy quotas for nephrops, and they are being sustainably fished, but the cod recovery plan impacts on vessels that catch healthy quotas. That is one of the flaws in that plan. The Commission quite often assumes that boats that fish for other healthy quotas catch cod as well, which is why they get caught in the cod recovery plan regime. Therefore, there are obstacles that the prawn fleet has to face up to, unfortunately, and we are always trying to mitigate the effect of those obstacles. However, the prices of prawns and Scottish langoustine, which is a luxury product, have been recovering in recent months. I do not think that we should say that they are depressed at the moment; rather, they are recovering. They have had a very rocky ride over the past year or two because of the recession, which has had an impact on the Spanish and French markets, but they are recovering. Optimism is returning to that sector, notwithstanding some of the wider challenges.

**John Scott:** Given that the science suggests that prawn stocks should be managed on an area-by-area basis, why is that not happening?

**Richard Lochhead:** That is an issue that has come on to the agenda recently. We are not necessarily ruling out the principle of managing the prawn quota through such functional units because stocks are healthier in some parts of the sea than in others, but we must understand fully the impact of introducing that system in Scotland, so I do not think that it will be introduced this year. We must continue to get a better understanding of what it would mean for Scotland's fleets.

The industry would argue that the current way of setting the quotas gives the fleet flexibility. One can imagine that it would be quite challenging to come up with a regime whereby quotas were divided up by sea area. We are discussing with the producer organisations how that could be managed, as it could be quite complex to do. We must understand how it could be done.

However, such a system could bring advantages for fishermen in smaller boats who want their local fisheries to be protected. By definition, smaller boats cannot go to deep-sea fisheries, whereas bigger, more powerful boats have the option of going to different parts of the sea to catch their quotas. Smaller boats do not have that option, so a system of functional units could offer them some benefits, but we must tread carefully and make sure that we understand how such a system would work before implementing it.

**Peter Peacock:** You seem to be fairly sanguine about the possibility of an 8 per cent cut in the nephrops quota for the North Sea and a 15 per cent cut for the west coast because that would allow the same fishing opportunity next year as this year, as people have been fishing below their quota. However, if the markets in Spain and France were to recover significantly over the next year or so, would the new quotas have a practical effect on the volume that could be sold to those

markets, or is there still a bit of headroom between the quotas and what demand is likely to be, even after an economic recovery?

**Richard Lochhead:** You used the word "sanguine". I was just making the point that the proposed cuts would not necessarily impact on current fishing patterns, given the expected uptake of this year's quotas. We have a healthy nephrops quota. I know that headlines about quota reductions are not always positive but, if there is a scientific case for reducing quotas, we must ensure that things are kept in perspective, as present stocks are being fished sustainably and we want stocks to be there for future generations. Moreover, some people in the industry might say that we are landing far too many nephrops and that that is affecting the price, so they will not necessarily oppose limiting how much can be caught.

However, if there is not a scientific case for quota cuts, we will not support them because we realise that if we accept cuts this year, we will get into a downward spiral for future years, and we do not want to do that. We must consider carefully what has been proposed.

**The Convener:** Liam McArthur has a question on the Government's fisheries plan.

**Liam McArthur:** I think that the minister's keynote announcement during last year's annual fisheries debate, which was front-loaded to the beginning of November, was about the development of a four-point action plan with the industry. He said:

"I have asked officials to work with the industry to develop that clear programme of action by early 2010."—[*Official Report*, 5 November 2009; c 20968.]

As I understand it, the Scottish fisheries council was presented with a draft of the plan on 14 September. It would be interesting to know why it has taken so long to develop a draft and—probably more important—how you see that plan assisting in the various areas that have been identified as key to building a sustainable and viable fisheries industry in Scotland in the longer term.

**Richard Lochhead:** The four-point plan was a reflection of our desire to work with the industry on the four key areas on which we felt that we had to focus our energy in the times ahead, reflecting what has happened over the past few years. One part of the plan is about looking at how we influence the future of fisheries management and another is about looking at how we catch for the market, which is a welcome new emphasis. We have discussed both of those aspects today. Another element is about looking at how the fleet can be made more resilient and, again, we have discussed the package that has come forward as part of that. The other part of it is about ensuring that we get our fisheries management right, where we have the ability to influence that in Scotland by working with the producer organisations and so on. Those are the areas that we have put a lot of focus on in the four-point plan.

**Liam McArthur:** What about the delays in bringing it forward?

**Richard Lochhead:** We brought forward the pillars and then, over the course of 2010, we discussed more of the detail of what we wanted to introduce under those headings. Now we have delivered the £8 million for the business amalgamation proposals that arose from the four-point plan. We had discussions with the industry on the theme of how we can make the fleet more resilient, and during the year a scheme was proposed to us that we worked up, which it took us a few months to do. Now we have delivered it. That accounts for the timescale.

**Liam McArthur:** Does that suggest that there have been areas of major disagreement in those discussions or does it simply reflect the complexity of pulling the plan together?

**Richard Lochhead:** To be fair, the four-point plan has been a living, breathing thing. It has not been the case that everything stopped while we waited for the plan to be published at the most recent meeting of the Scottish fisheries council. A lot of the catching-for-the-market work has been done over the past few months. That is because we agreed with the industry the four pillars around which we wanted to develop policy, and that process started immediately.

Although the final plan has been published, it will continue to evolve as time goes on. I hope that the committee accepts that catching for the market, along with the other pillars, deserves to be a big focus so that we can add value to what we do in Scotland. New ideas will keep appearing, and we will continue to work with the industry to come up with new policies under those four broad headings.

**The Convener:** I think that that concludes all the questions. I thank all the witnesses for the evidence that they have given us.

That concludes the public part of today's meeting. I thank everyone in the gallery for their attendance.

12:42

*Meeting continued in private until 12:56.*

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