

# **TRANSPORT AND THE ENVIRONMENT COMMITTEE**

Wednesday 22 January 2003  
*(Morning)*

Session 1

£5.00

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## TRANSPORT AND THE ENVIRONMENT COMMITTEE

2<sup>nd</sup> Meeting 2003, Session 1

### CONVENER

\*Bristow Muldoon (Livingston) (Lab)

### DEPUTY CONVENER

\*Nora Radcliffe (Gordon) (LD)

### COMMITTEE MEMBERS

\*Bruce Crawford (Mid Scotland and Fife) (SNP)

\*Robin Harper (Lothians) (Green)

\*Angus MacKay (Edinburgh South) (Lab)

\*Fiona McLeod (West of Scotland) (SNP)

\*Maureen Macmillan (Highlands and Islands) (Lab)

\*John Scott (Ayr) (Con)

\*Elaine Thomson (Aberdeen North) (Lab)

### COMMITTEE SUBSTITUTES

Helen Eadie (Dunfermline East) (Lab)

\*David Mundell (South of Scotland) (Con)

Iain Smith (North-East Fife) (LD)

\*attended

### THE FOLLOWING ALSO ATTENDED:

Alex Fergusson (South of Scotland) (Con)

Ross Finnie (Minister for Environment and Rural Development)

Elinor Mitchell (Scottish Executive Environment and Rural Affairs Department)

Alasdair Morgan (Galloway and Upper Nithsdale) (SNP)

### WITNESSES

Richard Church (Entec UK Ltd)

Fiona Newcombe (RSPB Scotland)

Lisa Schneidau (Scottish Wildlife Trust)

Jim Walker (National Farmers Union of Scotland)

**CLERK TO THE COMMITTEE**

Callum Thomson

**SENIOR ASSISTANT CLERK**

Alastair Macfie

**ASSISTANT CLERK**

Rosalind Wheeler

**LOCATION**

Committee Room 1

## Scottish Parliament

### Transport and the Environment Committee

*Wednesday 22 January 2003*

*(Morning)*

[THE CONVENER *opened the meeting at 09:51*]

**The Convener (Bristow Muldoon):** I have received no apologies, so I hope that one or two members who are not yet present will arrive shortly. We have with us members of other committees—Alasdair Morgan and Alex Fergusson—who are interested in the Designation of Nitrate Vulnerable Zones (Scotland) (No 2) Regulations 2002. I believe that David Mundell will join us later.

**Alex Fergusson (South of Scotland) (Con):** David Mundell has been held up in traffic, but he will be here as soon as possible.

## Subordinate Legislation

### Designation of Nitrate Vulnerable Zones (Scotland) (No 2) Regulations 2002 (SSI 2002/546)

**The Convener:** Members will be aware that, later, we will debate a motion lodged by John Scott to annul the regulations. Given that, we thought that it would be appropriate for us to take evidence from external witnesses who support or oppose the regulations. I welcome Jim Walker of the National Farmers Union of Scotland and Richard Church, who is a hydrologist with Entec UK Ltd. Before committee members ask questions, I give Jim Walker the opportunity to say why he is in favour of the regulations being annulled.

**Jim Walker (National Farmers Union of Scotland):** I thank the committee for giving me the opportunity to speak directly to it. As the president of the National Farmers Union of Scotland, I am here to represent our member farmers in the deal and, more important, to discuss the principles under which the designation is proposed. We have had assurances in the past few years at United Kingdom and Scottish levels that such designations and legislation from Europe would not be gold plated, but we believe that they are being gold plated.

As farmers, we are well aware of our environmental obligations and are prepared to act when a problem is identified. As an organisation, the NFUS understands the pressure on the Scottish Executive to be seen to comply with the European Union nitrates directive, which is not a new subject—it has been around for 10 years or more. However, blunt regulations made on insufficient evidence are not the right approach. We are prepared to work with the Executive and the Scottish Environment Protection Agency to develop preventive land management practices. That course of action is consistent with the “Custodians of Change” report, to which I contributed and which the minister and the Executive accepted earlier this week.

We have good evidence and examples of where that partnership approach has worked in the past. For example, with the introduction of the bathing waters directive in Ayrshire, the NFU co-ordinated local farmers, SEPA, the Scottish Agricultural College and Government to work together to ensure that Ayrshire bathing waters were cleaned up in compliance with the directive. Members of the committee will have seen evidence of that over the past few years. Partnership working has been a successful approach.

In 2002, before the designation was being pursued, we had an agreement with the Executive.

A meeting was scheduled for last November to agree that the same co-ordinated approach should be taken on the nitrates directive to ensure that levels of nitrates—which we knew were potentially, but not yet, a problem—did not rise in farming communities. Individual farmers took their responsibilities seriously.

In those places where there is a susceptibility to contamination of surface or groundwater by nitrates, we would be pleased to work with the Scottish Executive. However, we believe that the regulations have been made irrationally and that they do not address anything new. The Scottish Executive looked for new evidence after the original designation failed. That evidence was gathered during the summer of 2002, which, as committee members will probably remember, was the wettest summer on record in the south-west of Scotland. As a farmer at the head of the Nith valley, I know that we had 23in of rain in July and August, with a total of 68in last year, which is extraordinary for that part of the country.

The first time the subject was examined, SEPA had nine monitoring sites and at none of those sites did levels exceed 50mg/l. Of the three water authority sites, none of the samples failed. The British Geological Survey offered 20 sites and none of the samples failed. Some 29 of the 108 private water supply samples failed, but those were representative of anything other than surface water contamination incidents. In other words, they were not relevant to a particular designation.

To help us and to help committee members, we have brought along a representative of Entec, Richard Church. He has an MSc in hydrology and is a senior consultant with Entec UK. Entec is an environmental and engineering consultancy; it employs 600 people and has 10 offices throughout the UK. The company's ability to offer opinions on the matter under discussion cannot be questioned. Members have already received its written submission.

The NFUS challenges the evidence that supports the new designation. Our objection is based on the specific wording of the directive, which says that qualifying evidence of contamination of groundwater must be collected at regular intervals over a one-year period. The single piece of evidence that has been offered to justify the regulations does not meet that criterion—one sample of 57mg/l does not satisfy the directive's conditions. There appear to have been no previous readings at the site; if there had been, they would have been used to justify the original proposal for the designation last year.

There are other problems with the sample evidence. An air of secrecy seems to prevail in the Executive about the circumstances of the observation. We have not been told where the site

is, other than that it is in the general area of Thornhill, although we have asked on several occasions for it to be identified. The one point of observation has been graded 2 on a 1 to 3 scale. That means that the British Geological Survey is not convinced that the source has not been contaminated by a surface pollution incident. An observation last summer in Nithsdale may also have been affected significantly by the wet weather of which I spoke.

Local conditions affect the unique reading. A reading of 8mg/l was taken in the same area where the only failure reading of 57mg/l had been taken. We have commissioned other samples at the Buccleuch Estates—the biggest landowner in the valley—for other purposes and additional samples besides those cited by the Executive are well below the 50mg/l threshold.

10:00

I acknowledge the authority of the minister and the Executive to seek designation on a precautionary basis, but the precautionary principle that may be used to support the designation needs to be justified. The directive states that member states must identify waters that are affected by pollution and waters that could be affected by pollution if certain action is not taken. The criteria for that are that surface or groundwaters contain or could contain, if action is not taken, more than 50mg/l of nitrates or that the water bodies are or could become eutrophic—over-enriched with algae and plant nutrients. In applying those criteria, one must also take into account local conditions, knowledge of the behaviour of nitrogen compounds in the environment and the impact of prospective action.

According to my reading of the Entec analysis, which members have in front of them—and there is no other interpretation of it—there is no justification for the designation, even on the basis of the precautionary principle. We argue that a series of observations from now might reveal that the August reading was an aberration. The minister should obtain a second opinion and ask the BGS to continue to monitor the site at regular intervals. In the meantime, we should proceed on the basis that we agreed last year when the area was not going to be designated, with local farmers under our co-ordination working with the Executive, local agencies and SEPA to ensure that nitrate levels are controlled and eventually brought down. The taking of one sample is insufficient justification to satisfy the conditions of the nitrates directive. We argue that the designation should not proceed.

**The Convener:** I invite members to indicate whether they wish to ask questions of Jim Walker or Richard Church. I will then give Alex Fergusson and Alasdair Morgan the opportunity to come in.

**John Scott (Ayr) (Con):** Jim, thank you for your undertaking that you would be prepared to work with the environment agencies. The designation is like a Damoclean sword hanging over the farmers. Would you care to expand on the details of how the system that you propose might work? What voluntary arrangement would be put in place between the NFUS, the SAC and SEPA to remove the threat of polluting the Dumfries aquifer?

**Jim Walker:** That is straightforward because, as I said, the model is already in operation for a different directive. The implementation of the bathing water directive in Ayrshire has been a fantastic example of the farming community and other agencies working together in partnership to try to solve a problem that was affecting the Ayrshire bathing water area. In that instance, the work was done on a voluntary basis.

The issue is about education. It is about going round farms and informing farmers about what they can do—which is often cost effective and low cost—to ensure that their day-to-day business does not cause pollution and that their farm infrastructure is in a state that will not cause pollution. The model in Ayrshire has been refined over the past three or four years and the results are there for everybody to see, as Ayrshire bathing water is cleaned up year on year.

We propose a similar model for the Nith valley. We would work with a small group of farmers who were interested in the subject and who were keen to lead and help other farmers. They would go round individual farms providing farmers with the information that they require to ensure that they are not doing anything inadvertently to make the problem worse.

The difference between this designation and others in Scotland is that the area affected is the heartland of the Scottish livestock industry, particularly the Scottish dairy industry. There are large numbers of dairy and beef cattle in the Nith valley. The situation is not the same as it is with a designation on the east coast, where one is not dealing with large quantities of animal manure in the form of slurry. On the east coast, one would be dealing with animal manure in the form of dung, which is easier to handle and work with. I know that that sounds a bit technical, but that is the issue with which we are involved.

If the designation goes ahead, the financial consequences for dairy farmers and beef farmers in the Nith valley could, and probably will, be catastrophic, because we have had no indication from the Executive that any assistance will be forthcoming to implement the draconian measures that will be needed to comply with the directive, such as the months of storage that will be required for slurry. That will require huge capital investments on farms. When we did a case study

on a single farm, we found that the farmer would need to invest in a large beef unit at a cost approaching £200,000. That would drive the guy off the farm—there would be no way that he could continue.

The designation must not be based on one spurious, debatable and questionable reading. The NFUS and farmers must be assured that the level is accurate before people are needlessly put out of business because the directive has been gold plated.

The answer to John Scott's question is simple. The model used in Ayrshire would have been transferred to Dumfriesshire. We were doing things voluntarily and had made an offer to the Executive. The minister accepted the offer, but senior officials in the Executive then sent out the BGS to look for a sample that would ensure that the designation went ahead.

**Nora Radcliffe (Gordon) (LD):** If the designation goes ahead, the next step will be the action plan, which will say what farmers must do to comply with the directive. How much more onerous would the action plan under the directive be than what people would have planned to do voluntarily anyway? If infrastructure is needed, is it likely that those who are in the designated area will have access to financial support that would otherwise be unavailable?

**Jim Walker:** We have no guarantees of access to capital investment for projects in the area that will be designated. Such support has not yet been confirmed. In the previous announcement, it was confirmed that grant aid would be available for up to 40 per cent of the costs of some improvements on the farms that were designated in the east of the country.

I suspect that the reason why we have so far heard nothing about the Nith valley is that the Executive is terrified by the potential cost. The money that is currently set aside for the designation in the east will go nowhere near covering the costs, for the reasons that I gave earlier. Remedial action would be necessary. Given the draconian way in which the designation will be made, complying with the directive in a dairy-farming and beef-farming area would be completely different from doing so on the east coast, which has a mainly arable-based agricultural system.

On how a voluntary action plan would have compared with the plan that will come from full designation, let me reiterate what I said earlier. We believe that the voluntary scheme in Ayrshire represented a sensible, logical and pragmatic approach, because it took into account the needs of individual farms. We believe that such an approach would satisfy the requirement to keep nitrate levels below 50mg/l.

As members will know from other examples that they have seen over the past four years, once we are into the realms of designation and legislation, it is not easy to do things on a time scale that is appropriate to individual farms. Designation means that things must be done now, because that is what the legislation says. The NFUS is looking for a lead-in time that will allow farmers to adjust to the new situation. We believe that that is possible. One rogue sample should not cloud the issue.

**Nora Radcliffe:** What would be a reasonable lead-in—one year, two years, three years or five years?

**Jim Walker:** It has taken a couple of years to deal with the problem in Ayrshire. If the meeting that we intended to have in November had gone ahead, we would have been in the position of having a voluntary action plan by the spring of this year—the action plan, which would have been made in partnership with the other agencies involved, would have been up and running within the next month or two. As the committee will know, the big problem takes place at the back end of the year. We would have expected to be in a good position to do something by the back end of 2003.

As things stand now, all of that has been put on hold. The Executive's actions have undermined its case. We are no longer operating a voluntary action plan. The voluntary action plan has been taken no further forward because of the completely illogical stance that the Executive has taken in trying to designate on the basis of the spurious 57mg/l sample.

The Executive has undermined its case on the need to try to work with farmers in the area. The ill feeling that has been caused cannot be overestimated. Where there was once the chance of co-operation on a voluntary basis, we now have a sword hanging over us, as John Scott described the situation. Farmers are becoming increasingly concerned about the Executive's bully-boy tactics.

**Nora Radcliffe:** Was there no advantage in proceeding with that voluntary scheme, regardless of what happened with the designation, just because the scheme would have been a good thing to do? If a designation was then made, people would have been partly down that road anyway.

**Jim Walker:** We did not call off the meeting.

**Nora Radcliffe:** What about the Scottish Executive environment and rural affairs department?

**Jim Walker:** We have had no further communication on how SEERAD would take that forward. We were told that designation was going to take place—end of story.

**Nora Radcliffe:** So SEERAD did not participate in advancing the voluntary scheme that would have been a good idea anyway, whatever happened otherwise.

**Maureen Macmillan (Highlands and Islands) (Lab):** What confuses me is that you say that there is no problem and that the directive is therefore not necessary, but then you say that there is a problem that should be solved by a voluntary scheme. Is there a problem or not? You say that there is no evidence and yet you say that you are going round talking to farmers about changing working practices. Perhaps you could clarify the matter for me. You seem to be using two arguments. One is about whether there is a problem that needs to be solved and the other is that it would cost too much money to solve the problem. Is the problem financial? Is there a pollution problem?

**Jim Walker:** Richard Church will give you some technical background. We believe that the problem is not sufficient to justify designation. That is clear from all the evidence that you have in front of you. It is also clear from the evidence that the Executive has.

There is a potential for trouble in the future. We now have information on the levels of nitrate pollution in the Nith valley—we did not have that information in the past. A BGS report, reports from the water authority and other borehole samples are now available.

We are trying to put in place voluntary measures to ensure that the position improves and does not get to the point where designation is necessary. If the United Kingdom Government had taken its responsibilities seriously 10 years ago, the whole of Britain could have had voluntary measures in place to ensure that designation was not required, as nitrate levels would have been brought down or held at a lower level.

**Richard Church (Entec UK Ltd):** On the east coast of Scotland, the designations were all based on a risk assessment done by the BGS and the Macaulay Land Use Research Institute, which found that the potential for nitrate pollution was high.

On the Nithsdale catchment, the Macaulay institute found that

"nitrate leaching is low throughout Dumfries".

Initially, the catchment did not meet the criteria for designation as a nitrate vulnerable zone—NVZ. The BGS was then commissioned to undertake sampling and analysis. It went into the field and took samples from sources—boreholes and springs—on farms and around the area. According to the BGS's analysis, the boreholes and springs were poorly protected at the surface, which meant



that surface contamination could get into them. The boreholes were not properly designed for monitoring that would allow a proper sample to be taken.

The BGS classified most of the springs that it sampled as grade 3—"unverified private water supplies", which are often "unprotected springs". The sample of 57mg/l that we quote fitted into the classification of grade 1 or grade 2, which showed that there was some surface protection to prevent animal waste, waste from cattle sheds and waste from other sources from getting in.

The purpose of the NVZ is to reduce the amount of diffuse pollution across field-based areas entering the aquifer. The Macaulay analysis of the soil showed that the potential for that diffuse pollution is low. The sampling was done on sources close to—those are the BGS's words—contaminant sources, such as cattle sheds and areas in which slurries had been spread. That ties in with the fact that the sampling was undertaken during the wet summer last year. The one-spot sampling indicated that surface waters were moving into the aquifer, but the samples that were taken were unrepresentative of the groundwater as a whole.

**The Convener:** The last page of the Executive note that accompanies the statutory instrument states:

"the British Geological Survey presented evidence of a significant and rising trend in the nitrate levels in the Dumfries aquifers which provide drinking water for the public supply".

However, the note recognises that only one borehole indicated nitrate levels above 50mg/l. Do you accept that there is a significant and rising trend? Did any boreholes give samples that were close to the 50mg/l level or were the samples well short of that level?

10:15

**Richard Church:** The single borehole was the one on Manse Road, which was monitored from 1989 through to 1999. During that period, the nitrate level rose from 22mg/l to 26mg/l. That is a rise of 4mg/l. That borehole is close to Dumfries and cannot be seen as representative of the whole catchment. The rise of 4mg/l over a 10-year period could not be called significant. The level is also still significantly below the 50mg/l level stipulated in the directive.

**Bruce Crawford (Mid Scotland and Fife) (SNP):** First, I feel sad that we are having to discuss this issue today. If things had been done properly by successive Governments, we would not have reached the stage that we have reached. That just shows how a Government's failure can lead to work and otherwise avoidable costs further

down the road. It annoys me when that sort of thing happens.

There are compelling arguments on both sides. As Jim Walker said, there are problems with the impact of nitrates on the ecosystem. Another problem is that excess nitrate levels in the water can lead to blue baby syndrome, which can cause slow suffocation. There are also the compelling arguments that we have heard this morning about the technicalities of the situation.

The issue is not so much about gold plating as about the fact that there could be a dubious methodology. I am not sure that we could say that implementing the nitrates directive is gold plating it, but I can understand that the methodology might have failed. If the instrument is delayed and further time is given for sampling, and that sampling shows that there is a continuing problem, with the nitrate levels rising close to the 50mg/l mark, would the NFUS's position change from having difficulty with the designation to supporting it?

Finally, I listened carefully to what you said about what happened once the technical work had been done by the BGS. What consultation did the Executive have with the NFUS about the regulations before it decided to go ahead and designate the area? I would have thought that, before any decisions were made, the Government could have held discussions with the industry in the area.

**Jim Walker:** You mentioned three issues—the methodology, what would happen in the event of nitrate levels rising and the consultation. I will take the methodology first.

The Executive commissioned the BGS to undertake a report last summer. We did not know that the report was being done. In our view, the BGS went into one area to look for a specific problem. I will read from the report so that you can better understand why we are questioning the validity of the methodology and the use of the one site. The locations of the 39 sites that the BGS visited last summer

"were confirmed using OS Landranger maps and a programme of site visits was organised. Of the 39, 5 were found to have incorrect grid references, with the Eastings and Northings swapped around. This resulted in some farms being marked on the original GIS as being 15km away from their correct locations".

Secondly, the risks involved were scored as 1, 2 or 3: 1 is a site where there is no risk of pollution and the samples from that site are accurate; 2 is a grey area; and 3 is a site that is clearly no use for the validation of evidence. Again, I read from the BGS report:

"Scoring site integrity in boreholes where details of construction are not available is difficult. However, an

attempt has been made and the results for boreholes drilled into drift deposits are shown in Table 22" —

those are the results that we are considering now—

"where 4 of the 8 sources score a '3'. These 4 sites are located close to dairy cattle sheds and may be reflecting very localised nitrate pollution from daily floor washing of cattle waste."

That is the kind of voluntary measure that we are talking about—educating farmers at farms about what they can do to prevent pollution.

The report continues:

"However, even though they may not be representative of the aquifer nitrate concentration, the water analyses do reflect actual groundwater quality at these specific sites and show that levels of nitrate can be very high"

at those sites. I contend that the BGS is talking about point-source pollution at those sites and not diffuse pollution, which is what the nitrates directive is concerned with. I repeat that even the BGS says that

"Scoring site integrity in boreholes where details of construction are not available is difficult."

Whether the score is 2 or 3 is a subjective judgment by the scientists.

**Richard Church:** I will add one small point. Some background readings were taken from sources where the BGS was satisfied that they did not reflect any surface contamination. Those readings, one of which was taken on the Mabie road, were about 7mg/l, which is a long way from the 50mg/l requirement.

**Jim Walker:** The methodology that we are talking about is one where even the scientists who were involved on the job quote map locations 15km away from where they are supposed to be and a subjective judgment is being made about the scoring of the risk of contamination or the accuracy of the samples.

I will answer Bruce Crawford's second question. If there were concrete evidence over a period of time that we were facing a trend of rising nitrate pollution—that boreholes were scoring 1 or 2, not the kind of thing that we are looking at here, and that nitrate levels were clearly above 50mg/l, which is the level at which designation has to take place—we would co-operate with the Executive. We have co-operated with the Executive on the rest of the designated areas in Scotland, up the east coast, and in the Ythan—we tried to put together a package up there long before the current designation. If there were concrete evidence, we would co-operate with the Executive to ensure that farmers did their bit to protect the environment and, which is important in Dumfriesshire, to protect the water supply around Dumfries. There are examples of where we have

worked with the Executive in the north-east, over a long period, to try to deal with the matter.

To answer Bruce Crawford's question honestly, if there were compelling evidence that this particular area was showing levels of more than 50mg/l or—as Maureen Macmillan suggested—a rising trend that looked as if it would hit 50mg/l, of course we would co-operate. That is exactly what we have done in other parts of Scotland.

The third area that Bruce Crawford asked about was consultation. We went through a consultative process before the original designations last summer. Executive officials went round the country on roadshows trying to justify what they were going to do. On the basis of the consultation, areas were taken out of the original designation because the Executive knew that there was no possible scientific justification for allowing the designation to go forward. That was the case with the proposed Nithsdale designation then.

At the back end of the year, we were summoned out of the blue to a meeting with the Executive at which we were told that it was going to designate because it had found one site that had a level of 57mg/l; it had been looking for it all summer. We were given no warning and there was no consultation. That day, when the minister was present, I asked for justification and for a comparison reading over the previous year, which is required by the directive, but neither was given. I asked the Executive whether it would examine previous information to see whether it could find justification, but none was offered and none has been offered subsequently. We do not know where that borehole is, as the Executive refuses to tell us. This is the only site or area of Scotland that the Executive sent scientists back into—members can draw their own conclusions from that. The Executive found one rogue sample and used that to justify the decision. The minister looked as surprised as the rest of us when he was told about it.

**John Scott:** To help other members of the committee, could you explain why those boreholes have been put in place on farms? As I understand it, and you will correct me if I am wrong, they have been drilled to provide a water supply for dairy farms so that farmers can do washings, keep their cattle courts clean and things like that. The boreholes are, by necessity, sited as close to the cattle sheds as they can be. Farmers are looking not for water of drinking quality from the boreholes, but for water to wash cattle courts out. Will you confirm that and say how and why the drift boreholes came into being?

**Richard Church:** The latest BGS report, which confirmed the designation, cited 29 sources. Approximately half those boreholes were private water supplies that had been drilled by local

drillers and paid for by the farmers. The standard borehole is 6in in diameter and has metal casing on the top. Because those boreholes are not seen as drinking water supplies, they are not completed on the surface in order to ensure that surface water goes down. They are not designed as monitoring boreholes that will give a representative sample of water from the ground for nitrate analysis.

The other sources that were sampled were springs that issue from rock. Again, they were not protected and could not be used to confirm whether surface water was contaminating the source and whether the water supply from mixed water was representative of the water in the ground.

**Nora Radcliffe:** Is it the case that none of those private water supplies is used for drinking water?

**Richard Church:** I cannot confirm that none of them is used for drinking water. I can only point out the BGS designation. None of the reports tell us where the boreholes are; they simply give the region.

**Jim Walker:** Buccleuch Estates spent this summer selling cottages up and down the Nith valley and, for more than 70 of the outlying cottages, sampling was carried out on the private water supplies. That sampling found no evidence of contamination over the 50mg/l level. That evidence cannot be submitted because the estate carried out the sampling for its own purposes, but I confirm that private water supplies were included in the sample. I know that sampling was done because it was done on the neighbouring farm to mine and I regularly partake of a small drop of whisky with something rather browner than the water in the bottle in front of me, especially during the new year holidays.

**Nora Radcliffe:** Does the local authority, which is responsible for private water supplies, have details of that?

**Jim Walker:** Information has just been passed to me, which states that tests were carried out on properties sold on the Queensberry estate last year and that the highest reading that Buccleuch Estates found in the Nith valley was 3.2mg/l.

**Alasdair Morgan (Galloway and Upper Nithsdale) (SNP):** I want to ask Mr Church about the trend that he mentioned. I think that he said that the level in Manse Road went from 22mg/l to 26mg/l.

**Richard Church:** That is correct.

**Alasdair Morgan:** I suppose that it depends whether we are talking about a percentage or an absolute amount but, on my arithmetic, if that were a genuine trend, we would have about 40 or 50 years in which to get the problem fixed before the level went over the limit. Is that correct?

**Richard Church:** That is correct. However, in 2001, the BGS did some work on the age of the water in the ground in that area. The study tried to compare water that had entered the ground in the past 10 years with water that entered the ground in the 50 years before that. The nitrate issue has only become an issue for modern water entering the ground. The BGS did an analysis to try to estimate the nitrate concentration for water entering the ground now in a regional area. The plot for the study showed quite a poor fit between the age of the water and the nitrate concentration. The plot was anywhere from 35mg/l through to 40mg/l for modern water entering the ground, which indicates that such water will not reach the 50mg/l level in the directive.

Although we agree that there is a slight trend that, in 40 to 50 years' time, could reach the 50mg/l level, that trend may tail off, because the modern water entering the ground does not currently indicate, based on the BGS results, that that level would be reached.

10:30

**Alasdair Morgan:** You said that the borehole had not been identified. Is that normal? Was it deliberately kept secret, or is that just the way that the Executive officials do things?

**Richard Church:** The boreholes are identified from the areas, and we are told that that one is in Manse Road—

**Alasdair Morgan:** I do not mean that one. I mean the one where officials detected the over-50mg/l pollution. I think that you said that the location of that borehole had not been disclosed.

**Richard Church:** That is correct. The area was given as Thornhill, but the Executive stated that, because of privacy concerns, it would not disclose the exact location.

**Alasdair Morgan:** Whose privacy?

**Richard Church:** I assume that the Executive meant the privacy of the borehole owner.

**Jim Walker:** The report stated that no farmer tried to stop or in any way interfere with access to boreholes and springs on farmland. Everyone co-operated voluntarily to allow samples to be taken, yet we are still not able to find out where that supposed 57mg/l sample was taken.

**John Scott:** Can you speculate as to why it is such a secret?

**Jim Walker:** I cannot speculate. That is not for me to do. I have my own theories but, as I said, I do not think that we should even be sitting here today discussing a rogue sample. If the Executive is so convinced of the robustness of the science, why does it not tell us where the borehole is?

Then we could also sample it to ensure that the Executive is telling us what is actually happening in that borehole. We could have had a continuous monitoring process in place since the information was made public, but we cannot do that. We have no way of checking it. We are relying on one sample with a score site integrity of 2, and that seems to be enough.

**Alasdair Morgan:** I have just one final question. You seemed to indicate that the attitude of the Executive had recently become less than co-operative, if we can put it that way, and that it seemed to be hell-bent on getting that designation in place come what may. Why would it want to do that?

**Jim Walker:** That is matter of conjecture. We have had a good relationship with the relevant part of the Executive—far better over the past few years than was ever the case before. Unfortunately, the person who is now heading up that team does not seem to have the same partnership approach as the rest of the Executive officials whom we have had the good fortune to deal with have. After our supposed victory, as he sees it, in stopping the designation going forward last summer on the basis of scientific evidence, he is now looking for the evidence that he requires to allow it to proceed. Why he wants to do that is a matter for you to speculate on. I am not going to share my views with you today, but I have a very firm opinion of what has happened.

You may also be interested to know that, at the time of the original designation, I asked for a full inquiry into the way in which the civil service conducted itself last summer. With other NFU Scotland officials, I was present at a private meeting between the minister, some officials and NFU Scotland. It was described as a private meeting before it took place, but a record of that meeting appeared in a Sunday newspaper three or four days later, casting aspersions both on a senior official in the union and on myself with regard to the reasons why the designation did not take place. I asked for an official inquiry to take place, but I have never heard the results of that. From that day to this, there has been a strong suspicion within NFU Scotland that it is no longer a matter of science but a matter of revenge.

**Alex Fergusson:** For the sake of parliamentary procedure, I should declare an interest, as I am the owner of a farm in south Ayrshire. However, I should point out that I am not involved in day-to-day farming, nor is my farm in a proposed NVZ, an existing NVZ or any other designated area. Saying that has probably taken longer than my question, but I just wanted to make that clear. I have just one brief question for Richard Church, because most of my other points have been covered.

The final conclusion of the Entec report suggests

“that designation of the Nithsdale NVZ is put on hold pending the collection and analysis of further water quality data.”

For how long would it be necessary to collect the data and to look into the robustness of the sites in order to give a clear determination on the status of the aquifer in question?

**Richard Church:** On the robustness of the sites, of the nine sites that SEPA is monitoring, one is in the Thornhill area and the rest surround Dumfries. The reason for that focus is that the water supply to Dumfries is principally groundwater.

My first suggestion is that properly constructed monitoring boreholes should be placed throughout the catchment; only six or so boreholes might be required. Those boreholes should be drilled in areas that would give an accurate representation of the groundwater concentrations. They should be away from potential contaminant sources such as cattle sheds, farm areas and places out in the fields where the diffuse pollution is occurring. It should be possible to observe a trend over three to four years of regular monitoring and within a couple of years of quarterly samples being taken from the boreholes.

**Alex Fergusson:** If the Transport and the Environment Committee were to take the decision to annul the statutory instrument, so that a clearer determination on the status of the aquifer could be gained, one would be talking about—at worst—a three to four-year delay in the designation of an NVZ, should that prove to be necessary.

**Richard Church:** That is correct.

**David Mundell (South of Scotland) (Con):** I apologise to Jim Walker for not being here at the start of his evidence.

I welcome this evidence session, because it runs contrary to some of the things that Scottish Executive officials have said to farmers in Dumfriesshire—namely, that the proposed designation would go ahead and that no one would be able to do anything about it. I hope that the session will result in something being done about the designation.

I am particularly concerned about the methodology, to which Bruce Crawford referred. In particular, the proposed designation area would split several farms. It seems that drainage has not been taken into account in the splitting of farms. A field that is inside the zone and a field that is outside the zone could both drain into the same supply. Therefore, it appears that much of the logic of the proposal is flawed and that the intended goal will not be achieved. Allowing fields belonging to the same farm, some of which are inside the zone and some of which are outside it, to share the same drainage is not logical.

**Richard Church:** The initial focus of the designation was on the catchment areas. The British Geological Survey has subdivided the catchment areas into three classes. The third class consists of what are called upland areas, which are field areas that would not have nitrates, manure and other substances spread on them. The argument for excluding those areas from the zone is that, as they are in the upper parts of the catchment, waters that drain from them are low in nitrates and dilute the nitrate concentrations within the areas below. That is why it is proposed that some field areas should be outside the zone and that some should be inside it.

On the map of the proposed zone, a copy of which I have in front of me, it says:

"the final NVZ boundary will be adjusted to suit field boundaries by Scottish Executive Rural Affairs agricultural staff."

Therefore, I assume that some tweaking of the designation area will be undertaken.

**Jim Walker:** David Mundell said that officials had told farmers in Dumfriesshire that nothing could be done about the proposed designation. That is the second occasion on which officials have told farmers in Dumfriesshire that nothing could be done about it.

In the summer of 2002, we organised roadshows to allow Executive officials and other experts to go around all the parts of Scotland in which there were proposed designation areas. We did that in co-operation with the Executive. It was interesting to attend those events and listen to some of the comments that were made. At that time, Executive officials were selling the concept and the designation as a fait accompli. That might explain some of the attitudes that have been adopted since then. The minister's decision that some areas could and should be excluded from the designation was based on scientific advice alone. Now that the Executive officials have got their rogue samples, they are saying, "Now we have got you. We are going to designate."

**Bruce Crawford:** We have still to hear evidence from other witnesses, but if Jim Walker is right, we are in a bit of a boorach, to use an old Scots description. The NFUS view seems to be that the whole NVZ process in Scotland is potentially undermined. If the methodology has been so erroneous, could that bring the process into dispute?

If the circumstances are those that you have set out and if you are so concerned, is the NFUS considering a judicial review of the issue? The way in which you described the catalogue of events and the methodology that was used in the consultation process leads me to conclude that the action taken has been unreasonable.

**Jim Walker:** There is no doubt that the Executive has done untold damage to the process. Previously, we had partnership and co-operation, but that will now be extremely difficult to achieve. I cannot answer for individual farmers. If the Executive designates, there will be a legal requirement on farmers to do something on their farms. It is a matter of speculation whether the economics of the situation will allow those farmers to continue to farm. That was referred to earlier but, as yet, we have had no commitment or offer of help.

We will have to work within the bounds of the legislation. Over the past few months, we have discussed the matter with our sister organisation in England and Wales, the National Farmers Union, as areas south of the border are also to be designated. The NFU has examined the possibility of taking legal action or of going back to Europe to fight off a measure that is unsupported by the evidence. I do not know what the chances of success are. My view, which is also the view of the union, is that we would far rather do what we suggested previously.

The committee has heard Richard Church's evidence and has seen the submissions. Although we do not believe that there is a real and present risk at the moment, we accept the precautionary principle. On the basis of that principle, we would be happy to get back to the table, as we had agreed to do before Christmas. Voluntary plans with the farmers in the catchment area need to be put in place to ensure that nitrate levels do not rise.

If the sampling that Richard Church described were to take place and we were convinced in one or two years—however long it took—that nitrate levels were exceeding the designated requirements of 50mg/l, we would co-operate fully with whatever action was required to protect the water supply in Dumfries. At the moment, due to the completely illogical way in which the issue has been progressed, everything is up in the air. As has been explained clearly this morning, the methodology was dubious—that is the view not of a lobbying organisation but of scientists.

Would members have the confidence to deal with the subject? We knew little of the technical detail of the subject—I did not know anything about the 50mg/l level and all the other technical aspects. Even the BGS has qualified some of the statements that it made. I will take members back to the beginning of the draft report:

"Their locations were confirmed using OS Landranger maps and a programme of site visits was organised. Of the 39, 5 were found to have incorrect grid references, with the Eastings and Northings swapped around. This resulted in some farms being marked on the original GIS as being 15 km away from their correct locations."

If that is the process by which the boreholes were located, would members have confidence in the rigour of the samples that were taken from them? We are not convinced by that, nor about the 57mg/l reading that was made at one secret location somewhere near Thornhill.

**The Convener:** I have a final question for Richard Church. I asked earlier about the aquifers providing drinking water for the public supply. Have the levels of nitrates in the public supply been measured? If so, what trend has emerged?

**Richard Church:** The BGS report of 2002 contains data from some samples from the bedrock boreholes—boreholes not drilled into the sands and gravels on the upper surface, but boreholes drilled deep—

**The Convener:** I am not talking about nitrates in the boreholes, but about nitrates in the public supply.

**Richard Church:** The three public water supply samples that were taken previously did not show nitrate levels above 50mg/l. One that was based on an industrial supply in Dumfries showed a nitrate sample of 9mg/l. The public water supply boreholes did not show levels of nitrates above 50mg/l.

10:45

**The Convener:** Is there a different test for the public water supply?

**Richard Church:** The guideline level in the drinking water directive is 25mg/l and the cut-off action level is 50mg/l.

**The Convener:** That brings us to the end of our questions for this group of witnesses. I thank Jim Walker and Richard Church.

Our second panel of witnesses comprises Lisa Schneidau of the Scottish Wildlife Trust and Fiona Newcombe of RSPB Scotland. I welcome you and invite one or both of you to give the committee an initial statement of why you would support the implementation of the statutory instrument, setting out the background to your position.

**Fiona Newcombe (RSPB Scotland):** We would both like to say something briefly.

**The Convener:** If both of you want to make a statement, that is fine.

**Fiona Newcombe:** Thank you very much for inviting us here. The RSPB and Scottish Environment LINK are interested in the nitrates directive because of some of the issues that have arisen due to the impact of farming on wildlife, especially over the past 25 years. We recognise that the nitrates directive is about more than wildlife, but, as wildlife is our specific brief, I shall stick to that subject.

Many species have declined or become extinct in Scotland as a result of modern farming practices. The corn bunting became extinct in Dumfries and Galloway in 1996, and extinctions are still happening. Do not get me wrong: we do not blame individual farmers for the problems. The problems have occurred mainly because of the way in which the common agricultural policy has driven the industry. We are keen to work with farmers to identify solutions to the problems—we recognise that it is important that we do that—and we regard the nitrates directive as a key part of the solution. We are keen to see practical measures and designations that will help not only wildlife and the environment, but farmers, through the funds that they can access via the designations.

I will pick up on a couple of the points that have been made this morning. We have heard a lot about methodology, figures of 50mg/l and so on. My understanding is that the designation applies to waters at risk—it is not simply a matter of hitting or not hitting the magic 50mg/l mark. I also understand that we have taken rather a minimalist approach to designation in Scotland. In England, more than half of farmland has been designated, including important livestock-rearing areas similar to Dumfries and Galloway. At least five of the areas in England are designated because they are deemed to be at risk, not because the nitrate levels there are near to 50mg/l.

Defining areas at risk is tricky, and it is often not possible to use proper science; it might be necessary to come up with another methodology. We are supportive of designating areas at risk, and believe that the figures and methodology used by SEERAD are not perfect. There are a lot of problems with them. We believe that lower Nithsdale should be designated, as there is a problem there, and we think that farmers should be helped by the Executive, in partnership, to take things forward.

**Lisa Schneidau (Scottish Wildlife Trust):** I will mention some of the concerns held by members of the Scottish Wildlife Trust and by the wider membership of Scottish Environment LINK on the proposal that lower Nithsdale should not be identified as a nitrate-vulnerable zone. We are concerned that the nitrates directive has been implemented in a minimalist way and some 11 years since the directive came out. We might compare that with the way in which the water framework directive is being implemented in the United Kingdom.

That minimalist and late approach has naturally led to an extremely regulatory and very swift process of identifying and consulting the various parties that are interested in the topic. There has been an obvious difficulty around consultation with farmers, because the process has had to be swift.

However, we consider that, although the consultation took place over a short time, the process that occurred was adequate. Scottish Environment LINK members attended a couple of the meetings that the Executive organised across Scotland to address the subject.

Although the approach has been more minimalist than we would have liked, we welcome the rigorous scientific approach that has been taken in identifying potential nitrate-vulnerable zones. We were disappointed with the rejection of the original proposal to designate 18 per cent of Scotland—that was reduced to 13 per cent. We consider that a number of important areas that are at risk have been omitted, despite the requirement under the directive to identify such areas.

We consider that the purely regulatory approach, although it has been supported by finance to help farmers, could well be complemented by a more positive approach, integrating control of diffuse pollution with wider farming practice and policy, and we continue to encourage the Executive strongly to take that approach.

We have a few thoughts on the precautionary principle. It is interesting that various parties interpret such a difficult concept in the way in which they would like to interpret it. Nitrate pollution can take a long time to filter through the system. It is sometimes difficult to put a figure on nitrate pollution when there are freak weather conditions, which are likely to increase.

SEPA considers that agricultural pollution is currently one of the major causes of degradation of our rivers and lochs and that, over the next 10 years, it will become the major source of pollution damage to our rivers and lochs. That problem needs to be addressed as soon as possible. Again, despite the minimalist approach, we welcome a constant review of nitrate levels across Scotland and any additions to NVZs where appropriate. If that happens soon, we welcome the Executive's commitment to the principle.

The Scottish Wildlife Trust is concerned that, if lower Nithsdale is not determined as being at risk, the Executive will not be complying with the requirements of the directive concerning nitrate-vulnerable zones. We should bear in mind the considerable amount of pressure from Europe and concern within the UK about the possibility of heavy financial fines on the UK Government and on the Executive if the directive is not complied with.

We also believe that if Nithsdale is not designated as a nitrate-vulnerable zone, the Executive might well be in danger of shirking its responsibility to promote environmentally friendly farming in Scotland. Omitting the area is a

response to a seemingly knee-jerk reaction from the agriculture sector. The matter has been rather blown out of proportion, given that the area that we think should be considered as a nitrate-vulnerable zone under the precautionary principle is relatively small.

**Bruce Crawford:** I am sure that committee members share many of your views on the thrust and direction of NVZs and their absolute necessity for human health and the ecosystem. However, we are left in a difficult situation. The NFUS has submitted evidence and you have given us very general statements about the necessity of NVZ status in Scotland and in the particular area.

Do you agree that, for the committee to reach its decision, we need to be absolutely sure that the direction that the Executive is taking is set within a robust framework? Is the result of one survey really a rigorous enough assessment? If it were shown that the methodology was not rigorous enough, might not that undermine the whole process of NVZ designation in Scotland? I am concerned that, if we do not get things right, that might be the impact of the directive.

Fiona Newcombe mentioned that the corn bunting is threatened with extinction. Is that anything to do with nitrates? I ask the question because I want to understand the situation; I genuinely do not know what is going on.

**The Convener:** I invite the witnesses to respond to that swathe of questions.

**Fiona Newcombe:** The decline of the corn bunting is due to the use of chemicals on land. We know that nitrates pollution is a problem in water courses, but it is a problem before that stage is even reached, because of the way in which fertiliser is applied. We welcome the nitrates directive as an opportunity to examine how farmers could apply fertiliser more efficiently to help both wildlife and the economics of farming. I hope that that answers your question.

**Bruce Crawford:** It skips round it a bit, if you do not mind me saying so.

**Fiona Newcombe:** I will send you some papers.

**Bruce Crawford:** That would be useful. I just want to find out the direct impact of nitrates from farmland, because nitrates come from other sources.

**Alex Fergusson:** Is not it true that the demise of the corn bunting is due more to modern agricultural harvesting and cutting practices than to the use of chemicals?

**Fiona Newcombe:** That is part of it. Our paper sets out a suite of measures on the subject. Perhaps it would be more helpful if I sent it to the whole committee. I should point out that the

mechanical application and spraying of chemicals also have an impact.

To return to Bruce Crawford's questions about the framework—

**Bruce Crawford:** I want to know how it would apply specifically in the Nithsdale area. The situation seems reasonable enough in the rest of Scotland.

**Fiona Newcombe:** It has been quite difficult to agree on a methodology to find out whether sites are at risk. Indeed, as I said earlier, different parts of the European Union have used different methodologies, some of which it might be interesting to consider using in Scotland. However, one particular methodology has been chosen. One reading has gone over 50mg/l, so we support the proposal that the designation should be made, because it shows that the site is at risk.

**Bruce Crawford:** I want to burrow down into that issue, because it holds the key to whether the committee should support the proposal. Do you consider one assessment of risk to be a rigorous enough approach? Is not that a sign that further work needs to be carried out?

**The Convener:** I have an additional question. I notice from the Entec report that one of the sites whose integrity was ranked 1 or 2 had a nitrate level of more than 50mg/l. Furthermore, one site had a nitrate level of 43mg/l, another two a level of 40mg/l and several a figure in the 30s. What level would you say is indicative that a site is at risk? How far down would the level have to go before you would say that there is no indication that a site is at risk?

**Fiona Newcombe:** We do not have a set position on that. We are disappointed that the Executive has not considered the eutrophication of waters, which the directive also covers, but we believe that there is enough evidence to designate an NVZ.

11:00

**Lisa Schneidau:** I agree with Fiona Newcombe. Bruce Crawford mentioned a rigorous approach. We were confident that the science that underpinned the original analysis of 18 per cent of Scotland being designated as an NVZ was based on a rigorous approach. At the time, we questioned whether there was a scientific reason for removing 5 per cent to take the figure down to 13 per cent, but the minister did not give an adequate reply to our query.

An at-risk approach is difficult to define, but we think that it should form part of a rigorous approach to environmental protection and should help to form the decisions of a confident Government. Variable readings in an area that is

at risk point to a difficulty. If the area has only recently been monitored and concerns are still being raised, further monitoring is needed. To protect the area, surely it is more prudent to designate it in the meantime.

**Bruce Crawford:** Could the danger of further action by the NFUS or others and the danger that the designation will be shown to have been reached erroneously, for whatever reason, undermine the whole NVZ policy in Scotland? I would be worried if the problems around the circumstance in question created an opening for others and undermined the whole process.

**Lisa Schneidau:** We do not think that the whole process will be undermined. The Executive has not gone far enough with NVZs anyway. We query whether Europe might ask us to designate further sites, as we have not complied with the directive. We think that the designation of Nithsdale would comply with the directive, so there would not be a case in Europe.

**The Convener:** I will let other members ask questions—Bruce Crawford may probe that issue further later.

**Elaine Thomson (Aberdeen North) (Lab):** Bruce Crawford has asked questions about matters that I wanted to discuss. I wonder whether the witnesses agree that openness, transparency and a level playing field are important in applying European directives and that it is important that, if there is a scientific process, it should be rigorous and all parties should agree to it. There have been difficulties in other areas and clear disagreements about assessments that scientists have made. Questions are being asked about the rigour of the science. Do the witnesses agree that it is important that if a directive is to be applied, it should be stated clearly whether a measurement is above or below a line and that that must be determined by a scientific assessment?

**Fiona Newcombe:** You have made two points. We certainly agree that we need clear and transparent information and good stakeholder dialogue. On Monday, we were pleased with the Executive's response to the "Custodians of Change" report, to which Jim Walker referred. The Executive said what it would do in the future and we look forward to a change in culture.

The second point goes back to the point that the directive is about areas that are at risk, as well as the 50mg/l designation. How is risk best monitored and measured? We are satisfied that the area in question is at risk and that farmers in the area should be helped to take measures to mitigate the environmental and human health impacts.

**Elaine Thomson:** As Bruce Crawford said, no committee member disagrees with protecting land and ensuring that anything that will suffer from



nitrate pollution is dealt with. However, the process for designating an area that is at risk must be clear. People must be able to say that if the level is above or below a certain concentration, the area is or is not at risk. I presume that the level is defined in the European Union directive. The process seems to lack clarity, because people have difficulty in defining what is at risk.

You said that you had originally hoped that 18 per cent of land in Scotland would be designated and that only 13 per cent has been designated. Is Scotland using different scientific standards from those in England and Wales, or are the scientific standards that relate to the nitrates directive not being applied properly?

**Fiona Newcombe:** I do not know all the details of the standards that have been applied in England, but I know that five areas that have been designated have levels that are under the 50mg/l limit, so it is clear that designation is undertaken differently. The directive is not prescriptive about designation of areas and Elaine Thomson might have been correct to identify that as a problem.

**Robin Harper (Lothians) (Green):** I apologise for being late. I was giving a keynote speech on behalf of the Executive at Our Dynamic Earth.

**The Convener:** Did you say that you spoke on behalf of the Executive?

**Robin Harper:** It was for the community renewables roll-out.

I understand from Fiona Newcombe's presentation that a single reading over 50mg/l is not needed to designate an area as a nitrate-vulnerable zone. Am I correct in saying that if a clutch of readings were taken of between, say, 35 and 47mg/l, or even 49mg/l, that would be sufficient to designate an area as nitrate vulnerable?

**Fiona Newcombe:** A procedure for judging what is at risk is needed. I do not know whether a measurement above 35mg/l means that an area is at risk. I am sorry; I do not know the detail of the procedure in England, which is different from our procedure in Scotland. A methodology must exist for considering what is meant by "at risk" under the directive.

**Robin Harper:** Do you have a hierarchy of areas in Scotland that you would like to be designated? If so, where does Nithsdale fit into it?

**Fiona Newcombe:** The Executive gave a full presentation in January 2002 on the initial proposal to designate 18 per cent of Scotland, which included Nithsdale. We welcome such open presentation and explanation of the methodology. The Executive also brought along scientists to explain the situation. That was a first for us and for the Executive on environmental designations. We

would have been happy with the designation of 18 per cent. We were convinced by those presentations.

**Robin Harper:** That does not quite answer the question about where Nithsdale would be in the hierarchy of areas proposed for NVZ designation. Is Nithsdale near the top or the bottom?

**Fiona Newcombe:** It was part of the proposed designations. We have not undertaken an assessment. The area fulfils the criteria that we were satisfied with.

**John Scott:** I will ask a variety of questions. Did you say that you employed scientists to advise you of the at-risk areas? What is the basis of your assertion that the Scottish Executive reduced unscientifically the proposed designated landmass in Scotland from 18 per cent to 13 per cent?

**Fiona Newcombe:** I do not quite understand the question.

**John Scott:** You said that you objected to the Scottish Executive reducing the landmass that was to be designated as an NVZ from 18 per cent to 13 per cent. What is the scientific basis for that assertion?

**Fiona Newcombe:** We consider that the presentation that the Executive made in January 2002, which justified the 18 per cent designation, contained methodology that would fulfil the "at risk" part of the directive.

**John Scott:** Yet that is at odds with the opinion of the British Geological Society and MLURI.

**Fiona Newcombe:** Again, the question is about the definition of "at risk".

**John Scott:** What do you think of the farmers' offer to put their own house in order voluntarily?

**Lisa Schneidau:** We question the approach of addressing nitrate pollution through regulation in some areas and through voluntary practice in others, where it is clear that areas should be protected through designations. For some time, we have also been concerned that many voluntary measures in the farming sector are not taken up. A good example of that is the prevention of environmental pollution from agricultural activities—PEPFAA—code. The agriculture and environment working group that produced the "Custodians of Change" report was given quite a substantial amount of evidence that there is a low uptake of the PEPFAA code—

**John Scott:** But the code is voluntary. [Interruption.]

**The Convener:** People in the gallery must not call out comments. That is out of order.

**Lisa Schneidau:** The fact that diffuse pollution from agriculture is increasing and is of great concern to the Scottish Environment Protection

Agency and others demonstrates that voluntary approaches—in relation to which there is no regulation or policing—do not work sufficiently well to protect the environment.

We welcome the agriculture sector's recognition of its environmental responsibilities and the fact that it is doing work in that regard. We believe that it should be supported in that effort through positive methods as well as through regulation. However, in this instance we believe that regulation is necessary.

**John Scott:** I think that Fiona Newcombe said that farmers could access funds to reduce the dangers of nitrate pollution to wildlife through the designation of nitrate-vulnerable zones. However, the NFUS has given us contrary evidence. What schemes are you talking about?

**Fiona Newcombe:** I think that Jim Walker referred to some consultation papers that the Executive has issued and to some proposals that it has made but said that those proposals had not yet been firmed up. We are pushing the Executive to implement those schemes.

**John Scott:** So no schemes are in place?

**Fiona Newcombe:** I am aware that the Executive is consulting on schemes and has made a budget allocation to pay for them.

**John Scott:** Would that be similar to the budget for the rural stewardship scheme, which even organisations such as yours acknowledge to be underfunded?

**Fiona Newcombe:** I have not seen the details of the budget. I am aware that the process is under way. As Lisa Schneidau said, we support that.

**John Scott:** But there are no schemes at the moment to help farmers to mitigate the effects of pollution.

**Fiona Newcombe:** I believe that the process is under way. We are in the process of designating nitrate-vulnerable zones.

**Alasdair Morgan:** Much of what you have said appears to be general and I presume that other members, like me, are struggling because we are dealing with a specific designation rather than the generality of the problem.

You said that there were difficulties in defining "at risk". I presume that that relates to the part in annexe 1 that reads:

"whether groundwaters contain more than 50 mg/l nitrates or could contain more than 50 mg/l nitrates if action pursuant to article 5 is not taken".

Is that where the "at risk" designation comes from?

**Fiona Newcombe:** There is an issue of waters becoming eutrophic or being eutrophic if action is

not taken—we are talking about more than a magic number.

**Alasdair Morgan:** Yes, but in terms of being at risk of breaching the directive, criteria are crucial.

**Fiona Newcombe:** But references to eutrophic water are also included in the directive.

**Alasdair Morgan:** I notice that there is nothing in the directive that refers to time scales, or how long it might be before the groundwater reached a particular level if action were not taken. Given that there is no evidence—at least, I have not seen any—to suggest that there is imminent danger of groundwater in the area breaching the directive's limit, would it not be more sensible to continue monitoring and to put in place the voluntary measures that have been suggested? If there is a problem in one or two years' time—we are not clear that there is a problem now—there would be no argument against designation.

**Lisa Schneidau:** If there has been a reading of more than 50mg/l, and a number of readings of just below that amount, surely that indicates that there could be a problem and that the area is at risk.

11:15

**Alasdair Morgan:** Most of the readings below 50mg/l are significantly below that figure. They do not indicate to me that levels will rise next year or the year after. Given that one reading might owe a lot to measurements being taken incorrectly—certainly, this single reading does not apply to all the groundwater in the area—we would be in dangerous territory if we designated a whole area as nitrate vulnerable after one reading at one place. If we applied that rationale elsewhere, a huge percentage of Scotland would be so designated.

**Lisa Schneidau:** I support what Fiona Newcombe said about defining "at risk".

**Alasdair Morgan:** She said that the term was difficult to define.

**Lisa Schneidau:** It is difficult to define, but I refer you to my comments about the precautionary principle being part of a rigorous approach.

**Alasdair Morgan:** Either Fiona Newcombe or Lisa Schneidau said that there is a problem in lower Nithsdale. How do they know that there is a problem? Is their view based simply on this one reading, or did they know that there was a problem before?

**Fiona Newcombe:** The impacts of modern farming practices, including the use of chemicals and their influence on pollution—

**Alasdair Morgan:** That problem occurs everywhere in Scotland.

**Lisa Schneidau:** Nithsdale was identified as one of the potential nitrate-vulnerable zone areas during the original consultation, and that identification was based on more than this one reading, which came afterwards.

**Alex Fergusson:** I agree with Alasdair Morgan, as I, too, find the evidence somewhat general and subjective.

I have two points, one of which relates to a remark that was made by Fiona Newcombe when she was asked about the situation in Scotland compared with England. She drew attention to the lower levels of areas at risk in Scotland, which she was concerned about. However, is it not true that that reflects the different nature of Scotland's countryside, in that 85 per cent of Scotland is of a less favoured area nature so there is less use of chemicals and less intensive farming?

Lisa Schneidau said that she welcomed the rigorous, scientific approach that had been taken. However, such an approach is exactly what members of the Transport and the Environment Committee, and I, would like to see. Increasingly, the evidence suggests that a rigorous, scientific approach has not been taken in the lower Nithsdale area. Given Lisa Schneidau's desire for a scientific approach, what scientific evidence does she have to support the immediate implementation of an NVZ in lower Nithsdale, or to question the Entec report, which suggests that the scientific evidence is far from rigorous and robust? Correct me if I am wrong, but I think that she is suggesting designation for the sake of it, rather than to put something right that has been proved to be wrong.

**Lisa Schneidau:** I shall answer your second question first. We were pleased with the rigorous scientific approach that was taken in the detailed study by the Macaulay institute and the BGS. The study identified data and made a case that we supported for classifying 18 per cent of Scotland—including Nithsdale—as a nitrate-vulnerable zone. On the basis of that data, we support the application of the at-risk approach and the precautionary principle approach.

The precautionary principle cannot be decided on the basis of empirical data alone; it is also a matter of judgment. If data that have been collected from one or two cases or that have not been collected over a number of years are alarming or show that there may be a risk, it is up to decision makers to decide whether an area is at risk, whether it should be designated as the directive requires, and whether it should continue to be monitored. That is the approach that we would advocate as environmentally responsible and as complying with the directive.

If an approach was taken in Scotland that was based solely on the figures, and which did not take into account the at-risk principle in the directive, we would query whether the nitrates directive was being implemented appropriately and sufficiently. The at-risk principle, which includes an element of judgment based on the scientific data, must be taken into account. Does that answer your question?

**Alex Fergusson:** Sort of, but I have to press you. Surely you are not suggesting that a European directive should be implemented if the scientific evidence does not exist.

**Lisa Schneidau:** We consider that there is enough scientific evidence on which to base the judgment that the area is at risk and, therefore, should be designated.

**Alex Fergusson:** You consider that to be the case.

**Lisa Schneidau:** Yes.

**Fiona Newcombe:** Your original question was about the differences between Scotland and England. I agree with you and I am very supportive of the idea that Scotland should take a different approach from that which is being taken by England. However, in England, some areas in which the nitrates level is below the 50mg/l limit are designated because of the at-risk principle. That is what I was trying to point out.

**Alex Fergusson:** Nonetheless, you would like to say that Scotland should not slavishly follow what happens south of the border.

**Fiona Newcombe:** Absolutely. It should not.

**David Mundell:** I reiterate what Alasdair Morgan said. In your opening remarks, you were rather casual in talking about Dumfries and Galloway although the zone is only a relatively small part of Dumfries and Galloway. Your general remarks about Dumfries and Galloway should be directed more specifically to the zone in question.

You are in a position—certainly, the RSPB is—to say whether there is any local evidence for the designation, as there are two major wildlife facilities within or on the edge of the zone. I would be interested to know whether, before the zone was mooted, any practical concerns had been expressed about what was happening to the wildfowl and wildlife in the area as a result of local farming practices.

**Fiona Newcombe:** The RSPB does not have unlimited resources, so it has to keep its research quite focused. The issue has not been as high a priority as some other areas. The evidence that we have been relying on has come from research done by the University of Aberdeen. The university has a fill station on the Ythan estuary, where it has

shown problems with eutrication leading to more algae growing on the mudflats. We have to look at the scientific evidence and the practices that have led to that scientific evidence.

**David Mundell:** Surely, if wildfowl and other birds were at risk in this area of Nithsdale—at Caerlaverock or Southernness, which are large, internationally designated bird sites—somebody would have noticed that farming practices in the locality were having a direct and specific impact on the birds and wildlife.

**Fiona Newcombe:** I cannot speak for the Wildfowl and Wetlands Trust. The RSPB reserve is well beyond the immediate Nith estuary, but we have seen declines in the numbers of birds in those areas, as across the rest of Scotland, because of modern farming practices.

**John Scott:** The risk analysis that was conducted by the BGS and MLURI does not identify the Nithsdale catchment as a high-risk area, but you are telling us that it is. Why should we believe you rather than the BGS and MLURI? You have no scientific evidence to back up what you have said.

**Fiona Newcombe:** We consider that the area has an environmental problem, with which the nitrates directive could help.

**John Scott:** Your case is based on one reading.

**The Convener:** That brings us to the end of our evidence taking from our second panel of witnesses. I thank Lisa Schneidau and Fiona Newcombe.

We will suspend the meeting for a couple of minutes to allow the minister and the Executive officials to come in. Members can take the opportunity to have a short break.

11:25

*Meeting suspended.*

11:29

*On resuming—*

**The Convener:** We move to agenda item 2, which is formal consideration of the Nitrate Vulnerable Zones (Scotland) (No 2) Regulations 2002 (SSI 2002/546). We will consider a motion in the name of John Scott to annul the instrument.

I welcome Ross Finnie, the Minister for Environment and Rural Development. I also welcome Elinor Mitchell and Joyce Carr from the Scottish Executive, who will assist the minister. In a second, I will give the minister an opportunity to make some introductory remarks. I will then give members the opportunity to question the minister and his Executive team before we move into the formal debate.

I appeal to members to stick to questions and not to move into argument at this stage. We will have the opportunity for a full debate on the issue when we consider John Scott's motion formally. Members can ask questions—technical or otherwise—only at this stage. If members want information or a specific response directly from the Scottish Executive officials, they will need to make such points after Ross Finnie's introductory remarks, as the officials will not be able to participate once we move into the debate.

**The Minister for Environment and Rural Development (Ross Finnie):** I welcome the opportunity to comment on the instrument. The designation of this area has been a long and, in some ways, slightly vexed process.

Let me put the designation into context. After the conclusion of our earlier general consideration of all the areas in Scotland, a number of important distinctions had to be drawn about the evidence that was assembled in Nithsdale. Those distinctions had to be drawn both about the quality of that evidence as compared with other areas in Scotland and the starting point of the evidence. Some of the designations of areas that were potentially at risk were in some ways different from that which emerged at Nithsdale. Both the level of data and the persons who produced some of that data were quite different.

At the end of that process, my initial conclusion was that the qualitative differences that had emerged meant that one could not come to the same conclusion. Although other areas had provided evidence that was clear and definitive, one was not entirely sure whether a designation could be proceeded with in Nithsdale. The existence of nitrates could not be ignored, but there were some doubts over whether the levels in Nithsdale qualified for designation. On that basis, I proceeded thinking that we could attack that problem—the problem existed, but not to designation level—by the use of closer co-operation and collaboration with the agricultural industry.

Since then, however, we received the additional report from the BGS, the effect of which was to put the nature of the testing in Nithsdale on a comparable basis with that which had been done in other areas throughout Scotland. The BGS is regarded throughout the United Kingdom as the expert in this field and its report demonstrated not only that there was a continuing rising trend—of which we had been partly aware—but that certain areas clearly either were, or could be, above the 50mg/l level.

The reading came from a borehole at an aquifer that served a public water supply. Nowhere in the United Kingdom, and at no time for several years, has a similar piece of evidence concerning

pollution or potential pollution in aquifers serving public water supplies not been a matter of real concern. In that particular case, the threshold for designation was not absolutely met. It was the change in the combination of evidence that brought the area more on to a par with other areas of Scotland.

The evidence that took us above the threshold under the designating order and the fact that the information was now being produced by the BGS instead of by another body led me to a conclusion that was perhaps regrettable, but the evidence was of a nature and quality that were significantly different from those of the evidence that had been put before me previously. I came to the inevitable conclusion that, given the fact that the criteria that are set out in the directive had been met, we had no obligation other than to designate. Hence the order that is before the committee.

**John Scott:** Let me take you back to the borehole in question, because the whole situation appears to turn on the evidence that was obtained there. Do you accept that there is more than one source of supply to a Permian aquifer such as the Dumfries aquifer, with more than one area contributing streams to it? How much of the water in the aquifer would the flow rates from the borehole describe? Is it possible to indicate the importance of the reading from the water at the borehole as far as the overall water quality of the aquifer is concerned?

**Ross Finnie:** The directive is tightly constructed. Therefore, a breach of the nature that we have been discussing, especially when a public water supply is concerned, is very clear. We have to consider which areas could be affected and to examine the supporting evidence. The second piece of work that was done was important, and allowed us to draw a parallel with the nature and quality of work that had been done before. We do not have to be concerned—at least, not in terms of the directive—about the precise, wide dimension; we have to be concerned about pollution in the aquifer concerned. Elinor Mitchell might be more qualified to deal with the more technical nature of that important question.

**Elinor Mitchell (Scottish Executive Environment and Rural Affairs Department):** The directive states that it is necessary to designate where pollution is above 50mg/l and also where there is a risk of pollution. Several instances were detected of levels of more than 40mg/l. The drinking water directive says that water with levels above 25mg/l are considered to be at risk. Many sites were found with higher levels than that. Under the terms of the directive, given that information from boreholes at areas where water was feeding the private water supply, we had to designate.

**John Scott:** Did the climatic conditions of the year when the test was taken have any influence on the nitrate level or on the degree of nitrate leaching that is likely to have taken place? The summer in question was regarded as the wettest on record for the area concerned.

**Elinor Mitchell:** Our scientists tell us that the impact of the weather conditions on groundwater is minimal. The weather certainly affects nitrate levels in surface water, but not in groundwater, which is where the data were taken from.

**Ross Finnie:** That is stated in the report.

**Elaine Thomson:** I want to ask about the implementation of the directive in Scotland compared with implementation in the rest of the UK. Are we using different criteria or cut-off levels? Some people seem to be suggesting that the implementation of the directive in Scotland is weaker than it is elsewhere, particularly in England.

On the at-risk issue, there is a clear criterion of what the directive designates as at risk—it is a level of more than 25mg/l.

**Ross Finnie:** I am not aware that we are applying different criteria. In some areas, we may have had a slightly different starting point because we had the benefit—we thought—of the initial work that was done by MLURI on at-risk areas. Our starting point in considering at-risk areas was informed by that work. I am not aware that there was an equivalent starting point in England. However, the implementation of the requirements of the directive is broadly the same in England and Scotland.

Elinor Mitchell made the separate point that the absolute requirement to designate an area comes when the level is about 50mg/l. The issue became even more critical because the borehole that was involved served a public water supply. Even if we had doubts about whether the level was exactly 50mg/l—it might have been plus or minus that—there was a public health consideration. The water directive gives a level of 25mg/l. We must take all the evidence in the round. There was the evidence on the risk of nitrate pollution and the specific consideration that the borehole fed into a public water supply. We therefore had to be cautious and, having concluded that the area was at risk, we were led straight to designation.

**Elinor Mitchell:** In terms of implementing the directive, there is a level playing field throughout the UK. We all have to implement the directive in the same way. The methodology that was used in England was pretty similar to ours, although there was a different starting point because there are more groundwater data in England as much more groundwater is used for drinking there. However, our interpretation and implementation of the directive are identical to those in England.

**Bruce Crawford:** We are at the crux of the issue, but I am a wee bit confused. I understand that the directive to which the statutory instrument that is before us relates is EU directive 91/676/EEC, which concerns

“the protection of waters against pollution caused by nitrates from agricultural sources”.

My understanding is that we are dealing with the nitrates directive. However, the evidence that we are now hearing from officials mentions the drinking water directive and the issue of 25mg/l and 50mg/l levels. Will you clarify exactly what the difference is and what the specific issue is in relation to the statutory instrument that we are considering? We are in danger of straying into the territory of the drinking water directive, which refers to a level of 25mg/l instead of 50mg/l.

**Elinor Mitchell:** Article 3 of the nitrates directive states that

“Waters affected by pollution and waters which could be affected by pollution if action ... is not taken”

must be designated. The term “Waters affected by pollution” refers to water in which the level of nitrates is, without question, more than 50mg/l. The term

“waters which could be affected by pollution if action ... is not taken”

refers to waters that are at risk. The only way in which we could identify what might be classified as waters at risk was to look at other directives, for example, the drinking water directive. That made sense because we were dealing with a drinking water aquifer. That directive says that waters with a nitrate level above 25mg/l are at risk. We were not looking any wider than the nitrates directive, but we were using other directives to interpret it.

11:45

**Bruce Crawford:** Can I take that a wee bit further?

**The Convener:** Yes.

**Bruce Crawford:** From what you are saying, I understand that there could be a public health risk with that aquifer under the drinking water directive.

**Elinor Mitchell:** No. I am saying that under the terms of the nitrates directive, there could be a risk of pollution if we did not take action because the levels are well above 25mg/l at several of the boreholes.

**Bruce Crawford:** I will come back later to the other questions that I wanted to ask. That answer was helpful.

**Fiona McLeod (West of Scotland) (SNP):** I want to pursue the same line a wee bit further. From the minister's opening remarks, it was quite

obvious that it was the second set of samples and the identification of one particular borehole that made the Executive go back and review the whole area. The minister said that that borehole was for the public water supply. However, if I followed Elinor Mitchell correctly, she said that the borehole supplies a private water supply.

**Elinor Mitchell:** I am sorry; I meant to say that it supplies the public water supply.

**Fiona McLeod:** I will move on from that point to some other questions that have occurred to me as I have listened to the evidence. We heard a lot from the earlier witnesses about the need for farmers to be supported with funds and so on when they change their farming practices. We also heard that the Executive possibly has a budget to support farmers in meeting the requirements of the nitrates directive. Will the minister tell us a wee bit more about that and about why he has decided to adopt the procedure of designating before funds are made available to help farmers to meet the requirements of the directive? Further to that, if we go ahead and designate the area, how much sampling will continue to be done within the designated zone? If sampling shows that the concerns that are raised by the results from one borehole are not as dramatic as was first thought, how easy is it to undesignate a zone?

**Ross Finnie:** I will deal with the second and third questions when I have an answer.

We are introducing a discretionary grant scheme to assist farmers but I cannot remember what the maximum amount is. There is a 40 per cent grant scheme that is intended to assist with the cost of slurry storage; I am trying to remember what the cap is, but it has gone out of my mind completely.

Elinor Mitchell will answer the other questions about reversing designations and levels of testing. I will come back with an answer to the first question. The second question was about the level of continuous testing that has to be carried out and the third was about whether we can, if there are changes in the nitrates level, unwind the designation.

**Elinor Mitchell:** We have an ongoing commitment to continue monitoring and we have to review the situation every four years. It has been agreed with our scientists that monitoring will take place annually. We can also de-designate—the directive says that the review process must take account of the available information and amend the designations. If, in four years, it was found that the risks had been removed and the nitrate levels had fallen, de-designation would be a possibility.

**Fiona McLeod:** You said that monitoring will be annual. Does that mean that you will review annually the results of samples taken in that year,

or do you mean that one sample will be taken per year?

**Elinor Mitchell:** As I understand it, it means that one sample will be taken per year.

**Fiona McLeod:** Is that enough?

**Elinor Mitchell:** Samples would be taken from boreholes that are considered to be robust. Of course, Scottish Water takes samples of tap water to make sure that public safety is maintained. There is also the private water supply data that was contained in the first BGS report about which we had some anxieties. Local authorities will continue to monitor that private water supply data as regularly as they do now.

**Fiona McLeod:** The drinking water quality regulator, Scottish Water and possibly even SEPA will be taking samples in and around the NVZ. The Executive will also take annual samples. Is there any way to ensure that all those sample data are taken into consideration? One annual sample does not sound like monitoring to me.

**Elinor Mitchell:** I am sorry—I have just been corrected. We have asked SEPA to take samples four times a year from each of the boreholes that have been identified. We will bring all the samples together, examine the data and look at trends. In relation to the public water supply, the water regulator does that anyway.

**The Convener:** For members' information, article 6 of the nitrates directive outlines the sampling standards that are required. Several members want to ask supplementary questions. We can have a couple at the moment and the rest can be asked later.

**Alasdair Morgan:** My question is not a specific follow-up to Fiona's point, although it relates to matters that have been raised.

**The Convener:** If you could hold on to your question, that would allow other members to get in.

**John Scott:** I have a brief question about monitoring, which Elinor Mitchell has just mentioned. You say that the public water supply is being put at risk. From all the samples that Scottish Water and other bodies have taken, what is the current level of nitrates in the public water supply in the Dumfries area?

**Elinor Mitchell:** The most recent data that are available for the area show that the levels are 26mg/l overall. The level has risen from 22mg/l to 26mg/l. Those figures are published in the drinking water data.

**Maureen Macmillan:** You said that robust boreholes were necessary and that a borehole that had a level that is higher than 50mg/l serves the public water supply. The National Farmers

Union of Scotland told us that although it thinks that it knows where that borehole is, it does not know for certain. It said that the boreholes are not used in places where the water is for drinking but for washing out agricultural buildings and so on. There seems to be a mismatch of information. I want to know how you choose your boreholes and why information about where the boreholes are is not given to the farmers.

**Ross Finnie:** That is because the way in which the information was assembled would bring us into conflict with data protection legislation. That is not entirely helpful, but it is a fact.

I am slightly confused by the suggestion that although the NFUS does not know where the boreholes are, it knows what they are used for. I suspect that in order to know what the water from boreholes is used for, one must know where the boreholes are.

There is a shift in the conclusion of the later BGS report. However, although the BGS reported on the data in the previous report, it did not produce all the data that had been supplied. I gave the reasons for that earlier—the starting point was slightly different. It was clear that a second report had to be consistent with the way in which designation had taken place in the other areas. A table in the report identifies 25 boreholes—I think that that is the figure—as having been assessed as suitable for repeated sampling. The robustness of the methodology for selection of boreholes is a well-determined basis for the work that is done by people in this field.

**Bruce Crawford:** I want to ask about monitoring and the boreholes. I think that Elinor Mitchell said that the trends would be examined over the next few years—for a four-year period—and that SEPA would take four samples a year from the boreholes where problems have been identified. The process of establishing trends is important. Why were not trends identified before the designation order was produced? The designation order seems to be based on the evidence from only one borehole. If we will examine trends in the future, why could not we have taken a bit more time to examine trends in relation to the finding at the borehole in question?

Are you convinced that one finding in one borehole is rigorous and robust enough to identify a trend?

**Ross Finnie:** There are two answers to that. Other data were available or were used in assembling the BGS report. In some specific areas—as is brought out in the original report—the BGS has data that go back to 1989. Its conclusions about rising trends, rather than its specific conclusions, are therefore based on data that go back more than a decade.

**Bruce Crawford:** We need more specifics. If there is information on trends, not just about the borehole that shows a level of more than 50mg/l, we should have that information; it would help the committee considerably.

**Elinor Mitchell:** The trend in the public water supply data is the one to which I referred earlier. The level has increased from 22mg/l to 26mg/l, and that is what has been monitored. Some of the boreholes that the BGS used for the second report were new, so no trends will be apparent at them, although we will start to monitor them. It is not a matter of there being one borehole that has a level of more than 50mg/l, but of there being a number of boreholes where there is evidence that there is increasing risk of pollution to groundwater because of agricultural practices. Under the terms of the directive, readings over 50mg/l and close to 50mg/l would point us towards designation.

**Bruce Crawford:** Okay, but where is the evidence to show that, for those boreholes, there is a trend in that direction over a period? I acknowledge what you say about the overall position as regards the drinking water, but is there any evidence on that?

**Elinor Mitchell:** I do not think that there is a trend in relation to the boreholes that Bruce Crawford mentions.

**Nora Radcliffe:** Elinor Mitchell might have answered my question. I really want to know how many boreholes we are talking about and how often they have been sampled. How have you identified a trend from the reliable and robust data that you have, and over what time? Were most of the data gathered over less than a year?

**Elinor Mitchell:** I would like to separate out the data in the second BGS report from the more general data on aquifers in Dumfries. The data on the aquifers in Dumfries date back to 1989 and have, in the years since then, indicated a rising trend of nitrate pollution.

**Nora Radcliffe:** Is that an accelerating or steady trend?

**Elinor Mitchell:** In the past 10 years, the nitrate level has risen from 22mg/l to 26mg/l.

**Nora Radcliffe:** Has there been a steep upward curve, an upward curve that has levelled off or a curve that is getting steeper? Do we know?

**Elinor Mitchell:** I will have to check that. As far as I understand the matter, there has been a fairly steady increase.

**Nora Radcliffe:** So it is not an accelerating or decelerating trend as far as you remember.

**Elinor Mitchell:** As far as I remember from looking at the data, it is a fairly steady upward curve from 22mg/l to 26mg/l over the years.

In the second report, the BGS looked at 10 springs, four drift boreholes and four rock boreholes. Within those sites, it found a range of data. Five per cent had nitrate levels of more than 50mg/l, 22 per cent were above 40mg/l and 44 per cent were above 25mg/l. Based on the data that we found there, which was water data—

**Nora Radcliffe:** Do you mean actual samples?

**Elinor Mitchell:** Yes. Forty-four per cent of the samples showed levels above 25mg/l, which we think means that there is risk. We designated on that basis.

**Nora Radcliffe:** Is the BGS 2002 report a snapshot of what was happening at all those sites at that time?

**Elinor Mitchell:** Yes.

**Nora Radcliffe:** The paper from Entec gave us those results, but it has excluded sites that were designated on the scale as being class 3 vulnerability. Was that a fair thing to do?

**Elinor Mitchell:** Yes. Our data excluded data that the BGS said were not robust. We used only sites that were designated as being classes 1 and 2.

**Robin Harper:** I think that my questions have more or less been answered, but I would like clarification on one point. If there had been many readings that were more than 50mg/l, you would have been compelled to designate and, in an area in which you felt that there was a risk that the waters might go over 50mg/l, irrespective of other public water supply concerns, you could and should designate. However, the reasons for the choice that you have made are that, over 10 years, there has been an increase from 22mg/l to 26mg/l in the public water supply, and a scattering of recent readings has shown that 44 per cent of the water is over the safe limit for a public water supply. Am I correct in thinking that that is the reason for the designation?

12:00

**Ross Finnie:** Yes. The difference lay in the way that the information came together, because the BGS did the additional work. To make a designation is a serious step. I must repeat that comparison with the qualitative data that were presented to support cases in other areas in Scotland showed marked differences. Some of the previous data came from different sources. Some of the data have not changed, but the elements that Robin Harper summarised were satisfied by the latest report. Therefore, it was quite clear that the readings came within the mischief of the directive and that there was a requirement to designate.



**Bruce Crawford:** What amount of nitrates would be an indication of an at-risk area in terms of the nitrates directive?

**Elinor Mitchell:** A reading of more than 25mg/l—which we take from another directive—in water levels would mean that an area was at risk.

**Bruce Crawford:** That figure is from another directive; I am asking about the nitrates directive.

**Elinor Mitchell:** Article 6 of the nitrates directive says in effect that sampling can be stopped where samples have dropped below 25mg/l and there are no new factors. I think that it is fair to say that the directive says that levels below 25mg/l are not risky and that, therefore, higher levels than that are risky.

**Bruce Crawford:** Was that figure, rather than 50mg/l, used to designate the NVZs?

**Elinor Mitchell:** We have applied the directive equally throughout Scotland. In areas such as the north-east of Scotland, where previous designations were made, there were more instances of levels of more than 50mg/l. However, the at-risk areas, which had levels between 25mg/l and 50mg/l were taken into account in the designation process.

**Bruce Crawford:** That is useful. We are dealing not only with the effects on the ecosystem but, because of the nature of the two directives, with an issue of public health.

**Elinor Mitchell:** The drinking water directive says that levels above 25mg/l are not recommended.

**Bruce Crawford:** Yes, but I am trying to relate to the directive that we are dealing with. You are taking figures from the drinking water directive requirements and applying them to the nitrates directive. I understand that you are doing that in the interests of identifying trends and so on, but does the fact that you are applying figures from the drinking water directive mean that you have concerns about public health in that area?

**Ross Finnie:** No—we should make the matter clearer, because we have heard that argument previously. A distinction must be drawn between a competent authority's being concerned and doing something about water that has nitrate levels above a certain amount, and automatically assuming that anyone who drinks such water is at immediate risk. As Mr Crawford knows from the drinking water quality regulator's report, there is a range of issues for which it would be important—and is important, because the regulator sets the standards—either to reduce or eliminate nitrate levels. However, we must be careful about our choice of words. If there is an immediate public health risk, steps will automatically be taken.

I want to emphasise the figure that Elinor Mitchell quoted from the directive, which was that there is no future need to monitor where levels are lower than 25mg/l. Turning that on its head, if we eliminate monitoring at levels below 25mg/l, peradventure we ought to monitor and do something about levels above 25mg/l. The nitrates directive drives us on that. We also said that where aquifers and boreholes lead directly into the public water supply, it is clearly right and proper for us to marry information on those, rather than to deal in isolation with them in terms of designation.

**Bruce Crawford:** That was useful. I have just one tiny follow-on question. The designation level is set at 25mg/l and we have talked about an increase from 22mg/l to 26mg/l, which is 1 mg/l above the designation level. If the trend is that there has been an increase of 4mg/litre over 10 years, how long would it take for the level to reach the requirements of the nitrates directive, which is—I think—50mg/l? That would indicate to the committee how quickly designation needs to be done.

**Ross Finnie:** Again, we have not—

**Bruce Crawford:** I mean given the existing trend.

**Ross Finnie:** The existing trend is averaged across the piece. On boreholes, there have been recorded levels of 40mg/l and above, but only one borehole has a level that is above 50mg/l. We are dealing with permeable aquifers and a large area. I agree that it is difficult to get a balanced picture. That is why I did not initially rush to designation. It seemed to me that some of the previous evidence was rather isolated—I must be blunt—and perhaps pointed more to a surface water point-of-source problem than the most recent assembly of evidence, which was consistent with the evidence that we applied elsewhere when designating. I think that the BGS noted that. The recent evidence seems to bring us to a different conclusion. We must try to meet the three or four criteria that Robin Harper summed up in his question. We need all that before we take the step of designating.

**Alasdair Morgan:** The regulations relate specifically to the nitrates directive, so I think that the committee must be satisfied that the criteria to which the nitrates directive's articles refer are being met. Just to be absolutely clear, the 25mg/l limit appears in the directive only as a reference to a point at which we can stop monitoring so frequently. The directive does not say anything about water that shows levels of more than 25mg/l being at risk. Is not it the case that the words "at risk" do not even appear in the directive?

**Elinor Mitchell:** The words "at risk" do not appear, but the directive says:

"Waters affected by pollution and waters which could be affected by pollution".

**Alasdair Morgan:** That was my next point. In interpreting the pollution, you have to refer to annexe I, which says:

"Whether groundwaters contain more than 50 mg/l nitrates or could contain more than 50 mg/l nitrates".

In terms of implementing the directive in the regulations, the question is whether that criterion is relevant. That is what the committee should base its conclusions on.

**Elinor Mitchell:** Yes.

**Alasdair Morgan:** A rising trend from 22mg/l to 26mg/l was referred to. If those figures came from one of the boreholes or sampling points that was measured under the directive, it is interesting that, for much of that period, those measurements would have been so low that the length of time for which they were measured would have been stepped down, because they were below the 25mg/l limit. Does not that suggest simply that you should monitor more often? The fact that the figures that are monitored under the nitrates directive have gone from 22mg/l to 26mg/l does not mean that they are likely to reach 50mg/l. It means simply that you should carry on monitoring every four years.

**Elinor Mitchell:** That is correct for those data, but we have other data, in particular from the borehole that the BGS identified as being in a robust site and in the right place to take a sample, which gave a sample that had a level of more than 50mg/l. According to the nitrates directive, purely and simply, a designation needs to be made in that situation.

**Alasdair Morgan:** Apart from the one sample that had a level of more than 50mg/l, there are no robust samples with levels of more than 40mg/l in the list with which we have been provided. Annexe I to the directive, which defines how nitrate pollution is identified, does not specify the finding of one borehole that has a level of more than 50mg/l. It contains a more general criterion of

"whether groundwaters contain more than 50 mg/l".

I presume that that is intended to provide some flexibility and to provide that a whole basin is not designated simply because of one measurement. Is that reasonable?

**Elinor Mitchell:** The BGS said that it took its snapshot from testing groundwater. The sample that was above 50mg/l was of groundwater. I will correct the figure that you gave for the number of other samples above 40mg/l that the BGS took. From the reliable sites, another three samples were at 40mg/l or above.

**Alasdair Morgan:** I said that none was above 40mg/l.

**Elinor Mitchell:** Two were at 40mg/l and one was at 43mg/l.

**Alasdair Morgan:** Where was the 43mg/l sample taken? I have missed the sample at Shawhead. However, are not all the samples groundwater samples?

**Elinor Mitchell:** Yes.

**Alasdair Morgan:** So—equally—the sample at 5mg/l, the two samples at 8mg/l and the one sample at 9mg/l are groundwater samples.

**The Convener:** I encourage Alasdair Morgan to stick with questions and not to debate.

**Alasdair Morgan:** I think that I have made my point.

**Alex Fergusson:** I can be very brief, because Alasdair Morgan has covered most of the ground. I think that his point is that we are supposed to be considering diffuse pollution, rather than basing the decision on one sample from one borehole.

The NFUS told us that when the original designation was proposed, it entered into talks with the minister's department that were aimed at invoking voluntary action to ensure that the pollution situation improved or did not worsen. The NFUS said that SEERAD ended those talks. Will the minister comment briefly on the reasons for that?

**Ross Finnie:** I repeat that I am ready to acknowledge that the quality of information across the piece and in comparison with that from Nithsdale did not lead to the immediate conclusion that there was a necessity to designate. Nevertheless—I must be careful in my use of words—I suppose that using some definitions, one would say that we are within the mischief of the directive. However, even if the view were taken that there was clear evidence, I was happy about those discussions.

We did not terminate the discussions. The different situation was not brought about by a desire on our part not to speak to the NFUS—to which we continue to speak—or not to continue the discussions. The difficulty was that the quality and range of data had been materially changed by the publication of the second report. Officers and I examined that report, which led us to a different conclusion. It was a question not of terminating discussions, but of consulting the NFUS and advising it of the different situation and the different conclusion that I was reaching on the basis of the data.

**Alex Fergusson:** Your evidence was that the converse of samples under 25mg/l allowing you to stop monitoring was that samples over 25mg/l meant that you had to carry on monitoring under the directive. Given that, is doing anything other

than monitoring justified? When the decision to go further is based on one sample, as many people have said, could you not be accused justifiably of gold plating the directive by going further than simply continuing to monitor the area rigorously?

12:15

**Ross Finnie:** I do not think so. I am not going to get into a debate about whether the definitions in the directive are as good as they might be or about what Alasdair Morgan said about forming a view as to what is at risk. Perhaps things could have been drafted more accurately. We must recognise the clear intent of the directive and the advice that has been tendered. We need to express the requirement to implement directives in legislative terms.

Since I took office, I have made it clear that my preferred solution in general is to work in close collaboration with the industry to try to mitigate problems. In the absence of certain qualitative evidence, I reached my initial conclusion by doing so, but I have an equal requirement as a minister to implement a directive when a test or threshold has been met and an option is no longer open to me.

That does not mean that we will not work in close collaboration with the industry in other areas of Scotland and indeed in the areas in question. That is the effective way by which to minimise problems and to allow for the possibility that the monitoring and testing that must take place may lead to the point at which the regulations can be revoked. That will not be done simply by directions from ministers or anybody else—it will be achieved by working with the industry. We have a legal obligation under the Scotland Act 1998 to implement European directives and we are obliged to do so in this case.

**David Mundell:** I want to clarify one or two matters. On the overall designation, is there any other extraneous evidence that suggests that there is a problem in the area? Is there any evidence of practices in the Nithsdale area affecting wildlife or wildfowl? Does anything other than the water test result support the designation?

**Elinor Mitchell:** The MLURI analysis did not identify the areas as at risk on a land-use basis, so the water science data were all that we had to go on.

**David Mundell:** So no other factors immediately led to a belief that the area should be designated. The public water supply was mentioned. Do you have any information on the number of people who are served by the public water supply?

**Elinor Mitchell:** I do not have information to hand, but I can certainly pass it on.

**David Mundell:** The issue is important, as some public water supplies serve one or two people, whereas some serve thousands of people. I am concerned that referring to the public water supply will create alarm. The number of people who are affected is important. There is not necessarily an impact on the whole of Nithsdale or indeed Dumfries.

**Ross Finnie:** That takes us back to the fact that there are two issues. The first concerns whether pollution is feeding into a public water supply—if it is, that would be a concern. Bruce Crawford properly raised the second issue, which we discussed. It should be recognised that saying that there are levels of pollution in a public water supply that need to be addressed is not the same as saying that everybody is immediately at a public health risk, albeit that it would be a serious matter if the water authorities did not take action to reduce those levels for the drinking water quality report. The discussion on that issue was interesting and helpful.

**David Mundell:** I think that you are confirming my point, minister. Dealing with a specific problem that affects members of the public who receive a water supply is one thing—

**The Convener:** Is this a question, David?

**David Mundell:** Yes, it is. Dealing with that does not lead inexorably to the conclusion that a whole area should be designated under the directive.

**Ross Finnie:** According to the ordinary use of the English language, I do not think that that was a question.

**David Mundell:** According to the standard of this Parliament, it was.

I want to ask the minister about split farms. The fact that there are a number of split farms makes the designation an illogical way of achieving what it is meant to achieve. Both fields within and fields outwith the designated area are draining into the same drainage course. I am not clear how that is to be sorted out for the implementation of the directive. Will the minister clarify that?

**Ross Finnie:** I shall ask Elinor Mitchell to answer what was clearly a question.

**Elinor Mitchell:** We asked colleagues in local agriculture offices to carry out a boundary-hardening exercise. They went to look at farms and boundaries and prepared a map. Originally, the map covered the whole Nith catchment, but it was amended so that areas that crossed fields were removed and the area boundary looked sensible.

**The Convener:** Two of my colleagues would like to ask what I am assured are brief questions, which the minister can take together. First,

following David Mundell's question, I should like to clarify whether there is any indication that some bore sites are more significant than others, in terms of the volume of water in their area. If so, would that have an impact on the environmental and public water supply issues? I shall also allow John Scott and Nora Radcliffe to ask brief questions.

**John Scott:** The convener's point is the one that I made in my first question to the minister: how relevant is the volume of one supply to the Dumfries aquifer?

Does the minister agree that imposing a designation on the basis that something is at risk because there has been a rise from 22mg/l to 26mg/l—that is what it boils down to—is using a sledgehammer to crack a nut? Had there been a rise from 22mg/l to 25mg/l, the area would not have needed to be looked at for another eight years.

**The Convener:** John, you are developing your argument, so I shall stop you there.

**Nora Radcliffe:** If the designation goes ahead, the next step will be an action plan that will impose restrictions on farming practices. However, there seems to be some dubiety about the voluntary status of the PEPFAA code, so it would help to have some clarity on that. Moreover, would support for farmers be different depending on whether they were inside or outside an NVZ?

**Ross Finnie:** I shall answer the first question on significance by referring to the methodology that the BGS adopted. It has been reporting, as the Executive asked it to, on whether it is able to reach conclusions about the nature and extent of nitrate pollution. It narrowed down the range of boreholes and samples to the ones that, in its terms, were assessed as suitable for repeated sampling. Again, according to the ordinary use of the English language, the scientists have concluded that the samples are suitable because of the area in which they are located. Reasonable and rational conclusions have been drawn from the sample area.

In answer to John Scott's question, a borehole from an aquifer that is feeding a public supply is still a borehole, regardless of whether it contains or is fed from other sources of various volumes. I repeat that the BGS concluded that the borehole was suitable for the purpose of arriving at such conclusions. The borehole is one that draws from the various supplies and feeds into a public water supply. No matter how David Mundell wishes to define it, that is what it is.

On whether the designation has been made only on those rising trends, we have tried hard to explain to the committee how we tried to get a clear view as to whether the sample was in breach

of the directive. We have tried to take as pragmatic a view as possible in assessing solid evidence about the trend. Had I been desperate to gold plate the directive and rush into designation, I would have done so the first time round. With all due respect, I am bound to say that the fact that I did not shows that that is not my position. I am, however, required to respond when evidence of a reasonably robust nature is presented to me.

On the action plan, some of the requirements within the designation order will stipulate the times when certain slurry can be spread. Those will be mandatory, although we will have to enter into discussions with each local area because, although rainfall can vary slightly each year, there are reasonable trends in relation to when the highest points occur—last year may be a singular exception. We generally try to adjust the closures to be more sympathetic to the circumstances that arise in a local area. The only support that is particularly different is the grant scheme for slurry storage.

**The Convener:** At that point, as members have had an adequate opportunity to put questions to the minister, we will move on to formal consideration of the motion. After John Scott has spoken to and moved his motion, I will give the minister and then individual members an opportunity to respond.

**John Scott:** I agree with the convener that we have had a good hearing of the evidence. I declare an interest as a farmer and as a member of the NFUS.

In opening the debate, I welcome the evidence that we have just heard from the NFUS, Scottish Environment LINK and RSPB Scotland. I thank the convener for acceding to my request to allow those organisations to present to the committee evidence that I believe will allow us to come to a more informed decision on the Scottish Statutory Instrument. I also welcome my colleagues David Mundell, Alex Fergusson and Alasdair Morgan, who are here to represent constituency, farming and rural affairs interests.

Before we make a decision, we must examine the evidence. On the basis of what we have heard today, that evidence is at best mixed. Quite simply, there is no clear-cut case for the imposition of the designation on the lower Nithsdale area. Let us examine the facts. We need to look at the various readings of nitrate levels in the water measurements that have been taken. In my view, and in the view of the BGS and the NFUS, it would be unsafe to make a judgment on site category 3 readings.

If we eliminate such readings from our consideration, we must then consider the integrity of the sample that was provided by EnviroCentre

Ltd relative to that which was provided by the BGS. In my view and in the view of the BGS, samples taken from the EnviroCentre should also be discounted. Quite frankly, as the EnviroCentre readings are all taken from farm water supplies, they do not bear comparison with the BGS samples.

Speaking from personal—and sometimes bitter—experience, I know that farm water supplies are often not as pure as farmers, and farmers' wives and children, would wish. In many cases, such supplies are little more than water taken from open ditches, field drains or the nearest spring to the farm. Inevitably, some farm supplies are contaminated by artificial or organic fertilisers, especially if cattle and sheep stand in the drains and drink from the water before it reaches the farm supply holding tank.

If one discounts those results and uses only the BGS result, it is quite clear that there is only one result from the Thornhill area, which was taken during one of the wettest summers on record. That is significant, despite Elinor Mitchell's comments, because the aquifer is permeable and the result was obtained in a time of high rainfall.

12:30

There is insufficient evidence to create the designation. Of course, neither I nor anyone else in this room is against protecting the Dumfries aquifer, but it must be unreasonable to impose such a protection order on the basis of one reading taken from so many and on the basis of public water supply readings that have risen only from 22 to 26mg/l over the past 10 years.

The BGS and MLURI do not regard the Nithsdale catchment as a high-risk area, but that does not mean that further monitoring and readings should not take place. Indeed, if the committee decides today to seek to annul the order—which I hope it will—we should recommend to the minister that a further programme of nitrate level monitoring should be undertaken, so that a long-term record of nitrate levels can be created.

It is essential to protect our Scottish aquifers, particularly the one in Dumfries—I should declare my interest in and passion for geology—but I do not believe that the evidence exists to create the NVZ.

I welcome the NFUS's willingness to work voluntarily with SEPA and the Scottish Executive to try to alleviate the problem. That offer should not be dismissed lightly.

If, next year or at any time in the future, consistent high-integrity nitrate readings demonstrate the need to protect the Permian aquifer, I will be happy to support any order that

would offer such protection. In the meantime, the case has neither been made nor proven and we should not proceed with the designation today.

I move,

That the Transport and the Environment Committee recommends that nothing further be done under the Designation of Nitrate Vulnerable Zones (Scotland) (No.2) Regulations 2002 (SSI 2002/546).

**The Convener:** I invite the minister to respond to John Scott's motion.

**Ross Finnie:** We have had a fair hearing. I do not intend to rehearse many of the points that have been made. I regard it as extremely important that the committee focuses on the change in the nature and the quality of the evidence that it has seen and which I saw at an earlier stage. I repeat that it is not my wish to rush to designation if that is not justified, and I repeat that that was why I saw a distinction between the qualitative and quantitative evidence that was before me at an earlier stage.

The BGS report is a matter for opinion. There are those who will take the view that the evidence is not clear cut. I am bound to say that I do not take that view. Having looked at all the reports that have been presented on this difficult matter, I believe that the evidence is clear cut. The BGS report deals with groundwater. That is important. Particularly important is whether it is affected by a particular level of rainfall. On the way in which the evidence has been accumulated, we are dealing with samples from groundwater, not surface water. It is clear from reading the reports that they are not affected materially by particularly high levels of rainfall.

Samples from the aquifer, obtained from boreholes, provide clear evidence that the limit is being breached, and there is evidence of a rising trend. Given that the directive requires designation if certain criteria are met, a view must be taken. My view is that, on the basis of the new evidence, the criteria have been met. We are in a difficult situation. I would love to have a different set of criteria. I would love to have criteria that say that account can be taken of potential voluntary action, but that is not what the directive says and it is not what it invites me to do.

I agree about the evidence from MLURI but, in our discussions with other bodies, nobody other than the NFUS took exception to adopting the same methodology that was applied in the other zones that we designated in Scotland. The fact is that they have been brought into a *pari passu* position.

We must reach a view on the matter. I am convinced that the evidence is of a sufficiently different nature and quality to bring us within the mischief of the directive.

**Maureen Macmillan:** For me, the important issue has become the link between the nitrates directive and the drinking water directive. In its evidence, the NFUS mentioned a rogue sample and highlighted the fact that the borehole in question was used only for industrial purposes, not for drinking water. However, I am concerned by evidence that suggests that such boreholes are serving a public water supply. I would have liked John Scott to address that issue in more detail. Perhaps he will do so when he sums up.

The fact that the nitrate level in the drinking water has risen to 26mg/l is also a matter of concern. Obviously, I do not know the geology of Dumfriesshire or how such a situation would affect people; however, we are still talking about a public water supply, even though it serves only a few people. As a result, I am not comfortable with supporting John Scott's motion.

**Bruce Crawford:** Frankly, I am not comfortable with voting at all today, because I am not sure that I have all the information that I need to make the robust and rigorous decision that the committee must make. I have no interest to declare in respect of the issue; I am not a farmer. My only interest is in ensuring that the nitrates directive is applied properly and appropriately. We must take into account the evidence that we have received on the impact on the environment, particularly on wildlife, and address certain public health issues. Moreover, we need to ensure that we apply good public policy.

We are all aware that the directive came into force in 1991 to protect the environment. As I said earlier, we should not even be discussing the matter. The fact is that if we had got things right at the beginning, we would have had the time to carry out monitoring and accumulate the required information.

I entirely accept that the minister is not rushing into things, because he has already knocked the matter back. That said, we have to work out whether the evidence on trends is robust enough to allow us to accept the statutory instrument. If that evidence is robust, there is no doubt that we should accept it, because not doing so would have an impact on wildlife; however, if it is not robust enough, simply proceeding with the instrument could have a significant impact on the farming industry. The minister did not provide a clear enough description of the type of support that farmers might receive; I heard something about a 40 per cent grant, but I am not sure what that would be 40 per cent of, or how much money would be available. I am concerned about that, because it represents a grey area in any final decision we might make.

Maureen Macmillan is right to mention the trend in relation to drinking water: the level has risen by

4mg/l from 22 to 26mg/litre. However, the minister told us clearly that we are here to discuss the nitrates directive, which specifies the real cut-off point as being 50mg/l. We are discussing the matter today only because one borehole in particular tested above that level. The question is whether a single test of a single borehole is a robust enough approach to allow us to proceed with this statutory instrument, given that we have already heard that monitoring will be carried out over the next few years. SEPA itself will carry out four tests a year on the boreholes.

I have no doubt that evidence will come back next year about the levels reached at the boreholes. If we had even two results from the boreholes giving us evidence of a problem in relation to the EU nitrates directive, I would feel much more comfortable about the decision that we have to make today. Right now, I do not know what I am going to do; I have a good idea, but I will have to consider my position. We must ensure that we make the decision on the basis of a strong public policy and I am not sure that a robust public policy framework is in place to enable us to do that.

**Robin Harper:** Like Bruce Crawford, I would have liked to see more evidence. My decision will have to be based on the balance of probabilities and the precautionary principle.

I accept that the trend in public drinking water supplies is a rise in nitrates levels from 22mg/l to 26mg/l. The directive states that that must be a matter of concern, and I accept that as an argument for designation.

I would have preferred the single reading of more than 50mg/l to have been backed up by other readings. However, the second consideration is that there have been readings of 40mg/l and 43mg/l. The grey area around acceptable levels has not been explained sufficiently to us. We realise that that is a matter of judgment and that sometimes matters of judgment cannot be explained very precisely. The concern in the mind of the Executive is great enough to count as an additional argument for designating the area.

I am not happy with some of the criticisms of the evidence that has been adduced. I am taking the evidence at face value, as I believe that that is what we must do. I shall probably back the Executive, but I cannot commit myself to that at this precise moment in time.

**Nora Radcliffe:** This has been a good morning's work. There is a sense of déjà vu about the debate, because one of the first things that I did when the Parliament was set up was to challenge the designation of the Ythan. I have been through this kind of process before, but the

process that we have been through this morning has been better. I commend the convener for allowing us to take evidence before our consideration of the SSI, which was extremely helpful. The decision has to be made on balance. Having heard what the NFUS, the environmental groups and the minister have to say, I am satisfied that the minister has no choice but to move to designation. Action can be taken to facilitate implementing the measures that follow.

For the Ythan, we were able to argue the case for tailoring the close period for slurry spreading, which is the most onerous part of the action that is required of farmers, to match the Scottish growing season and climate. We can do things within the action plan that are helpful. The best way forward is for everyone to work together to implement the plan as effectively and as sympathetically as possible. The decision has to be made on balance, but I think that the minister has won the case.

12:45

**Alasdair Morgan:** I would argue that the terms set down in the nitrates directive have not been met. The public water supply is a totally different issue and its inclusion in the debate is a red herring. If there is a genuine problem with the public water supply, it should be addressed, but it should not be addressed through this order.

Regulation 3 relates specifically to groundwater pollution under the nitrates directive of more than 50mg/l. It is difficult to justify the position in legal terms. At best, the case for the nitrates directive is not proven. The mean of the category 1 and 2 borehole readings in the geological survey is 23.6mg/l, which is below the level at which such frequent monitoring would be stopped. That tells us something.

Having said that, if the consequences of implementing the directive were slight or transient, or could be turned on and off like a tap, I would say that we should go ahead and implement it. However, we heard earlier that that is not the case. If farmers have to implement the directive in upper Nithsdale, some of them will be involved in fairly substantial capital investment. If that proves to be unnecessary, the investment will be wasted—if the farmers are able to find the money. If farmers cannot find the money, they might have to go out of business.

From the data that we have, the logical conclusion is to increase monitoring over the next one or two years. If the data prove to be robust, the committee will have no choice but to accept the order. In the meantime, I urge members of the committee to vote for John Scott's motion.

**Alex Fergusson:** I will be as brief as possible.

I have no doubt that Scottish farmers are more aware than they have ever been of their environmental responsibilities and of the actions that must be taken when a problem is identified. I also have no doubt that the Nithsdale farmers would be perfectly happy to operate under the restrictions and responsibilities of a nitrate vulnerable zone if there was sufficient proof that such a designation was necessary.

The debate has had two points of focus. One was the public water supply and I agree with Alasdair Morgan that if there is any danger in the public water supply, there are other procedures through which that can be addressed. If there were any danger, it would surely have been picked up before now by current monitoring techniques.

The second point was about trends and Bruce Crawford was quite right to focus on that. We were told that there is an increasing trend. We were told that that was over an extended period of time and that, if extenuated, the trend would take 50 years to reach a level where it would have to be urgently addressed. That is not to say that it should not be addressed, if it needs to be addressed, before that.

There would be no point in repeating all the points that were made in the evidence we heard from the NFUS and others; I will not drag out the debate by doing so. However, as MSPs, we are in the business of passing satisfactory and robust legislation that is backed up by satisfactory and robust evidence and reasoning. It has been well proven that the evidence and reasoning behind the order are sadly lacking. I believe that the statutory instrument should be rejected and replaced with a commitment to thorough and intensive on-going testing over a sufficient length of time to determine the exact status of the Dumfries aquifer before any designation is implemented.

I thank the convener for having us here today.

**David Mundell:** I thank the convener for the way in which the debate has been conducted and for his inclusion of members who are not committee members. It was important to have the debate because it has to be made clear to farmers and SEERAD officials that the Parliament will decide whether the statutory instrument will be implemented; it is not simply a matter for officialdom.

On the basis of the evidence that I have heard, I cannot accept that there is a need for the order to proceed at this stage. I do not know why the Executive wants to come down in favour of the designation at this time.

As we heard today, there was no extraneous evidence to suggest that there was a specific problem in the Nithsdale area as a result of current

farming practices. Indeed, within and bordering the area are two of the largest wildfowl sanctuaries in Scotland. The area includes much land that has already been designated as environmentally sensitive. There had been no indication that there was a specific problem.

As others have suggested, the decision to proceed with the designation is based on readings for a single borehole. As Elinor Mitchell said in response to one of the questions, there is no trend in relation to the borehole, as there has been only one set of readings. The Executive would be in a much more credible and sustainable position if it introduced the sort of monitoring to which both Alasdair Morgan and Alex Fergusson referred. The Executive should return to the committee with evidence of a trend.

The issue of the public water supply is a red herring. There are all sorts of guidelines and designations for the public water supply and we should, of course, be concerned about those. However, the public water supply is not the criterion on which this directive should be judged. It is most disappointing that the Executive has raised the issue of the public water supply, which is inevitably emotive. I understand why members, when faced with the suggestion that the public water supply is being polluted, should be minded to give the Executive the benefit of the doubt. However, it is extremely disappointing that no substantive evidence concerning the extent of this problem and how many people have been affected by it has been presented. Members do not have sufficient information to make a judgment on the impact that the borehole is having on the public water supply.

I respect what Robin Harper said about the precautionary principle. However, the implementation of that principle in this case would have a significant impact on farmers, their incomes and their sustainability. A balance must be struck. In this case, the precautionary principle should involve the Executive carrying out further monitoring and returning to the committee in future months or years with the evidence that it has gathered, so that the committee may take an informed decision.

**Ross Finnie:** I welcome the acknowledgement by many members that there is a general need to deal with problems of nitrate pollution. However, we must be cautious. The real sadness is that we have come close to breaching, and have now breached, the directive. That should be the last resort. We should be nowhere near the nitrate levels that have been recorded. That is an historical problem over which I have no control.

It is wrong to say that we do not need to be concerned as long as we have not quite breached the standard that the directive sets. We are

concerned not just about contamination of the water supply, but contamination of the zone. One of the significant differences between the 2002 BGS report and the 2001 report is that the 2002 report concludes:

“Groundwater with a nitrate concentration greater than 25 mg/l can be classed as significantly contaminated. It is now widespread within the main Permian aquifer at Dumfries as well as in many shallower superficial groundwater bodies. It is therefore recommended that at least the lower Nith catchment, to include the main Permian aquifers at Dumfries and Thornhill, be designated as an NVZ.”

It is interesting that the BGS report uses the same figure for groundwater as we use for the public water supply.

I understand fully the difficulties of arriving at a balanced judgment on the evidence that exists and the monitoring that has taken place, and the wish to postpone making that judgment. I repeat that that is what I wrestled with, on the grounds of evidence that, in qualitative and quantitative terms, was not as robust as the evidence that we have now and was different to that which is used to designate areas. However, that is no longer the case. I am at risk of repeating myself, but there is now evidence and we should be mindful that by getting concerned about the designation on the margin of one side or the other we are going far further than we ought to be.

I said that I could not recall the upper limit of the grant scheme. I apologise for that. The scheme applies to improvement works, new works for building slurry containment and slurry control measures within farms. The grant has an upper limit of £85,000 per farm and the other factor is 40 per cent. Those are the main elements. Some of the slurry can be contained and reduced by the practices that have been discussed and such measures will still have to be put in place, irrespective of whether we have a designation.

There is evidence and we must consider the situation in the round. We must compare the case with what has been done elsewhere when the issues have been examined seriously. I take no pleasure in the designation. I understand perfectly the difficulties that it will cause, but I think that I have a statutory duty when the conditions of the order are met and we are therefore within the mischief of the designation. In the circumstances, I have no alternative other than to request that the committee agree to the designation order.

**The Convener:** Thank you, minister. I invite John Scott to respond to the debate.

**John Scott:** I thank the minister and everyone else who has contributed to the debate for their comments.

I will deal first with Maureen Macmillan's point about the public water supply and the evidence



from the borehole. It was not public knowledge, until today, that the borehole was tapping into a public aquifer. It dismays me that that has been kept a secret from the organisations that are most concerned about the matter—such as the NFUS—and that no other verifying measurements are being taken, or are allowed to be taken, by an independent body. That is of concern.

Having said that, I reiterate the case that I made and my motion for annulment. I do not believe that the public water supply is at risk; it is mischievous of the minister even to suggest that it is. I do not believe that the nitrates directive needs to be implemented in this case. As Bruce Crawford said, if the NVZ is implemented the impact on the farming industry will be financially significant. It is a sledgehammer-to-crack-a-nut approach. Robin Harper noted that there is a rising trend from 22 to 26mg/l; if the rise had been from 22 to 25mg/l, the matter would not have arisen. We would not even be considering examining the situation for another eight years in terms of article 6 of the directive. That is a huge weakness in the minister's argument. As David Mundell said, one sample at 57mg/l does not represent a trend. The minister had an opportunity not to designate the site. I am dismayed that he has not explored ways of reducing the problem with the NFUS, the colleges and the non-Governmental organisations.

Alasdair Morgan is correct in saying that the drinking water directive should not be used to implement the nitrates directive. As he said, we should continue to monitor the nitrate levels and, if and when it is confirmed that a problem exists, there will still be plenty time to protect the aquifer. A rise from 22 to 26mg/l over a 10-year period is not a huge or significant jump, given that it does not endanger the nitrates directive or the public water supply.

The minister says that he is satisfied that the methodology used in arriving at his designation is correct; I am not satisfied and the matter may yet have to be settled in court.

**The Convener:** Can we move to a decision on the motion?

**Ross Finnie:** I have one point of information. The Executive note, which accompanied the order—I hope that members have a copy of it—referred explicitly to the aquifer feeding a public water supply.

**The Convener:** Okay. The question is, that motion S1M-3731, in the name of John Scott, be agreed to. Are we agreed?

**Members:** No.

**The Convener:** There will be a division.

**FOR**

Crawford, Bruce (Mid Scotland and Fife) (SNP)  
Scott, John (Ayr) (Con)

**AGAINST**

Harper, Robin (Lothians) (Green)  
MacKay, Angus (Edinburgh South) (Lab)  
Macmillan, Maureen (Highlands and Islands) (Lab)  
Muldoon, Bristow (Livingston) (Lab)  
Radcliffe, Nora (Gordon) (LD)  
Thomson, Elaine (Aberdeen North) (Lab)

**ABSTENTIONS**

McLeod, Fiona (West of Scotland) (SNP)

**The Convener:** The result of the division is: For 2, Against, 6, Abstentions 1.

*Motion disagreed to.*

**The Convener:** In the report that we will submit to the Parliament we will record the formal position of the committee, which is that we have decided not to recommend annulment.

I thank the members of other committees and the constituency MSPs who attended the meeting and participated in the debate.

I suspend the meeting for a minute or so to allow us to get ready for the next item of business.

13:00

*Meeting suspended.*

13:02

*On resuming—*

### **Local Authorities' Traffic Orders (Exemptions for Disabled Persons) (Scotland) Amendment Regulations 2002 (SSI 2002/547)**

### **Public Service Vehicles (Registration of Local Services) (Scotland) Amendment Regulations 2002 (SSI 2002/548)**

### **School Crossing Patrol Sign (Scotland) Regulations 2002 (SSI 2002/549)**

### **Air Quality Limit Values (Scotland) Amendment Regulations 2002 (SSI 2002/556)**

**The Convener:** We move on to item 3. I hope that the negative instruments under this item will not take us as long as the first piece of subordinate legislation that we considered today.

No member has raised points about the instruments and no motions to annul have been lodged. As members have no comments, are we agreed that we have nothing to report on the instruments?

**Members indicated agreement.**

**Fiona McLeod:** Page 3 of the Executive note to the Air Quality Limit Values (Scotland) Amendment Regulations 2002 says that, for Scotland to fulfil its requirements under the directive, it has had to add two new measuring stations to monitor air quality. I notice, however, that the monitors are not mentioned in the regulations. I am sure that the Subordinate Legislation Committee would have picked up on the matter but, if we need two new monitors, I am not sure why that is not set out in the regulations. Could we ask the Executive where the monitors are?

**The Convener:** You want that point raised, separate from the passing of the instrument.

**Fiona McLeod:** Yes.

**The Convener:** I am sure that we can correspond with the Executive on the matter. Members will receive a copy of the Executive's response in due course.

## Petition

### Organic Waste Disposal (PE327)

**The Convener:** Item 4 relates to the work that the committee has done on petition PE327, which is on organic waste spread on land. George Reid, the Deputy Presiding Officer, who has had a continuing strong interest in the subject, is in the public gallery, but I think that he is here only to observe.

A paper has been produced to allow the committee to consider whether to take further action on the environmental aspects of the petition. We have published a report on the issue, received responses from the Executive and had a useful debate in the chamber, during which George Reid made a particularly informed and strong speech. Members will be aware that concern has been expressed that the health aspects were not addressed as fully as the petitioners or some members wished. That was partly because of the Health and Community Care Committee's problems with its volume of work. I welcome the fact that, following discussions between the Health and Community Care Committee and the Public Petitions Committee, the Public Petitions Committee has taken the issue on board and a reporter from that committee will look into the public health aspects. Dorothy-Grace Elder has been identified as the reporter and has started her investigation. Irrespective of what we decide, that work is on-going.

I seek guidance from members. Are they content that we have exhausted the environmental issues that the petitioners raised? Do members wish to conclude the petition or do they wish to pursue further issues?

**Maureen Macmillan:** I do not think that there are further environmental issues. We should refer the petition back to the Public Petitions Committee so that it can make progress on the health issues, which are extremely important.

**The Convener:** That is already happening. The Public Petitions Committee has appointed Dorothy-Grace Elder to investigate the issues and she will report back in due course. Do members agree to conclude the petition and to write to the petitioner on the action that has been taken, noting that the Public Petitions Committee is considering some of the health aspects?

**Maureen Macmillan:** Do we not have to refer the petition back formally, so that the Public Petitions Committee reporter can begin her consideration?

**The Convener:** Yes. We will pass the correspondence back to the Public Petitions Committee.

**Fiona McLeod:** I agree with the proposed route, but something has dawned on me and I would like to put it on the record for the new committee that comes along after 1 May. With this petition, the petition on the incinerator at Carntyne and the petition on genetically modified organisms, we considered the effects on the environment, but the issues crossed over to the effects on public health. Perhaps members of the new committees might want to consider that point closely.

**The Convener:** I will worry Fiona McLeod considerably by advising her that I was thinking exactly the same thing. The clerk and I reflected on that point in recent discussions and I suggested that we draw up a paper to pass to the Parliamentary Bureau. We do not know what the structure of the committees will be after the election, but it is important that, whichever committee has the environmental remit, the remit allows that committee to investigate the public health aspects of environmental issues. The clerk will draft a paper of that nature, which we will present at a subsequent meeting to seek the committee's approval. We will then send the paper to the Parliamentary Bureau for post-election consideration.

**Fiona McLeod:** It will be the Muldoon concordat.

**The Convener:** Indeed.

That brings our meeting to a conclusion. I thank members for their attendance and contributions.

*Meeting closed at 13:09.*



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