Cynulliad Cenedlaethol Cymru
National Assembly for Wales

Cofnod y Trafodion
The Record of Proceedings

Y Pwyllgor Newid Hinsawdd, Amgylchedd a Materion Gwledig

The Climate Change, Environment and Rural Affairs Committee

08/12/2016

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Meeting Agenda

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The proceedings are reported in the language in which they were spoken in the committee. In addition, a transcription of the simultaneous interpretation is included. This is a draft version of the record. The final version will be published within five working days.

Aelodau'r pwyllgor yn bresennol
Committee members in attendance

Jayne Bryant	Llafur
Bywgraffiad|Biography	Labour
Sian Gwenllian	Plaid Cymru
Bywgraffiad|Biography	The Party of Wales
Vikki Howells	Llafur
Bywgraffiad|Biography	Labour
David Melding	Ceidwadwyr Cymreig
Bywgraffiad|Biography	Welsh Conservatives

Jenny Rathbone	Llafur
Bywgraffiad|Biography	Labour
Mark Reckless	UKIP Cymru (Cadeirydd y Pwyllgor)
Bywgraffiad|Biography	UKIP Wales (Committee Chair)
Simon Thomas	Plaid Cymru
Bywgraffiad|Biography	The Party of Wales

Eraill yn bresennol
Others in attendance

Dr Nick Fenwick	Undeb Amaethwyr Cymru Farmer's Union of Wales
Dr Hazel Wright	Undeb Amaethwyr Cymru Farmer's Union of Wales
Stephen James	NFU Cymru President of NFU Cymru
Peter Howells	NFU Cymru NFU Cymru
James Byrne	Ymddiriedolaethau Natur Cymru Wildlife Trusts Wales
Lizzie Wilberforce	Ymddiriedolaethau Natur Cymru Wildlife Trusts Wales
Dr Malla Hovi	Adran yr Amgylchedd, Bwyd a Materion Gwledig (DEFRA) Department for Environment, Food and Rural Affairs (Defra)
Dr Paul Livingstone	Cyn Rheolwr Ymchwil a Dileu TB i Fwrdd Iechyd Anifeiliaid Seland Newydd Former TB Eradication and Research Manager for New Zealand's Animal Health Board

Swyddogion Cynulliad Cenedlaethol Cymru yn bresennol
National Assembly for Wales officials in attendance

Martha Da Gama Howells	Ail Glerc Second Clerk
Rhys Morgan	Dirprwy Glerc Deputy Clerk
Wendy Dodds	Y Gwasanaeth Ymchwil Research Service
Katie Wyatt	Cynghorydd Cyfreithiol Legal Adviser

Dechreuodd y cyfarfod am 09:03.
The meeting began at 09:03.

Cyflwyniad, Ymddiheuriadau, Dirprwyon a Datgan Buddiannau
Introductions, Apologies, Substitutions and Declarations of Interest

[1] Mark Reckless: Good morning, or good evening, I believe, in New Zealand. Thank you very much for staying up so late to talk to us; we really do appreciate it. Our witness is Dr Paul Livingstone who was the TB eradication research manager for New Zealand's Animal Health Board. I think you're now retired from that role, so we're very grateful for you making yourself available.

09:04

Tuberculosis mewn Gwartheg yng Nghymru
Bovine Tuberculosis in Wales

[2] Mark Reckless: Could I start, as Chairman of the committee, just by asking about some of the major differences between New Zealand and Wales? Clearly, New Zealand is a larger country than Wales and less densely populated, even if Wales is relatively sparse compared to the UK. I just wondered about the method of pest control. We, here, are primarily worried about badgers and the main method has been shooting. I just wondered if you could explain the wildlife that causes concerns in New Zealand and is seen as behind spreading TB and what the mechanisms of pest control are.

[3] Dr Livingstone: Good morning. It's really an honour and a privilege to be able to present —[Inaudible.] Is that coming through all right?

[4] Mark Reckless: Can you start again? We had the first bit that came through, and then there was a bit of a gap. Could I ask you to start the answer once more?

[5] Dr Livingstone: Sure. So, just before I start, good morning. It's an honour and a privilege to present to you this morning. Can you hear that?

[6] Mark Reckless: Yes, thank you.

[7] Dr Livingstone: Okay. So, going back—I've got some slides here that may assist us in showing some of this material. Is that all right?

[8] Mark Reckless: We can try. We have a picture of you and a table. Whether we'll see the slides, I don't know, but let's have a go.

[9] Dr Livingstone: I'll take you back to the beginning, I think, probably to let you know about our wildlife. So, we'll try this. Okay. Can you see that all right?

[10] Mark Reckless: No. Unfortunately, we just still have a picture of you and your table, and the above and back of your computer.

[11] Dr Livingstone: That's a shame. Okay. We have areas where we have been TB testing since 1965, and we continued each year to test these herds for infection. In 1970, we brought in what was known as block testing, where we went in and we tested every animal in every herd in the areas every three months. Every animal was tested, had a mark, had paint on its back to show it had been infected, and paint on reading day to show it had been read. For any animal that had any increase, we used the caudal fold as our means of testing—not the neck test—so it was a very sensitive test. Any animal that reacted went straight for slaughter, and then we would fly the area with a helicopter and we'd shoot any animal that didn't have a cross on its back. That made sure that all animals were presented for testing. Do you hear that?

[12] Mark Reckless: Yes. Can I just clarify—? You were you shooting the animals, including cattle that you hadn't previously marked, from the air? Is that correct?

[13] Dr Livingstone: That's correct. Any animal that hadn't been presented for testing was killed.

[14] Mark Reckless: And was that humane? I mean, coming from the air in a helicopter, isn't there quite a high chance of missing or only injuring the animal?

[15] Dr Livingstone: These guys are marksmen. They shoot it through the head every time. So, they did this and they tested every three months for two years. The levels stayed constant in these cattle and these herds. At that stage, they found TB in possum populations in these areas, and they then started to control possums. They continued testing cattle, but suddenly the infection rate dropped down. It went down from something like 85 per cent of herds infected to less than 5 per cent over a period of two years. So, we've been testing, testing, testing—no change. Suddenly, due to possum control, it just dropped down. As a result, we found that TB in possums was our source of infection for cattle and, in fact, something like 90 per cent of our newly infected herds were due to TB in wildlife—possums and, in some cases, ferrets.

[16] Mark Reckless: What mechanism was used to control the possums?

[17] Dr Livingstone: In farmland, we used trapping with leg-hold traps, and cyanide poison. In forest areas, we used extensive aerial 1080, which is sodium fluoroacetate—poison in a cereal bait.

[18] Mark Reckless: Just to clarify the second point on the farming. Was that a type of poison as well or a different mechanism?

[19] Dr Livingstone: Cyanide is a type of poison that is in a capsule; the possum grinds its teeth while eating—it grinds and opens that capsule.

[20] Mark Reckless: Thank you very much, Dr Livingstone. I will now bring in other members of the committee, starting with David Melding.

[21] David Melding: Hello, Dr Livingstone, and, again, thank you very much for agreeing to give evidence. I wonder if you could talk about the efficacy and the timescales in particular of the eradication plan. I have to say, I'm new to this committee and to the challenges of rural affairs and the agricultural community; I'm a fairly urban person. But, when a 40-year plan for eradication is proposed, that seems a very long timescale. I realise, for cattle herds, it's shorter than that, but can you just talk about why that's the timescale for the eventual eradication—in all mammals, I think is what is meant by that—and what progress are you making towards the more immediate target for cattle, which I think is 2026, if I've got that right?

[22] Dr Livingstone: Getting TB out of farm herds in New Zealand is very easy. By testing, slaughter and using ancillary tests such as the blood test and the gamma interferon test, we have a sensitivity of somewhere around 93 or 95 per cent. So, with repeat testing, we quite quickly get TB out of infected herds. The problem that occurs is that you've got the reinfection of herds from TB in wild animals, and we have TB in possums. It was up to 39 per cent of New Zealand's land area that had TB possums acting as a source of infection for cattle. It's now down to about 32 per cent of New Zealand. So, it's dropped down and, as a result, we've eradicated infection from possums. As a consequence, we've cleared infection from those herds. So, the length of time is actually the time taken to eradicate infection out of the possum population, and the time there is due to the money—it costs a lot of money to actually control possums. We spend normally somewhere around about $55 million a year controlling possums, and about $18 million a year controlling TB in cattle.

[23] David Melding: Dr Livingstone, it seems a lot of the debate in Britain has focused on, quite rightly, issues of animal welfare but also the humane control, then, of the badger population and how that might be achieved. I wonder if you get that sort of resistance. Are

possums as cute and lovable as badgers, as far as the general public are concerned? But my main point here is that, actually, the scientific and veterinary advice we're getting from the Welsh Government is that the main thing in terms of TB control and reduction is around the size of the cattle herds. Is that something you would agree with?

[24] Dr Livingstone: With regard to the size of cattle herds, yes, the larger the herd size, the more difficult it is to get it out of them. We will have herds of, say, 650 cows, they've tested clear, infection gets into that herd and, say, six months later, we can get 250 of those 600 cows being tuberculous and being slaughtered. So it can go very fast through a herd, but then they can respond very quickly to TB testing. And we haven't found—. So, yes, larger herds are more difficult to get the TB out of than smaller herds, but we can still achieve that through frequent testing.

[25] David Melding: I should have said it's also movement between herds; that was the other key thing. So, is it a combination, then? Are there a lot of restrictions on the herd size and the movement that's permitted and the, I have to say, quite radical measures that are also taken? I suspect they would meet with a level of public resistance at the moment here in Wales. That's not to say we shouldn't hear the evidence from you. But is it most of one and some of the other? Can we vary this, or do you have to have strict approaches, both to cattle size and movement, and the willingness to shoot lots of wildlife, basically?

09:15

[26] Dr Livingstone: First of all, you can't restrict a farmer's herd size. The farmer is there to make money out of his production and, therefore, the herd size is very much dependent on what they can afford. So, we don't restrict anything around herd size, but we do require that, if you've an infected herd, you are under quarantine, and if you live in an area where we have TB wildlife, then, in fact, you're also placed under a movement restriction, meaning you have to have pre-movement testing to move from those areas.

[27] Mark Reckless: David, I think you had a final point about exports and TB.

[28] David Melding: I'm not sure you'll be able to answer this question, because it takes us over to another area, but you may well be in a position to. You will know that the United Kingdom has voted to leave the European Union. Currently, our membership of the European Union gives us some protection around the attitude that other countries, not just in the European Union, take to red meat imports from the United Kingdom. We've heard from the farmers unions that, without this level of protection, other countries might cite our TB status as

a reason to restrict trade with us. Has this been a problem for the red meat industry in New Zealand?

[29] Dr Livingstone: It's a very interesting question. When we come to look at our strategy, when you do the cost side, there is no benefit to farmers from doing a TB scheme. There is nothing that we can identify that would impact on our ability to export meat to the United States or Europe. There has been no indication that, because of our TB status, they would not accept our product. But, I guess we've always been concerned that if we let TB go again in the possum population and the number of infected herds went up to what we used to have back in the 1990s, then, in fact, countries or their consumers might put a block on us. So, we have built that into—. When we build our models for economic costs, we build a possibility that that might happen. But, there's no evidence to say that: if we talk to our industry people, they say there is no evidence that TB is impacting on their ability to trade.

[30] David Melding: Thank you very much.

[31] Mark Reckless: Can I bring in Sian?

[32] Sian Gwenllian: Good morning. What's the evidence that you use in favour of the method of controlling wildlife as the way of eradicating TB?

[33] Dr Livingstone: Sorry, what do you mean by the evidence?

[34] Sian Gwenllian: The evidence—the scientific evidence on which you base your plan and your way of tackling the problem.

[35] Dr Livingstone: Okay, are you asking whether we are satisfied that the possum was our source of infection.

[36] Sian Gwenllian: Yes, and what evidence—how is that quantified in scientific terms?

[37] Mark Reckless: You seem to refer back to the 1970s, when you had a go at starting killing possums and then TB dropped a lot. Was there any evidence to suggest it was possums and what's the evidence now as to how important possums or other wildlife sources are?

[38] Dr Livingstone: Unfortunately—if I had a slide, I'd be able to show it to you. But we started doing possum control in 1972, and that saw the number of infected herds drop from—we don't know how high, but we got it down to about 500. Then, the Government of the day stopped funding for possum control and the number of infected herds went up to 1,694 by 1994. So, this was a response to not doing possum control, even though the TB testing kept going at the same frequency. So, there was no change to the frequency of TB testing, the number of infected herds went from 500 to 1,694, and then we started to get more money for possum control. So, everywhere where we've done possum control, subsequently, we've seen a reduction in the number of infected herds. So, subsequently, now we're down to 43.

[39] Sian Gwenllian: So, just the fact that it has decreased—just the correlation between the numbers happening—rather than scientific evidence.

[40] Dr Livingstone: There have been a number of programmes that have looked at it scientifically and written up in papers on that. I guess, if I take you back to maybe the first scenario, we had a person with a farm where he had a major river through his farm. We found TB possums on one side of his river. We brought in 29 calves from a TB-free herd, put them across where the possums were, and six months later we tested those cattle. Of the 29, 26 reacted to the test and 16 had gross lesions of TB. They were all infected from possums. There was no contact that they had with cattle.

[41] Mark Reckless: One of the barriers against badgers and pests—well, eradication or action that would reduce their numbers here is that many people in British society have a particular affection for badgers. The second area that we have to consider very carefully is the issue of perturbation when perhaps farmers might think that killing badgers could help with TB. If that happens, certainly on a small scale, the evidence seems to be that the badgers then move around much more and actually increase the spread of TB. Are either of those issues—? The public affection for the animal: does that apply to possums in any way, in the way that it does for badgers here? And also, what's the issue around perturbation?

[42] Dr Livingstone: Okay. First of all, before man arrived in New Zealand, we only had three mammal species, and they were all bats. So, everything since man has arrived has been introduced. So, we've introduced possums, introduced rats, introduced stoats, introduced ferrets, and these animals are all preying on our native birds. So, as a consequence, native bird populations are dropping down, and native insects are dropping down, because they're being eaten by these animals. So, anything we do that destroys possums also destroys rats and there's secondary poisoning of stoats. So, we cut out that predator group and our native bird population increases. So, there's a conservation benefit that we achieve from the TB control programme, as well as killing TB possums.

[43] Mark Reckless: Can I bring in Jenny with a quick question?

[44] Jenny Rathbone: So, just to clarify, what you're intent on, then, is a possum eradication programme regardless of whether they have TB or not. Is that right?

[45] Dr Livingstone: No, it's not. Our role is to eradicate bovine TB. So, when we believe we've eradicated it from an area, then we stop doing possum control and the possum numbers will then increase, but they will be TB free. So, it's not our role to eradicate possums; our role is to eradicate TB. We've taken them down to very low densities, which prevents TB from cycling within that population that's left, and therefore the disease drops out.

[46] Mark Reckless: Is there just a linear relationship between killing more possums and reducing the amount of possums with TB and the spread of it? Is there any issue around perturbation, which we find when we kill some badgers? It makes the badgers move much more, and spreads the TB amongst them, than would be the case if we weren't killing them. Is that not an issue at all with possums?

[47] Dr Livingstone: We're doing large-scale poisoning. We—[Inaudible.]—something like, say, 80,000 to 90,000 hectares that we would do control on. If it's farmland, then we have the whole jigsaw of areas that come together. Currently, we have somewhere around about 9 million hectares under possum control at various degrees. So, perturbation is not a problem. The density is too low for possums to perturbate.

[48] Mark Reckless: Thank you. Could I bring in Jayne?

[49] Jayne Bryant: Good evening, Dr Livingstone. With the development of the national TB strategy in New Zealand, perhaps you could explain some more of your views on the mechanisms that are being used at the moment to reduce the risk, such as the registration of deer and cattle and the movement control areas. Perhaps you could expand on that a little bit.

[50] Dr Livingstone: We require all cattle to have radio-frequency identification, individual ID tags, which I assume you guys do also. And all herds have to be registered—all animals are to be registered. And we're attempting—we haven't been successful—to get all movements put through so that we have that on the database. So, we know if animal A moves from farm A to farm B, we know that. We have good data from animals that go to the slaughter, but we don't have very good data from animals moving between farms at this stage. And that's an area where we have a hole in our system and we're working to try and improve that. So, we do require registration, we do require animal ID, but what we're going forward to do—because, as I said, we believe most our infections are from wild animals or through movement from suspect

areas—is we are aiming to try and reduce our amount of testing, from currently about 4.5 million a year down to less than 1 million, through using data from animals, herd history and area history. So, areas where the animals are high risk, we want to be able to trace them, and do testing on the herd that they go into, but all the other animals, we won't bother with our testing, because they're not at risk.

[51] Jane Bryant: So, the national take on this has been that that's made the biggest change, and the resourcing towards this, I believe.

[52] Dr Livingstone: It will be, yes. In going forward, we'd look to go from spending, say, $10 million on testing down to maybe $2.5 million to $3 million on testing, as a result of being able to reduce our testing.

[53] Jane Bryant: Thank you.

[54] Mark Reckless: Can I go to Jenny?

[55] Jenny Rathbone: I just wanted to ask how farmers have been involved in the governance arrangements on this, both in determining which are going to be movement control areas and what the compensation arrangements are.

[56] Dr Livingstone: Sure. If we go back again to the 1980s, when the Government, which was funding our programme—they funded the whole programme, and they stopped the amount of money going into possum control, and, as a result, we required farmers to continue testing but weren't doing anything about the possum, then the farmers got very angry about that. So, it would be a bit like when the All Blacks are playing Wales, if there was a biased ref, and he was giving the penalties all to one side, the other side would be more brassed off. And so, what was happening here was farmers saying, 'Why are we required to test, but you're not doing anything about the wild animal—the source of infection?' So, the farmers then went to the Government and they basically took over the programme. The farmers now manage the programme, they administer it, and they set the policy on compensation, around movement control, for that system. So, farmers when they came in, they said, 'Farmers will only receive 65 per cent of their marketability.' So, that was what farmers wanted, and that was what was put in. So, that was all farmers got for their reactors—65 per cent.

[57] Jenny Rathbone: So, in most communities, you'll have good farmers and then you'll have lazy farmers. How do they manage those who are less precise in the way they manage their animals?

[58] Dr Livingstone: Again, there are legal requirements for farmers to test, and if farmers don't test or don't get rid of reactors, we will come and enforce them to test. If they don't test, we go in and shoot the animals. So, we have that power and we do that. That's rare, but we do it. And we require, if there's a farmer who won't get rid of the reactors—we will go and muster those animals and send them for slaughter. And so, we would require those people to—. And we would take legal cases against anyone who otherwise breaks the rules.

[59] Jenny Rathbone: The very large sums of money you've spoken about earlier, the $55 million on possum control and the $80 million on cattle control—does that come out of money that might otherwise be used on developing agriculture? What impact does it have on the income of farmers?

09:30

[60] Dr Livingstone: It was only $18 million on testing and compensation. We have a budget of about $80 million, of which wildlife was $55 million and testing was about $18 million. The funding for all the cattle testing and compensation—it's funded by farmers. There's no Government input to that. Government funds half of the wildlife-control programme. So, of the $55 million, Government puts in about $27 million.

[61] Jenny Rathbone: So, the farmers fund the rest of the wildlife programme as well as the compensation programme?

[62] Dr Livingstone: As well as the testing and compensation programme, yes. It's funded through a levy on all cattle slaughtered. Currently, it's $11.50 for every animal slaughtered that comes into the TB-control programme. In addition, the dairy industry, because dairy cattle aren't being slaughtered so frequently as beef, have a levy on their produce of about 1 cent per kilogram of milk solids, and that, again, comes to our programme.

[63] Jenny Rathbone: So, is that universally accepted by the farming community—this arrangement?

[64] Dr Livingstone: Yes, we've got a 95 per cent satisfaction rating from farmers. We survey them every two years on this and there definitely seems to be a very high satisfaction with that.

[65] Jenny Rathbone: Thank you.

[66] Mark Reckless: Vikki, I think you want to follow up on that.

[67] Vikki Howells: Thank you, Dr Livingstone. It's evident that you've got a lot of support from the farming community for your policies. What about the environmental sector? What's their view on the policy as a whole?

[68] Dr Livingstone: Okay, there are two views. One is that, when we're doing control on farmland, and something around, probably, 80 per cent of our work is on farmland, there is no concern by most people. Obviously, there is the odd person who has a farm cat that might get caught in a trap and they get concerned. But in most cases, there is no concern. The big concern comes when we're spreading aerial 1080 bait over large areas of forest. Again, the majority of conservationists are supportive of it because we kill all the wildlife that is affecting native birds. But there are certainly some groups—. I'd say somewhere around about probably 10 per cent to 12 per cent of the population are opposed to the use of 1080 poison, no matter who's doing it.

[69] Vikki Howells: I wonder, speaking hypothetically, if you were to change the method that you are using to control the possums, do you think there'd still be that same degree of opposition from environmental groups.

[70] Dr Livingstone: If we changed from using sodium fluoroacetate? I don't know. We're in the process of looking at other alternative toxins, but we've had feedback from these people saying, 'No matter what you do, if you're going to be applying bait aerially and indiscriminately, we will be opposed to it.' I don't know how many of you have seen New Zealand, but it's a pretty rugged country. There's no way that you can actually walk through it and trap possums to the density levels that we require.

[71] So, to get rid of TB—. Normally, in that forest, we'd look at somewhere around between 10 and 15 possums per hectare. And for TB control, we need to reduce that to somewhere around about 1 possum per 5 hectares and hold it at that level for a minimum of five years to break that TB cycle. So, it's a massive reduction of population, which trapping is unlikely to achieve.

[72] Vikki Howells: Thank you. So, just to summarise, then, there's not a body of opposition that just objects to the killing of the possums per se?

[73] Dr Livingstone: Because they are an introduced pest—there is a small population who earn their income from the skins and fur, but, basically, 'no'.

[74] Mark Reckless: Dr Livingstone, thank you for the description of the particular approach you have in New Zealand. I think, from our perspective, the description you give of the reduction of the possum population is one that would have very considerable public resistance in the UK, were anyone to propose that for badgers here, which is the main area of TB transmission from wildlife at least. What I wondered is: from your experience in New Zealand, and your work and your knowledge of the issue, are there other countries where you think there has been particularly good practice, or from which you have learned, or would want to recommend a potential approach to this committee?

[75] Dr Livingstone: As far as dealing with wildlife?

[76] Mark Reckless: In terms of TB management and, ideally, eradication, particularly where there is a wildlife element to its spread.

[77] Dr Livingstone: I think it depends on the purpose of the programme. If the purpose of your programme is to eradicate bovine TB from your cattle population, then you've got to look at all the factors that are the source of infection for that cattle population. And I guess my concern with, say, your Welsh programme and the English programme is that the programme is very good when you're getting the TB in the cattle population—what you're proposing is excellent—but, in fact, the elephant in the room is that the wildlife is not being done anything about. And I said that you can't go and kill badgers the same as you can possums, but I guess my concern is that somewhere, someone has to do some work and say, 'Well, okay, we're going to vaccinate the badgers', and you guys are all trying that. So, I guess, if it was New Zealand, we would—. Let's say we had TB in our kiwi population—we can't kill the kiwis, so, therefore, we'd have to do something to make sure that we stop the disease in that population. And that's going to cost a lot of money, but then it comes down to how important is getting TB out of your cattle population. And that's what I mean is—. We would have done a costing exercise and looked at all the options, and then at how stakeholders would make a decision on which of these options they'd want to go with. And, in that case, obviously, killing would not be an option, so, you'd have to look at what these other options are and what the costs are, and then someone's going to have to make a decision about who's going to pay, because that's what it comes down to—this is some costly stuff—and then get going and do it. I guess that would be my concern: you guys have known about this for a long time, but, actually, haven't done very much about it.

[78] Mark Reckless: Yes, there have been a variety of approaches, and I think our farmers in particular would be concerned if there were to be no action. Various approaches have

difficulties and opposition from various stakeholders, but this committee is doing our best to assess the process and make recommendations.

[79] We will, I believe, circulate a transcript of your evidence, just in case there's anything you feel needs correcting or that we didn't get down correctly. And I think that the committee is likely to produce a short report in the new year. We're very grateful for giving us the opportunity to draw on your evidence, and, in particular, for staying up so late this evening in New Zealand to talk to us. Thank you very much.

[80] Dr Livingstone. Let's hope you could hear the information I possess.

[81] Mark Reckless: I now propose, if I may, that the committee very briefly moves into private session under Standing Order 17.42.

Gohiriwyd y cyfarfod rhwng 09:39 a 09:43.
The meeting adjourned between 09:39 and 09:43.

Twbercwlosis mewn Gwartheg yng Nghymru
Bovine Tuberculosis in Wales

[82] Mark Reckless: Bore da. Good morning. Thank you for joining us. We've just had a witness from New Zealand, who has been telling us about TB eradication and what they've been doing to possums over there. And he used the analogy of a rugby match between Wales and New Zealand—as you may have seen, but, for the record—

[83] Mr James: We saw it.

[84] Mark Reckless: An analogy where—

[85] Mr James: [Inaudible.]

[86] Mark Reckless: —nothing being done about the wildlife population was seen as analogous to a referee awarding all the decisions to one side or another in such a match. I just wondered, though: the Cabinet Secretary, she's made a statement on TB eradication and some potential changes in the Government approach. Do you see elements of that that we can work with that are improvements, or at least potentially, from the farmers' perspective, and also will

you encourage your members as well as your organisations to feed back into that consultation that the Cabinet Secretary is running?

[87] Mr James: Well, absolutely, we will encourage people to respond to it. But, honestly, in all consultations, there are some aspects that suit certain farmers and some that don't, and one particular one, if I can pick up—in the high-incidence areas, it talks about small beef herds and it talks about larger dairy herds, that they have different circumstances, let's say, or a different experience. And the reaction I'm getting is from the smaller beef, particularly suckler, herds, because they rely on selling their calves at a point—post-weaning, they would move them all. A lot of them have never had TB but they're in this high-incidence area and they see this as a major impact on their businesses really, so that's a critical one. That's one we will be responding—I'm sure all of us would be responding—quite strongly on, because they see themselves as tarred with a brush that they've got no control over, and it is a big issue. So, that's the one where I think—I've personally had more people come to me about that subject than any other.

09:45

[88] Dr Fenwick: I would completely agree with Stephen, although I must emphasise that we don't have a mandate to speak on behalf of our members. We're a democratic organisation, we're holding meetings across Wales to gauge our members' opinions on the current consultation, and we will be putting those together and submitting them, naturally. The meetings that we've attended to date—from those meetings, it's clear that there are a range of opinions on any individual policy that's being proposed. However, the one clear message—. And that varies from region to region, naturally, as one would expect, but also it even varies within individual parishes. I think the one thing that's coming out very clearly from every single region is that the focus on cattle—given that we already have the strictest cattle controls in the northern hemisphere, if not the world, here in Wales, and we are now talking about escalating them, people are very concerned that we are bolting and locking the front door while leaving the back door and all the windows completely open because of the other source of transmission. You've heard very similar opinions being expressed from New Zealand this morning, as I understand it. We caught snippets of what was said just earlier on.

[89] Dr Wright: If I could add to that, I think one of the problems that we've had is there is disparity within the counties, because obviously people come at it from different standpoints. I think one thing that's been clear from our responses from members is that there's a lack of evidentiary support for some of the cattle control measures that are imposed in the consultation, or potentially imposed. It doesn't allow you to prioritise measures or to determine which ones have a disproportionate effect on the farm business and less impact on disease control. So, until you can prioritise measures, what's happening in the consultation is that you just impose a raft of measures without necessarily identifying to farmers which have the greatest impact. So, at the moment, I think members are finding it quite difficult to actually

make decisions on what will really have a good impact on disease control whilst allowing them to manage their businesses.

[90] Dr Fenwick: Can I just add to that? And that is because the consultation document, for all its merits or failures, has very little evidence in terms of the statistics that underpin the policies being proposed. There is virtually no evidence to say, 'Well, this is what we've measured looking at TB over 10 years', or whatever, and, 'This is why we think this is an appropriate action'. There are a few references to why it's thought to be effective, but there is a complete lack of concise evidence to show what the expected and anticipated impact of the various different policies would be.

[91] Mr Howells: Can I add as well, really, that, in principle, regionalising TB policy and looking at different measures for different areas, in principle, we wouldn't be opposed to? But the devil is in the detail.

[92] Mark Reckless: Yes. I know the Cabinet Secretary would emphasise it's a consultation, and yes that the paper has some limited evidence and it would be useful if there were more. I do know that she really would welcome good numbers of responses from members as well, of course, from what you do as organisations collecting that. So, the more you could encourage your members to put the farmers' view, I think the better for your perspective.

[93] Mark Reckless: I wondered—. Talking about evidence, we've had a previous session where we heard academics, and we interrogated at least some of the evidence, and I think our—or, at least, my—impression overall was that there's an obvious understanding that farmers, you have this terrible situation and you want something to be done, but I think some of the evidence that we received was that the small or even medium-scale extermination of badgers, because of the perturbation effect, leading badgers to move area once that was done—there seemed to be quite compelling evidence of that leading to an increase in TB, and it was only really when they got to very large-scale badger eradication, or at least population reduction of infected badgers, that there was any evidence of a positive effect. Do you broadly accept that, or would you challenge my summary of the evidence we received in our previous session?

[94] Dr Fenwick: I think perturbation, certainly, is a concern and needs to be taken into account, but we should also bear in mind that perturbation is not seen in the Republic of Ireland, so that's a very important factor. There are big questions about the differences between the scientific opinion here in the UK on wildlife control measures, be it in terms of badgers or any other animal, and the opinions of those around the globe. You'll be aware of the harsh criticism of the Welsh Government's decision to vaccinate by EU continental vets and scientists who just couldn't see the logic in it. That was a clear outcome of the report submitted a number of years ago following an inspection here in the UK. We also need to bear in mind that the perturbation effect disappears in terms of culling. So, there was perturbation, apparently, from

the figures during the five years of culling, but in the two and a half years after that, perturbation disappeared, and therefore the positive impacts of culling were far greater than they were when originally reported.

[95] Also, when you take the data from the randomised badger culling trials and you analyse them without the distortions applied in terms of modelling—. There were some mathematical distortions to the data—'corrections' they called them—but if you take the plain data, the perturbation effect is either negligible or non-existent in terms of the raw data, so it simply wasn't seen when you looked at the raw data; it only comes out of the system when it's run through mathematical models, and that's an important factor. So, I don't think the jury is back in on perturbation; I think there are some peculiar questions to be asked in terms of the effect of perturbation. We don't actually know what impact, if any, there would be were we to remove animals that were positively identified as positive.

[96] I think it is fairly appalling, actually, that the reactive cull was called to a stop early on, because the whole point of a scientific trial is that you want to find the outcome. We don't know the outcome of reactive culling, which probably would've been far more acceptable to the public, because they called those trials to an end, because they thought there was perturbation. But that perceived perturbation could've been a small number of additional outbreaks during a very short period; it could've just been a local anomaly, rather than something that would ultimately be seen to be scientifically genuine after a proper five-year trial.

[97] Mark Reckless: If there are any papers you'd like to draw to our attention or you feel that the committee should give consideration to, please do highlight or send those in to us.

[98] Dr Fenwick: Certainly.

[99] Mark Reckless: Mr James.

[100] Mr James: I agree with Nick on the Republic of Ireland. That's an important part of that evidence, and that most certainly is available as well. We've had a couple of examples in west Wales in the last couple of months, and it's been covered by the BBC. Gwyndaf Thomas from Meidrim in Carmarthenshire had an area of woodland removed. They were tested clear—a clear herd, a clear TB test—in July 2015. They were on manual testing; they were tested in July 2016, this year, the July that's gone past, and they had 108 reactors on the first test; there were gigantic lumps on them. And then, they tested 60 days later or thereabouts and lost over 80. In fact, they've lost now 220 cows out of 330 cows, some of which were shot on the farm, because they were heavy in calf and they could see the calves kicking around in their stomachs—. When the calf dies inside the cow, because it's in an advanced condition in terms of size, you can

actually see it kicking against the belly of the cow. But the reality was, in this case, there was an area of about 10 or 15 acres of woodland on his farm boundary taken out. In other words, it disturbed the wildlife.

[101] What happens when that happens—and maybe Nick, Hazel and Peter might be able to answer this better than me—but something happens that triggers a badger that's severely infected to move in an uncontrollable way to create that much disease so quickly on a farm. We know that disease from cattle to cattle doesn't move very quickly, and there's plenty of evidence. I have personal evidence where we've had breakdowns in the autumn and we clear them over the winter. It happened to us in 2012. But the reality in this case—and we've seen it where gas pipelines or a new road goes through an area—is that, again, it disturbs the badgers and it causes major problems in those areas. There is an acceptance of perturbation but I don't think that's an acceptable thing, for a disease like this, to say, 'Because perturbation causes increased disease'. We should attack that as well, shouldn't we? The situation on this farm in Penygraig in Meidrim is ridiculous. To lose 220 milking cows at the prime of life—. They are at the prime of life. Their income is based solely on that now, and it's destroyed them. It really has destroyed them. It's that sort of thing that we're—. We need to move on.

[102] I'm actually a farmer. I'm the president of the NFU Cymru. The reason I got into this role in the first place was because of TB. I started by giving my opinion, having lived with TB since 1993. Ten years ago, I was on the programme board in the Welsh Assembly. Ten years on, we haven't moved a step further forward in terms of that particular farm in Meidrim. It's still happening on those farms. It's urgent—it's urgent that something is done. It's desperate as far as farmers out there are concerned, in certain areas. In north Wales, it's not the problem. Then I give you the example also in Merionethshire, where there's a beef pedigree herd that can't sell their animals in Perth. They're the cleanest cattle in the world because they're tested annually, but they can't take them to Perth to the Charolais sales there because they come from an annual testing area. So, there are two extremes there. So, to a degree, part of this consultation addresses that, but it doesn't, at the moment, address that problem that they had in Penygraig near Meidrim this year.

[103] Mr Howells: Can I just add as well? We're all coming at this from the sort of—that the approach taken to eradicate TB needs to be based on science, it needs to be based on evidence-led and not political. To my mind, it was quite disappointing to see the Cabinet Secretary stand up in the Senedd and absolutely rule out any England-style cull. She said that quite categorically. But we haven't got any evidence or data yet from what's happening in England. To rule it out before we know whether it is effective or not is disappointing. If we are about—or if the Welsh Government is about—taking decisions based on evidence and being led by evidence, then we can't just dismiss the approach being taken in England out of hand.

[104] Dr Wright: Can I just add as well that I do think that the perturbation effect is probably over-emphasised? I agree with Nick's comments about some of the previous trials. I also think that we have to bear in mind that there are ways to manage perturbation when you design

badger control policies. So, it's not an either/or situation; it's not as though we have a situation where we say, 'Badger control will automatically lead to perturbation'. There are ways of culling and controlling that allow you to move forward in a more reasonable way. In fact, the vaccination policy in the intensive action area in Pembrokeshire didn't make scientific sense because it was vaccination within an endemic disease area. Obviously, that doesn't have an effect on infected badgers. But actually ring-fencing vaccination around a cull zone could protect some badgers and could minimise the perturbation effect.

[105] The other thing I would say is that, within the consultation, there is a wealth of evidence required to move at all on badgers. I think the number of farms within the consultation that will potentially benefit from any badger control policy is rather small, given the number of herds, and given the fact that you have to have a huge amount of evidence with which to move forward. But there's not the same courtesy afforded to cattle within the consultation. So, I think what we're doing at the moment is we're saying that the standards for moving forward on badgers, and the evidence required for badger control, have to be much more robust and much higher than they do for cattle. That's something that I think we should fundamentally object to.

[106] Dr Fenwick: Chairman, let's not forget that the scientific advice given to the previous Welsh Government, and in particular to John Griffiths, was that culling, as originally intended, in an area with geographic boundaries would have been £3.5 million more effective than vaccination. That's the advice given to the then Welsh Government, which was ignored, as we all know. That £3.5 million is effectively because you kill more cattle. We have seen nothing in that area that suggests that that scientific advice was not accurate at the time.

10:00

[107] Mark Reckless: Thank you. Can I bring in Jenny Rathbone?

[108] Jenny Rathbone: Just going back to this regionalised approach, I think I detect that you, in general, support a regionalised approach, based on the fact that, in north Wales, we have a relatively TB-free area, whereas there are other parts of west Wales, and the area bordering England and the south, which have high levels of TB. I appreciate you've got particular concerns about suckler herds within the high-risk areas, but, in general terms, do you think that having a regionalised approach, based on where the TB outbreaks are, is a good one?

[109] Mr James: Yes, I believe so. But, as I said, it does swallow up some extremes in there as well—the suckler cows. I'm a dairy farmer. We do sell calves. We sell beef cross calves, and, at the moment, we're under TB restrictions and have been since early August. So, at the moment, we're rearing our beef calves and that adds cost to us. But, because we've been in a TB area for

so long, we've adapted our business to accommodate that, and a lot of us in my—. That example is repeated across—. It is an extra cost. The one positive from it, from a personal point of view, is that our milk prices are starting to go back up. Therefore, this time last year, it would have been a very negative effect on us as a business because we'd have been carrying this extra cost. These calves, we have Belgian Blue crosses, which we'll sell at about three weeks to a month old in Carmarthen market, if we're not under restrictions, and they can make up to £250. So, you can imagine, if you've got four of those, it's £1,000. But when you keep them, there's a cost to rearing them. But that's the issue for us as dairy farmers. But, to those suckler herds, it's very much part of that business. So, it's how you accommodate that and how you—.

[110] We've talked about information, basically. If the buyer knows that this herd, although it comes from a high-risk area, has never had—. We need that information to be there, accessed easily as well, and that should be part of it. So, we need that database so that buyers can make informed decisions, because you can buy cattle from—. And we've sold cattle after we've gone clear over the years, and we've never had a problem. Nobody's ever come back to us and said, 'Because we bought cattle that came from your herd, we've now got TB.' That's never happened in my experience. But allowing farmers to make informed decisions is an important part of that, so we need to emphasise that in this response as well.

[111] Jenny Rathbone: But, as you have both a dairy herd and a suckler herd—

[112] **Mr James:** No, I haven't got a suckler herd; we're pure dairy. To be honest, I haven't got major issues; what I want is TB got rid of in my part of the world, and in all of Wales, and wherever it is. Let's get on top of TB. I was listening to Paul Livingstone, and he mentioned that the issue wasn't with possums, it was with TB. And I would say the same. The issue isn't with badgers, it's with TB, but badgers carry it, and we know that. So, that's the issue.

[113] Jenny Rathbone: On the specifics, how would you be able to ring-fence a suckler herd in a high-risk area and be able to certify that they were not going to be cross-infected by a dairy herd on an adjacent farm?

[114] **Mr James:** What I am saying is that, in my experience, if this herd has never had, in all the time that that particular group of animals—and that evidence is there. If I say to you, 'I've never had TB', you're just taking my word for it. But, veterinary practices and Government have got this information, so that should be attached to these animals, saying 'Look, these animals, this farm has never had a TB breakdown, so the risk, even though it comes from a high-risk area, is smaller.' Therefore, it helps that decision going forward. There is an issue of a post-moving test, and they can do that. On post-movement testing, I'll be honest with you, over the last 20 years, I have post-movement tested animals that I have brought in. This is 12, 15 years ago—we bought some cows and we post-movement tested them, because I recognised the issue, and I didn't want to bring a disease from somewhere else into my farm. But that's a personal decision. But, obviously, post-movement testing adds cost. Therefore, when they're buying cattle, that's taken into consideration. So, what I'm saying is that if this herd has been clean and has never had TB, that information should be available easily for the buyer to make an informed decision.

[115] Jenny Rathbone: Okay. I mean—

[116] **Dr Wright:** Sorry, I was just going to go back to the regional approach question. Obviously, we're still consulting with members. I know that the actual question of regional approach isn't within the consultation as a question per se, but we are still discussing that with our membership. What I would say is that the approach can be divisive in the sense that Stephen gave the example about clean herds and protecting those and actually having that information, but the consultation for a low-risk area also proposes identifying some herds as high risk. That will be divisive, because in an area like Anglesey, for example, where less than 0.2 per cent of herds actually have a breakdown, as per the definition in the consultation, and yet within that there is a proposal to identify herds as risky. And it doesn't define in the consultation what a risky herd would be, or the definition of that, and what practices would mean that that herd is defined as risky. So, the regional approach will be divisive among our membership, and at the moment we're not a position to say for certain what our members would say about the approach, but I would suggest that perhaps it's not necessarily straightforward.

[117] Jenny Rathbone: The consistent advice that we seem to be getting, though, is that cattle in large herds are much more at risk than cattle in small herds. Is that what your members would accept as correct?

[118] Dr Fenwick: It'd be interesting to see the exact data on that. That's one of those many pieces of data that haven't been provided as an annex, for example, to the consultation document, as I understand it. I'm not suggesting it's not true, but it would be nice to see what is currently almost an anecdotal piece of evidence being presented as a proper piece of data, including in relation to the different regions.

[119] Jenny Rathbone: Okay. You talked about all the controls being at the front door and nothing much happening at the back door. Do you accept that there is not a great deal of public support for the wholesale slaughter of badgers as there seems to be in New Zealand for the wholesale slaughter of possums?

[120] **Dr Fenwick:** I accept that we have a very different view of badgers, and wildlife in general, to the views held in other countries, probably because we're a very urbanised population in the UK. We also seem to have a very particular love of badgers—maybe it's because of anthropomorphism, I don't know—whereas deer, rabbit and other animals are treated very differently. But I think the most important thing and factor with regard to this is that politicians who have voted for culling badgers all over the UK recently, and as long ago as six, seven or eight years ago, have repeatedly been returned to their constituencies, despite significant campaigns waged by opposing parties against them on the grounds of badger culling. Those people have consistently been returned. So, when it comes to voting, the general public will, I presume, vote on jobs, they will vote on hospital closures, how much their mortgages cost, et cetera, but this is at the very bottom of a very long list of priorities for the general public. There is, unfortunately, a very strong but very small lobby that persuades politicians otherwise.

[121] **Dr Wright:** Can I also add to that, because I couldn't agree with Nick's comments more, actually? There's also a large problem—and I have this on a daily basis for the Farmers Union of Wales—where I'm having to respond to members of the public's queries about badger culling versus vaccination, and whether we can vaccinate cattle, and there is a lot of misinformation within those campaigns. I'm not suggesting for a second that everybody who campaigns against hasn't done their homework and doesn't understand the issues, but I would say there's a very large percentage of misinformation. I have to consistently reply to newspaper letters and articles from the public suggesting that we are wrong and we should just vaccinate cattle, without understanding there's no DIVA test and that that would jeopardise EU trade. So, I would suggest that quite a lot of the pressure actually is bound by misinformation, and it's something that we work really hard to try and turn around, but I still think there's a role for other organisations and bodies to do that as well, simply because if the wealth of information that leads to public decision is wrong or is erroneous in some way, then actually there is a potential for that opinion to change and to move in a different direction.

[122] **Mr James:** Can I just add that the protection order suggests to a lot of the public it's because they're challenged by numbers? Most protection orders are because of—well, we've heard of giraffes, haven't we, today—are challenged in numbers, and that's another message that people think, but of course it's nothing to do with it and it's a number basis, as well.

[123] Dr Fenwick: Yes. They are probably the highest population of any carnivorous wild animal that we have in the wild, except perhaps for foxes. Their numbers are absolutely huge and they are one of the least endangered species in the UK, and that was acknowledged seven, eight or nine years ago by the independent scientific group.

[124] Mark Reckless: Can I bring in Simon and Sian? Translation is available on channel 1 if you need it.

[125] Simon Thomas: Diolch, Gadeirydd. Rwyf i eisiau parhau gyda'r drafodaeth ynglŷn â difa TB mewn bywyd gwyllt. Mae'n rhywbeth sydd, o leiaf, yn cael ei dderbyn yn gyffredinol rhwng y diwydiant a'r Llywodraeth fod angen difa TB mewn bywyd gwyllt. Mae hynny'n cael ei dderbyn, beth rydym ni'n trafod yn fan hyn ydy'r dulliau o wneud hynny. Dyna le mae yna anghytuno neu ddadlau dros y dystiolaeth.

Simon Thomas: Thank you, Chair. I want to continue with this discussion with regard to TB eradication in wildlife. It's something that's generally accepted between the industry and the Government that there is a need to eradicate TB in wildlife. That is accepted, but what we're discussing here are the methods of doing that. That's where there is disagreement or debate about the evidence.

[126] Rŷch chi eisoes wedi sôn am Weriniaeth Iwerddon lle mae yna fath arbennig o ddifa a 'cull-o' yn digwydd. Beth am Ogledd Iwerddon? Mae enghraifft Gogledd Iwerddon wedi cael ei ddefnyddio gan y Llywodraeth wrth lansio'r ymgynghoriad yna, beth bynnag. Beth yw eich gwybodaeth chi o'r dulliau sy'n cael eu defnyddio fanna? A ydy dal a saethu yn

You've already talked about the Republic of Ireland where there is a special kind of eradication and culling happening. What about Northern Ireland? The example there has been used by the Government in launching this consultation. What's your information on the methods used there? Is trapping and shooting happening widely in Northern Ireland, and is it

eang yng Ngogledd Iwerddon, ac a yw e ar sail profi'r anifail i weld os yw e wedi'i heintio ai peidio?

based on testing to see whether the animal is infected or not?

[127] Mr James: A allaf ateb yn Saesneg?

Mr James: I'll answer in English.

[128] I sat on the programme board, I told you earlier, and believe it or not, the idea of testing, culling the positives and vaccinating at least the non-positives—they didn't guarantee that they weren't infected—was presented to us when I was on the board. But the modelling at the time told us that culling was—. This is obviously when culling, a long time before—. It's that area in north Pembrokeshire, but before vaccination came along. So, we didn't go ahead with it, because it's suggested—. Nick's earlier comments about perturbation and that modelling, maybe that was the wrong decision anyway, but it was never given a trial. We'd have been interested. Yes, that may well have been, but they haven't done the work, have they? They haven't done the work there. It's not been going long enough.

[129] Maybe down the road when vaccine is available again, particularly on the edge areas, the perturbation effect may be helped by that, going forward. The endemic areas you've got to target, because we know that badgers in those areas—. So, it was too early days and it's unfortunate that that vaccine was not made available to let that carry on. So, the Republic is a far better place to show—. Again, it's reactive culling. The word 'wholesale', Jenny Rathbone, may be one that we wouldn't talk about. It isn't wholesale culling, it's culling where the problem is and, yes, there'll be a lot of badgers, because, as Nick said earlier, there are a lot of badgers in those areas.

[130] Simon Thomas: A ydych chi'n cytuno, yr undeb arall?

Simon Thomas: Do you agree, the other union?

[131] Dr Fenwick: Ydyn, yn gyffredinol. Mae'n rhaid inni ystyried y ffaith bod y prawf ar gyfer TB ar foch daear yn un sydd wedi gwella'n sylweddol. Un o'r problemau yn y gorffennol oedd nad oedd y prawf hyd yn oed yn cyrraedd 50 y cant, ond erbyn hyn, mae wedi gwella'n sylweddol, ac mae hynny'n rhywbeth positif.

Dr Fenwick: Yes, generally. Of course, we have to consider the fact that the test for TB in badgers is one that's improved considerably. One of the problems we've seen in the past was that the test didn't even reach 50 per cent, but by now it has improved significantly, and that is a very positive development.

[132] Ond, mae tystiolaeth yn dal i ddod o Ogledd Iwerddon—dyna'r gwir. Ein barn ni ar hyn o bryd yw y byddem ni'n leicio mynd nôl at beth oedd wedi'i gynllunio yng ngogledd sir Benfro, hynny yw, cynllun sydd yn gwneud i

But, the evidence is still coming from Northern Ireland—that's the truth. Our own opinion at present is that we would like to go back to what was planned in northern Pembrokeshire, that is, a scheme that does away with the

ffwrdd â'r broblem o perturbation, ac rydym wedi trafod hynny'n gynharach, os ydych chi'n ei goelio fe ai peidio. Ond, mae hynny'n un ffordd o gael rownd y broblem yna. Mae wedi'i seilio ar ganlyniadau sydd wedi dod o Loegr blynyddoedd yn ôl, ond byddem ni'n croesawu unrhyw gamau yn y cyfeiriad iawn i ddatrys y broblem ym moch daear.

perturbation problem, and we discussed that earlier, if you agree with it or not. But, that's one way of getting around that problem. That's based on results from England years ago, but we would welcome any steps in the right direction to try to solve the problem of TB in badgers.

[133] Mae'n werth ystyried hefyd, buaswn i'n ei ddweud, nid dim ond profi'r bywyd gwyllt, ond cael rhyw fath o brawf cyffredinol ynglŷn â'r risg sy'n dod o foch daear. Hynny yw, yn lle mynd a'u dal nhw a rhoi prawf gwaed i bob un, os nad yw milfeddyg yn gallu ffeindio unrhyw ffordd arall y mae'r clwyf wedi dod i mewn i'r fferm ac mae yna lot o foch yna, buaswn i'n dweud bod yna siawns go lew, dros 50 y cant, mai moch yw'r broblem, ac wedyn difa'r moch yna ac, mewn ffordd, mynd yn ôl at rywbeth mwy tebyg i'r clean ring strategy oedd gennym ni tan 1986, lle roeddech chi'n cario ymlaen i ddifa moch daear nes nid oeddech chi'n ffeindio un mochyn efo'r clwyf.

It's worth considering as well, I would say, not just testing wildlife, but having some kind of general test in terms of the risk posed by badgers. That is, instead of catching them and giving them all a blood test, if a vet can't find any other way that the disease has come into a farm and there are a lot of badgers there, I would say that there's a good chance, of over 50 per cent, that badgers are the problem, and so cull those badgers and so, in a way, go back to something similar to the clean ring strategy that we had until 1986, where you carried on culling badgers until you found no more badgers with the disease.

10:15

[134] Simon Thomas: Jest yn dal ar hynny, te, achos a dweud y gwir, mae beth rydych chi'n ei gynnig yn fanna—rwy'n deall eich bod chi'n dal i drafod gyda'ch aelodau—ond nid yw hynny ychwaith fel y cull sydd i'w gael yn Lloegr ychwaith, nac ydy? Achos mae hynny—ni wnawn ni drafod hyn yn ormodol, efallai, achos fe fyddwn ni'n cael tystiolaeth ar y cull yn Lloegr fel pwyllgor, ond mae ganddo elfen o ddal gan y ffermwr a saethu gan y ffermwr, ac ati, na fydd o reidrwydd yn effeithiol yng Nghymru.

Simon Thomas: Just on that point, because to be honest what you're proposing there—I understand that you are still discussing this with your members—but that also isn't like the cull that's happened in England, is it? Because that—we won't discuss that too much, perhaps, because we are receiving evidence in committee about the cull in England, but that is with capture by the farmer and shooting by the farmer, and so on, which is not going to be particularly effective in Wales.

[135] Ond, rwyf jest eisiau deall beth sydd yn yr ymgynghoriad ar hyn o bryd, sef y cysyniad yma bod modd, o bosib, lladd moch daear ar ffermydd unigol lle mae'r broblem yn ddwys, lle mae problem wedi bod dros y blynyddoedd, lle mae ail-heintio wedi digwydd dro ar ôl tro,

But I just want to understand what is in the consultation at the moment, that is, the concept that badgers could be culled on individual farms where the problem is particularly acute, where problems have existed over the years, where there's

lle nid oes tystiolaeth, er enghraifft, fod gwartheg wedi eu prynu i mewn, ac felly mae'n amlwg bod yna broblem yn y borfa ac yn y bywyd gwyllt, ac ati; mae yn y fferm yna. A ydych chi'n gysurus â'r cysyniad yna, a gyda dechrau yn fanna fel ffordd o gasglu tystiolaeth ar gyfer y ffordd ymlaen?

reinfection happening time after time, where there's no evidence, for example, that cattle have been bought in, so it's clear that there is a problem on the pasture, in the wildlife and so on; it's on that farm. Are you comfortable with that concept and with that as a starting point for gathering evidence for the way forward?

[136] Dr Fenwick: Buaswn i'n dweud ein bod ni'n cychwyn ar y llwybr cywir trwy fynd yn y cyfeiriad o hyd yn oed trafod difa, ond mae'n rhaid ystyried y ffaith nad ydy hynny yn yr ymgynghoriad. Mae yn y datganiad, ond nid yn yr ymgynghoriad. Ond yn sicr, mae unrhyw gamau—

Dr Fenwick: I would say that we're on the right track in going in the direction of even discussing culling, but we have to consider the fact that that isn't in the consultation. It's in the statement, but not in the consultation. But certainly, any steps in that direction—

[137] Simon Thomas: Mae'n siŵr y buasech chi'n manteisio ar y cyfle.

Simon Thomas: I'm sure you would take advantage of the opportunity.

[138] Dr Fenwick:—yn bethau i'w croesawu, wrth reswm, ac yn debygol o weithio.

Dr Fenwick:—are steps to be welcomed, naturally, and are likely to work.

[139] Simon Thomas: Ar y cwestiwn aflonyddu, perturbation, sydd wedi codi sawl gwaith erbyn hyn, beth yw'ch barn ynglŷn â'r amaethwyr, y bobl sy'n nabod y cynefin, sy'n gwybod ble mae'r moch daear yn mynd, beth maen nhw'n ei wneud, ac ati, ar y fferm? Beth yw'r broses rydych chi'n gallu ei dilyn gyda'ch aelodau i ledaenu'r wybodaeth orau ynglŷn ag aflonyddu, ynglŷn â'r ffaith, os yw'n digwydd o gwbl, fod tystiolaeth bod lladd anghyfreithlon dim ond yn ychwanegu at y broblem yma, ac felly bod yn rhaid i ni ddeall bach yn fwy ynglŷn â'r sefyllfa mewn ardaloedd penodol, yn hytrach nag, efallai, y ffordd rydym ni wedi bod yn trafod y mater yma hyd yma, sef ar lefel Cymru-gyfan, nad yw'n cymryd i ystyriaeth y gwahanol ardaloedd a'r ffordd y mae'r moch daear yn bihafio mewn gwahanol ardaloedd a'r ffordd y mae'r amaethu yn gwahaniaethu hefyd?

Simon Thomas: On the question of perturbation, which has arisen several times, what is your opinion about farmers and those who are familiar with the habitats, who know where the badgers go, what they do, and so on, on the farm? What is the process that you're undertaking with your members to disseminate the best information on perturbation, about the fact, if it happens at all, that there's evidence that illegal culling only adds to this problem and that we then have to understand to a greater extent the situation in specific areas, rather than the way that we have been discussing this matter hitherto, which is on an all-Wales level that doesn't take into account the different areas and the way that badgers behave in different areas and the way in which cultivation methods differ too?

[140] Dr Fenwick: Rydym ni, wrth reswm, wedi gwneud hynny ers blynyddoedd: gwneud yn sicr bod ein haelodau'n deall yr holl ffeithiau ynglŷn â'r diciâu, ac yn aml iawn, fe wnewch chi glywed ffermwyr yn siarad am y pwnc yma. Hynny yw, 'Mae gen i foch daear ar y fferm, nid wyf wedi cael TB ers 20 mlynedd, er bod y cymdogion wedi, ac rwy'n poeni am y busnes yma o perturbation, oherwydd y ffordd rwy'n ei weld o'—neu'r ffordd mae'r unigolyn yn ei weld o—'mae'r moch yna yn cadw'r moch eraill allan.' So, maen nhw'n ymwybodol o hynny, ond yn gyffredinol, beth wnaethom ni ffeindio yng ngogledd sir Benfro, pan wnaethon nhw ystyried, neu roedden nhw ar fin difa yn yr ardal yna, oedd bod 99.9 y cant o'n haelodau ni yn yr ardal yna yn hapus i leihau'r niferoedd o foch daear yn yr ardal, hyd yn oed os nad oedd ganddynt broblem TB, er mwyn gwella'r sefyllfa yn gyffredinol, oherwydd roedden nhw'n gwybod bod y dystiolaeth yn cefnogi'r fath yna o ddifa.

Dr Fenwick: Naturally, we've done that for many years: ensured that our members understand the facts on TB, and very often you hear farmers talking about this subject. That is, 'I have badgers on the farm, I haven't had TB for 20 years, even though my neighbours have, and I'm concerned about this issue of perturbation, because the way I see it'—or the individual sees it—'the badgers keep the other badgers out.' So, they are aware of that, but generally what we found in north Pembrokeshire when they considered, or they were about to cull in that area, was that 99.9 per cent of our members in that area were content to reduce the numbers of badgers in the area, even if they didn't have a TB problem, in order to improve the situation generally because they knew that the evidence did support that kind of culling.

[141] Simon Thomas: Nid wyf yn gwybod os cawsoch chi gyfle i glywed y dystiolaeth o Seland Newydd. Pan roedden nhw'n sôn am ddifa'r possums—mewn dulliau na fyddai'n dderbyniol yng Nghymru, yn sicr—roedden nhw'n sôn am ddifa possums nid i gael gwared ohonyn nhw, ond i ddod â'r niferoedd i lawr i ryw lefel lle'r oedd y clefyd yn mynd allan o'r boblogaeth. Nawr, roedd y lefelau yn swnio i fi yn isel iawn, iawn, ac wrth gwrs nid yw'r possum yn anifail sy'n gynhenid i Seland Newydd; mae mochyn daear yn anifail sy'n gynhenid i Gymru, felly ni fyddwn ni am golli'r mochyn daear fel rhan o'r cynefin yn yr ystyr yna. Ond, a oes gennych chi unrhyw dystiolaeth ynglŷn â lefel poblogaeth gynaliadwy ar gyfer moch daear mewn ardaloedd ffermio sy'n golygu bod y clefyd naill ai yn cael ei ddifa neu o leiaf yn cael ei reoli ar lefel derbyniol?

Simon Thomas: I don't know if you had the opportunity to hear the evidence from New Zealand. When they talked about culling the possums—in ways that certainly wouldn't be acceptable in Wales—they were talking about culling the possums not to get rid of them but to bring the numbers down to a level where the infection did exit the population. Now, the levels sounded very low to me there, and the possum, of course, isn't an indigenous animal to New Zealand, whereas badgers are an indigenous animal in Wales, so we wouldn't want to lose the badger as a part of the habitat in that regard. But do you have any evidence on the population level that's a sustainable level for badgers in rural areas and agricultural areas that would mean that the infection or disease would be managed at least at an acceptable level?

[142] Mr James: I said to you about this situation in Meidrim, and I guess, until they disturbed the woodland, that disease was under control, wasn't it? They'd been clear for some years. The evidence from the Republic of Ireland is that you keep the numbers below a certain level. I've

got to be honest, I'm not absolutely certain what that level per square kilometre is, but that's the reality of it. And I think, as I understand it, that's what's happening in the English cull areas as well, going forward. You know, it's keeping them—. Because we have got—it's when you see lots of dead badgers on the road. When I was a child, you never saw a badger, but now you see so many of them, and that shows that their numbers have increased. There's no doubt, because of the nature of how badgers live together. They live underground and they live in family groups, in the same sense, I suppose, as cattle. Maybe that's why dairy cattle are more prone to it than beef cattle, because the population of beef cattle is wider. Dairy cattle, by their nature, live closer together; at milking time they're gathered, and therefore it all makes sense, I guess. And a lot of it is anecdotal as well, but the reality is that we, in my part of the world—I've told you that 23 years ago we had the first problem—lots of farmers keep their cows in now. We've got pedigree farmers, particularly, who keep their cows in. They've got their buildings absolutely sealed from wildlife and they've got it under control, but that's being driven by the disease; it's not because they necessarily want to keep their cows housed, it's because it's driven by the disease, and the exposure. Again, we need to move away from that.

[143] Mr Howells: I'd add as well, when we talk about badger culling—I emphasise to you all—we're not talking about a widespread cull of badgers throughout Wales. We need to look at where there is a disease problem in both cattle and badger populations, and dealing with the issue in all reservoirs of the disease. It's one of the basic tenets of disease control; you tackle the disease where it's present in all its sources, and that's something that we haven't been doing in Wales for a number of years now.

[144] Dr Wright: Can I just add—? The consultation itself doesn't actually suggest what evidence is required, per se, to engage in any control of badgers on the farm. What it does suggest is that the farmer should have done everything appropriate and necessary. So, I would suggest, going back to Nick's comment, that actually we should have a more risk-based approach, as opposed to proving 100 per cent—and actually, you can't with the current tests available, anyway—that badgers are actually infected. We need to be looking at an approach that suggests that, on a farm, if the badger has any impact on the disease on that farm, no matter what the farmer does, no matter what control measures he puts in place, there is a source of reinfection that isn't being dealt with. And I think we've skewed our policy towards cattle controls at the expense of badger control. I do find that the words that we use when we talk about control, and the words that we use when we talk about management, negate the fact that we're talking about a very small percentage. We're not talking about even eradicating badgers from the area—a radius around that farm would still have badgers. So, I think we need to be proportionate in our conversations, and also proportionate in what we ask farmers to do, without then moving to the other source of infection on that farm. Because you can only take cattle control so far, and once you take them so far, the farmer's in a position where's there's nothing else that can be done, but there's still a source of reinfection. As Peter said, it's basic disease biology; you have two disease vectors that can re-infect—actually in three directions—because within each of the two species and between, you need to deal with the source of both infections for badgers and for cattle.

[145] Dr Fenwick: Coming back to the original question in terms of numbers, I think that you'll be aware, as Stephen has indicated, there's been a huge explosion and the figures show that in the numbers, with impacts in terms of TB, but also, of course, in terms of wildlife. The evidence is there in terms of the work done in England, for example, in terms of hedgehog numbers, which we'll have all heard about. It's worth remembering that Pat Morris, the leading expert on hedgehogs, has warned that they will go extinct unless badger numbers are reduced. There are plenty of farms where they had one badger sett for, it could be, 100 years and they were quite happy with that sett, and they certainly would never have interfered with those animals. Those setts, since badger protection came in, have expanded to—it could be five or could be 10 setts on the farm. It could be more than that with satellite setts. And all those animals need extra food; the less food that's available, the more susceptible they are to bovine TB and other diseases as well, and the more competition and the more fighting there is, the more scratches they have. It's a very, very complex situation, but when you have in some areas a tenfold increase in the population, or a fivefold increase, then clearly there are implications. If you want to set a baseline—it is almost like putting your finger up in the air and seeing which way the wind is blowing—but maybe finding out which setts have been there for 50 or 60 years and saying, 'Well, that's our target', and going back to that number, when we didn't—. The cattle controls that we currently have—and even lesser cattle controls—worked perfectly to eradicate TB. They absolutely did, as they do in all other countries where they control wildlife. The controls work. For some reason, they don't work here, and we know why that is: it's because of the second vector. So, we need to go back to a situation where we reduce the size of that second vector, and that would probably be a good baseline.

[146] Simon Thomas: A oes unrhyw ddiben o gwbl i frechu moch daear, yn eich barn chi?

Simon Thomas: Is there any reason for vaccinating badgers, in your opinion?

[147] Mr James: Ar y ffiniau.

Mr James: On the border.

[148] To be fair, that's what we argued for at the time. We didn't feel north Pembrokeshire was the ideal place to test it, with the boundaries, you know, where the badger is clean, but you know the neighbouring area—. Because we saw that, and we've got to congratulate Welsh Government in reducing the disease spread over the whole of Wales, because it has done that. We know that. But in my part of the world and certain other parts of the world, it hasn't. The cattle numbers have been—there's an increase in the number of animals slaughtered. Maybe that's partly due to gamma interferon testing as well. It's not all down to disease.

[149] Simon Thomas: No, it's better testing.

[150] Mr James: Yes, but it keeps cycling. I know the wildlife trusts or the Badger Trust will say that badgers are only responsible for 5 per cent of infection, but if it's 1 per cent, that starts the

ball rolling. Once one animal on the farm is infected, it passes it on. We see plenty of areas where they go clear for two or three years and then it comes back, because it recycles. I'm not sure about the science of that either, but that's what happens.

Dr Fenwick: Mae'n werth nodi bod tystiolaeth yr ISG yn dangos bod 50 y cant o'r achosion TB yn yr ardaloedd lle roedden nhw'n difa yn Lloegr tan 2006-07 wedi cael eu hachosi gan foch, ar sail y data y gwnaethon nhw ei gasglu yn ystod y difa. Felly, mae'r broblem yn enfawr. O ran ffiniau, wrth reswm, os ydych chi'n difa er mwyn datrys problem TB, mae angen difa dim ond yn yr ardaloedd lle mae'r moch yn broblem o ran TB. Nid ydych chi eisiau difa mewn ardaloedd lle nad ydyn nhw'n achosi'r broblem.

Dr Fenwick: It's worth noting that evidence from the ISG shows that 50 per cent of TB cases in the areas where they were culling in England until 2006-07 were caused by badgers, based on the data they collected during the cull. So, the problem is huge. In terms of borders, naturally, if you cull in order to solve a TB problem, then you only need to cull in the areas where the badgers are a problem in terms of TB. You don't want to cull in areas where they don't cause a problem.

[151] Mark Reckless: Sian, did you want to come in quickly?

[152] Sian Gwenllian: Anghofiwch yr ymgynghoriad am funud. Rydym ni'n cael y neges eich bod yn teimlo, yn yr ymgynghoriad, nad yw'r balans yn iawn a bod un elfen bwysig ar goll o'r ymgynghoriad. Felly, o anghofio hwnnw, beth fyddai'r cynllun mwyaf effeithiol, yn eich barn chi, ar gyfer gwaredu TB? Hynny yw, pe bai gennych chi reolaeth lwyr dros beth ddylai ddigwydd yng Nghymru, a fedrwch chi jest grynhoi ar gyfer y record, mewn ffordd, beth fyddai eich cynllun chi a beth fyddai'r peth gorau i ni fod yn ei wneud? Mi fyddai gen i ddiddordeb i weld a ydy'r ddau undeb yn gytûn ynglŷn â'r math o gynllun a ddylai fod yn cael ei roi gerbron.

Sian Gwenllian: Forget about the consultation for a moment. We're getting the message that you feel that, in the consultation, the balance isn't right and that one important element is missing from the consultation. But, forgetting about that, what would be the most effective plan, in your opinion, for eradicating TB? That is, if you had complete control over what happens in Wales, can you just summarise, for the record, in a way, what your plan would be? What would be the best thing for us to do? I'd be interested to see whether the two unions are in agreement on the kind of plan that should be placed before us.

[153] Dr Fenwick: A wyt ti eisiau i fi fynd yn gyntaf?

Dr Fenwick: Shall I go first?

[154] Mr James: Ie, fe gawn ni weld beth ddywedith e.

Mr James: Yes, we'll see what he says.

[155] Dr Fenwick: Rwy'n hapus i fynd yn gyntaf. Mae yna ymgynghoriad ar hyn o bryd, yr un mwyaf diweddar ers blynyddoedd. Hyd

Dr Fenwick: I'm happy to go first. There is a consultation currently under way, the latest since many years. Until we receive the

nes i ni gael ymatebion ein haelodaeth ar beth sy'n cael ei awgrymu, yn cynnwys ar yr ochr moch daear, mae ein polisi ni yr un fath ag yr oedd yn 2008, hynny yw: cefnogi barn y Llywodraeth a barn pob un parti—ac mae hyn yn bwynt pwysig—pob un parti yn fan hyn, yn y lle yma, ynglŷn â'r ffordd ymlaen. Hynny yw, i ddifa mewn un ardal—a gogledd sir Benfro oedd yr ardal—ac, ar sail hynny, ymestyn yr ardaloedd lle rydych yn difa allan i lefydd eraill lle mae moch yn rhan fawr o'r broblem.

responses from our membership on those suggestions, including the badger element, our policy is the same as it was in 2008, namely to support the Government's opinion and the opinion of all parties—and this is important to note—all parties here, in this place, with regard to the way forward. Namely, to cull in one area—north Pembrokeshire was that area—and, on that basis, to expand the areas where you're culling out to include other areas where badgers are a major part of the problem.

[156] Dyna beth roedd pob un plaid wedi cytuno i'w wneud ar y pryd. Dyna beth roedd yr undebau wedi cytuno oedd y ffordd gywir ymlaen ar y pryd. Ein polisi swyddogol ni ar hyn o bryd yw mynd yn ôl at hynny, achos mae'n datrys problemau fel perturbation, er enghraifft, os ydych chi'n coelio ynddyn nhw. Efallai y bydd y farn yna yn newid wrth i ni gasglu ymatebion ein haelodaeth.

That's what all parties agreed to do at that time. That's what the unions had agreed was the right way forward at the time. Our official policy at present is to return to that, because it solves problems such as perturbation, for example, if you do believe in that phenomenon. Perhaps that opinion will change as we gather further responses from our membership.

[157] Sian Gwenllian: Diolch. Felly, mynd yn ôl i'r cyfnod yna a chynnal yr arbrawf yn iawn, mewn ffordd, yn yr ardal yna.

Sian Gwenllian: Thank you. So, going back to that period and conducting the experiment correctly, in a way, in that area.

10:30

[158] Dr Fenwick: Ac ardaloedd eraill, byddwn i'n dweud. Mae yna ardaloedd eraill. Rydym ni'n deall yn iawn pam wnaethon nhw ddewis yr ardal yna, oherwydd y môr, yr afon Teifi, a mynyddoedd Preseli. Mae ardaloedd eraill tebyg iawn: mae'r Gower yn un lle wnaethon nhw ystyried difa, a llefydd fel cwm Tanat, efallai, lle mae TB yn broblem fawr, ond mae mynyddoedd y Berwyn yn rhoi ffin caled iawn rhwng y gwartheg ar un ochr a'r gwartheg ar yr ochr arall.

Dr Fenwick: And other areas, I would say. There are other areas. We understand why they chose those that area, because of the sea, the Teifi river, and the Preseli mountains and so on. There are other very similar areas. The Gower is one where they did consider culling, and areas such as the Tanat valley, for example, are areas where TB is a problem, but the Berwyn mountains do offer that very firm boundary between cattle on one side and the cattle on the other.

[159] Mr Howells: A gaf i jest pwysleisio hefyd, o ran NFU Cymru, nad yw ein polisi ni,

Mr Howells: Could I just emphasise that, in terms of NFU Cymru, our policy or view hasn't

neu'n safbwynt ni wedi newid? Rydym yn credu mewn gwaredu TB, a gwneud hynny ar sail tystiolaeth, a thystiolaeth gadarn, a thynnu'r gwleidyddiaeth allan o'r peth. Mae hynny'n bwysig. Rydym yn agored i dystiolaeth newydd ac unrhyw beth sydd yn cael ei ganfod mewn unrhyw ran o'r byd sydd yn relevant i'n sefyllfa ni yng Nghymru. Rydym yn agored ein meddwl i edrych ar hynny. Ond rydym yn credu mewn polisi holistig a thaclo'r broblem ym mhob ffynhonnell ohono.

changed? We believe in eradicating TB on the basis of evidence, and robust evidence, and to take the politics out of the issue. That's important. We're open to new evidence and anything that is found in any part of the world that is relevant to our situation in Wales. We're very open-minded in terms of looking at that. But we believe in a holistic policy and tackling the problem at every source.

[160] Sian Gwenllian: Felly, byddech chi'n cytuno efo'r syniad o fynd yn ôl i ardal benodol, efallai ddim yr un ardal yn union, neu un ardal—

Sian Gwenllian: So, you would agree with this idea of going back to a specific area, perhaps not the exact same area, or one area—

[161] Mr James: Na. Byddem ni eisiau mwy nag un ardal. Mae pethau wedi symud ymlaen o'r un ardal bryd hynny. Mae enghreifftiau yn Lloegr ar hyn o bryd, ac wrth gwrs, mae'r ISG a'r achos llys hefyd. Ambell waith, mae'r llys yn dod mewn, yn dibynnu beth sy'n mynd ymlaen. Rydym wedi dweud am enghraifft Iwerddon hefyd. Dylem edrych ar bopeth. Ac mewn ambell i fan yng Nghymru, efallai bod reactive yn gweithio, ond mewn ambell i ardal, mae eisiau mwy na reactive achos mae wedi bod yna am flynyddoedd, ac mae eisiau cael gwared arno fe.

Mr James: No. We'd want more than one area. Things have moved on from the one area at that time. The examples exist in England at present, and there is the ISG and the court case. And, sometimes, the courts are involved, depending on the issue. But we've spoken about the example of Ireland as well. We should look at everything. Maybe there are some areas in Wales where reactive works, but in other areas, we need more than reactive, because it's been there for years and we need to get rid of it.

[162] Dr Wright: Can I answer this on the cattle side, because, obviously, those comments were about badgers? Obviously, we're still consulting with members, but this is a general comment about cattle control. I would actually like to look at back-to-basics evaluation of controls, and actually see which have the evidentiary support to be included. The badger control side of it is one side of it. At the moment, cattle keepers in Wales are subject to a huge raft of controls, and I think we need to get back to a policy that, with no disrespect, is not lazy policy that just piles one control on top of another without evaluating a previous control. There are additional controls within this consultation that are add-ons to previous controls that the union has opposed in the past. And those previous controls haven't been evaluated for their effectiveness before stricter versions of those controls come into the next consultation.

[163] So, for me, it's about prioritisation, impact assessment of the controls that are currently in place, looking at the financial and administrative burden and time burden on farmers, and having a look to see if there's actually some that are superfluous to requirements, which impose a disproportionate burden on a farmer compared to the disease impact. I think we need

to just take a step back. I'm not saying that all of the controls are invaluable, of course they're not, but we haven't really evaluated them in a very long time.

[164] Dr Fenwick: And in that context, it's worth noting that, while we support pre-movement testing, I'm certainly not suggesting we should do away with it. In the Republic of Ireland, they did that assessment on pre-movement testing many, many years ago because it had been introduced, and they decided that the statistics and the data did not support it as a policy, and they, therefore, withdrew it as a policy. I emphasise that I'm not suggesting that the same would be true in Wales, because we support pre-movement testing, but it's an example of that sort of rigorous approach to individual policies, which may not be being applied with regard to the raft of measures being proposed.

[165] Simon Thomas: Just to be clear, you can't have informed purchasing if you haven't got this element of movement controls, can you?

[166] Dr Wright: There are things within this consultation that are add-ons, that are new, so I'm not suggesting that we go—. As Nick said, it's not about suggesting that any one policy is wrong, it's actually about an evaluation of policy. The thing that frustrates farmers no end is not understanding whether something that has a huge impact on their business really has an impact on disease control. And that's everything from the wealth of biosecurity—. I would like to see an analysis of biosecurity measures. Which really have an impact on disease control, and which are there because we think it might be a good idea, but we actually haven't evaluated it? Those are really important questions. They're important for the competitiveness of businesses, actually.

[167] Mr Howells: I'd agree with what Hazel said. We need to look at the cost-benefit analysis, but not look at it just from cost-benefit analysis for Government, but also for the industry. It's hugely important that that's looked at and evaluated properly.

[168] Dr Fenwick: Can I emphasise that we're not suggesting that that evaluation hasn't been done by the office of the chief veterinary officer and Welsh Government? It may well have been done, but it doesn't appear to be in the public domain. And so, going back to Hazel's example, if a farmer or the industry as a whole were told, 'Well, here's a problem that we can show has actually created 250 new outbreaks in the last three years', we can quantify it then: we can say, 'Right, okay, it certainly needs sorting out'. But if the evidence says that it's thought to have caused one outbreak, and yet it going to cause an extra £3 million of costs for farmers, then we would argue, obviously, that that isn't proportionate.

[169] Dr Wright: I have one example, and I'm not suggesting for a second that this doesn't work, so please don't think that I am, but there is an increased reliance on gamma interferon testing within the consultation. And we've been told that the long-term trends, if there are rises in the numbers of cattle slaughtered, is because of increased testing. But I had a look at the DEFRA data, and if you look at the number of cattle slaughtered as a percentage of the total number of tests, you still have a rise. So, even when you account for increased testing, we're still killing more cattle. In fact, the 2016 data for the number of cattle slaughtered are higher than every other year, except 2008 and 2009, since 1997. So, whilst I'm not saying that gamma interferon doesn't give us some reactors that maybe we wouldn't have had, what's the proportionality of that? I know Welsh Government have a report coming out later in the year: I did ask for it, but it wasn't in time for committee. But it's those kinds of questions that members will ask when they respond to the consultation.

[170] Simon Thomas: Because it's much more expensive.

[171] Dr Wright: Because it's much more expensive.

[172] Mark Reckless: Thank you. Could I bring in Jayne Bryant, please?

[173] Jayne Bryant: Thank you very much. I think your answers to questions have been very comprehensive so far, so I just wanted to expand on something that Hazel has just mentioned about biodiversity measures. And perhaps you could say a bit more about what examples or what things you think we could be doing to—

[174] Dr Wright: Biodiversity, yes. So, we've had—. Members in breakdown areas can be given veterinary improvement notices—I think they're now called veterinary requirement notices, actually—and there are things like cleansing and disinfecting, but there's been—. I'm not suggesting that members don't appreciate those measures—they do and they adhere to them when they have them—but within the consultation there's now—. And it's unclear—it doesn't actually say what it means—but it says 'improved biosecurity' and a 'biosecurity tool'. So, at the moment, members already have improvement notices where vets come on to the farm and they say, 'We think this might be a risk; perhaps lift the trough so that a badger maybe can't get into the trough or spread disease indirectly'. So, there are measures undertaken on farms already that, if they make sense, then obviously members are very happy to do, but what I'm concerned about is that this consultation talks about additional biosecurity measures, but it doesn't actually say what they are and it doesn't provide any evidence towards that. And I'm not sure at the moment what else can be done on a farm. If a vet has already gone in under Animal and Plant Health Agency guidelines to say, in a breakdown area, 'These are the issues that I think that are a problem', what are we not doing now that we should be doing? And—

[175] Jayne Bryant: Are we doing that, though—? Is that just independent farms, you know, one farm doing that? Are all farms doing that?

[176] Dr Wright: All farms in breakdown. So, there are requirement notices under a breakdown where farmers have to adhere to certain requirements, if it's deemed that those are risky practices or elements at the farm.

[177] Dr Fenwick: And it must be emphasised that farmers who are not subject to breakdowns are also making strenuous efforts to ensure that biosecurity is maintained. There are always bad examples—in life, there are always bad examples, but, as a whole, because the last thing somebody wants is a breakdown on the farm that closes them down and causes them thousands of pounds-worth of losses.

[178] Dr Wright: Similarly, you don't want to spend a lot of money on something that is called biosecurity but actually has no impact. I think one of the things that I've consistently said is that we need to stop talking about biosecurity for TB, biosecurity for Johne's, biosecurity for bovine viral diarrhoea, and just talk about biosecurity—you know, what is good for disease control—and actually have a set of tools for just biosecurity on farm. But, in order to do that, you have to know what works and what doesn't, because the uptake, if it's voluntary for other diseases, would be low unless you know for certain that it has an impact, which is why I keep re-emphasising evidentiary support for anything you're asking a farmer to do. Because, if it's a voluntary system, then, obviously, if it makes sense, they'll do it.

[179] Jayne Bryant: Okay. What assessment have you made of the risk posed by slurry on pasture land and things that we can do to make sure that that doesn't exacerbate the problem?

[180] Mr James: Again, there isn't any real evidence. Obviously, if there's a massive breakdown on a farm—you know, the example I gave earlier—then slurry has to be a bigger risk there, because there were substantial numbers of reactors on it. In our case, we've had three cattle this year, in August, that were reactors. They were slaughtered. There were no visible lesions, so they were not in an advanced stage. So, my view would be that those animals hadn't contributed to that. But, again, we're talking about millions of gallons of slurry here, and one or two animals contributing to that.

[181] From my point of view, if you say to me I can't spread slurry, that means I don't keep any livestock going forward. That comes to a standstill, because that slurry has to be—. It's also a very valuable nutrient. It saves on fertiliser application, and you just can't keep storing it forever and a day. So, it's not a practical one. But common sense should be there. Obviously, you spread slurry, and most of our slurry would go on ground that eventually ends up as silage.

This time of year it may be on land that won't be grazed until the spring of next year. So, that has to reduce the risk. If it was a problem, then disease on farm would be massive. The disease on farm is not massive. It's occasional, like the one I gave. Those are extremes, the one I told you about earlier on. There aren't many breakdowns. I'm aware of farms that have lost nearly 100 animals because of gamma interferon testing, but there are very few that have massive breakdowns. But there are those occasional ones. Nine times out of 10 it's because something has happened in the area that's caused it. But that evidence is out there as well. That evidence is out there.

[182] Dr Fenwick: Again, it's a layer of complexity with regard to the issue in that I think there is work to show that it couldn't last for up to six months, for example. But it depends on how sunny it is, for example. Because ultraviolet radiation kills bacteria, so, if you're spreading slurry, the sun will kill the bacteria—or maybe it's six weeks rather than six months. And it depends on how it's stored. So, it is very complex. It's not just, 'It's infected, and therefore it's a danger'. It'll only be infected for a certain amount of time, and the bacteria will die over a period.

[183] Jayne Bryant: Just briefly, you've talked about evidence and the importance of evidence and scientific evidence, and in that as well there's been some anecdotal evidence, and I think it's always really important to make sure that we're clear on which is which. What's your view on the—? The Krebs report was carried out over 10 years, its trial on badger culling, which concluded that culling would not achieve a lasting reduction in bovine TB. And the assessment that you mentioned in the English trials, which has said, in the first year of that pilot—which was conducted by an independent expert panel, and they were highly critical of the UK Government's policy, saying that badger culling makes 'no meaningful contribution' to cattle TB control in Britain. We've also had Rosie Woodroffe here to speak to the committee, from London University, and she's also previously said that the mismatch between killing badgers and the spread of bovine TB is hugely disappointing for evidence-based policy making. What would your response be to that?

[184] Dr Fenwick: I would say, firstly, that the independent scientific group report is very unscientific in the way that it fails to appreciate the alternatives, given the problems they found with the data, which are: absolutely they reduced TB in the culling areas. They absolutely did. The problem was that, around those culling areas, there was a reduction in TB incidences.

[185] Mark Reckless: A reduction or an increase?

[186] Mr James: An increase.

[187] Dr Wright: An increase.

[188] Dr Fenwick: Sorry, there was an increase. Sorry. So, there was a reduction in positive effects. However, if you read the actual scientific paper that was published rather than the report itself, that's very illuminating in terms of the more careful way in which they portray the evidence and the balance between perceived perturbation and the positive effects within that area. Also, those initial findings were published prior to the follow-up findings, which found perturbation disappeared and the positive effects actually grew significantly after they'd stopped culling, so there was a longer-lasting effect that tipped the balance away from this 50:50 ratio between positive and negative way into the positive. The most obvious thing about it is, if you increase the size of your area, then the ratio between the area of your surrounding land and the area in which you're culling changes completely, so, of course—. Plus geographic boundaries, et cetera; that changes it as well. So, the follow-up data have completely changed the argument to the extent that, as some of you will be aware, the EU taskforce for monitoring animal disease, which came over here in 2011-12, made it clear that there is, and I quote,

10:45

[189] 'no scientific evidence to demonstrate that badger vaccination will reduce the incidence of TB in cattle. However, there is considerable evidence to support the removal of badgers in order to improve the TB status of both badgers and cattle.'

[190] Now, Rosie Woodroffe is a name we're all very, very familiar with. Certainly, throughout my career in the farming industry, I've been familiar with her name and her vociferously expressed views. But it's well worth talking to, for example, the Irish scientists who take the polar opposite view as regards the benefit of badger culling.

[191] Mark Reckless: Thank you. Could I have, I think, one question from Simon and then David will close the session?

[192] Simon Thomas: Yes. Sorry to keep on about slurry at this time in the morning, but it's a very specific question. Can we really be as sanguine as you are about the spreading of slurry and also slurry going from infected farms to other farms, which I understand is allowed under present regulations? We have nitrate vulnerable zones—I don't want to open that particular can of worms, but we have NVZs being proposed that could actually lead to more slurry being taken off farm and spread on other farms, even outside the particular regionalised TB areas. Isn't that something we should be concerned about?

[193] Mr James: Obviously, the practicalities of slurry spreading are important, and I guess we can do some work. I understand polymerase chain reaction testing can be used on setts, so maybe they should do some work on slurry, particularly, maybe, slurry from an infected farm, just to see what levels—. So, that work is well worth doing and we'd encourage that. But I've got to be honest, Simon, I can't give an opinion on that, because I haven't got the scientific knowledge of it. But it's impractical to think that we can store slurry forever and a day. There are techniques, going forward—obviously, anaerobic digestion units, I would guess, would help. So, maybe the RDP could help with us all putting AD units on farm to sterilise our slurry. Of course, there are other things like Johne's and other diseases that can be spread by slurry, as well. So, it isn't just TB that's the issue here. We are aware of that. That's something that I, as president of the NFU, want to do; not to be spending our lives talking about TB, but all the other diseases that impact on the economy of Welsh farms, as well, and food production, going forward, because that's a big one for us.

[194] Dr Wright: I think I would ask the question: how many cattle are infected purely because of slurry spreading with in-herd spread? Again, it goes back to the proportionality of the question. If you're looking to find the top 10 measures, for example, that have an impact on reducing incidence on farms, is that really one of the things we should be looking at? Because, actually, if the disproportionate effect on the farm business—. As Stephen said, it's impossible to do without it. Unless it was proven to the industry 100 per cent that all breakdowns were due to slurry, then I think I would suggest that we have more important factors to look at. Again, it's going to be the number of animals in the herd that contribute to that as a volume of slurry in total, and the likelihood then of an animal coming in contact with that and infected, and at the right time, in the right field, with the management practices of the farm and so on—. I would suggest that there are probably other factors that are much more important. But I do say that without a wealth of evidence behind it. But I would suggest that, on balance, probably that's the case.

[195] Mark Reckless: Thank you. David.

[196] David Melding: Can I just ask two very focused questions? Changes are being proposed to the compensation regime—I don't want to go into a long conversation about that—but the Cabinet Secretary has given us the assurance that only about 1 per cent of cattle valued would be affected by the changes. Do you agree with that assessment?

[197] Dr Wright: We're still out to consultation, so I don't have a mandate to answer it directly, at the moment, unless Nick wants to say anything.

[198] Dr Fenwick: No. Other than to say, presumably, that's one of those analyses that may have been made in a statement, but I'll include it in an annex. If it is, I apologise, but I'm not

aware that that is included as a statistic in the consultation document. That's precisely the sort of information that I think we need alongside—

[199] David Melding: It was, in fairness to the Cabinet Secretary, in the oral statement she made.

[200] Dr Fenwick: In a statement. That's right. That's what I said, the statement, but not the consultation, yes.

[201] Mr James: I've had people—this is not a union view—come to me, particularly from the pedigree world. The reality is we do want high levels of breeding cattle as well, otherwise we don't improve genetics, going forward. That's one of the things that we're being encouraged to do, and particularly in the really high value animal—it's important because that moves genetics that much quicker. So, we need a constructive way, and I hope Welsh Government will work with us and that sector. Many of those, at the moment, do protect their herds by simply keeping them away from wildlife—I guarantee you that's what they do—because of that nature. Even, with some of them, the ceiling of £15,000 was challenging because you can see that in some—you know, you don't market your best cows, so therefore there isn't a real value for them. So, I hope the Cabinet Secretary will work particularly with the pedigree sector, and that's in beef, dairy and in all those sectors.

[202] Mr Howells: I think if I can add to comments Stephen has said as well, that lowering that cap on the compensation that is paid is sort of—like Stephen said—a discouragement for those who have invested in the herd genetics and improving standards and the quality of stock that they keep on their farms. It does also run counter to Welsh Government encouraging us as farmers to improve our productivity and be more efficient in our production, so it runs counter to that argument as well. Reducing the cap on compensation will not help farmers to be more productive, more efficient, moving forward.

[203] Dr Wright: Whilst I don't have a mandate to answer, I think, from a personal point of view, what is the purpose of compensation? It is to compensate. It is to provide what the animal is worth. It's one of the reasons the union fought against tabular values in Wales, because, actually, if you look at average values, some people are overpaid and some people are underpaid. So, the point is: actually, what is the definition of compensation? Why is it there? What is its purpose? I think that's really important when you look at that, and also the fact that the consultation takes a huge reduction in the cap, from £15,000 to £5,000, but doesn't offer anything in between and doesn't offer other measures on top of that. So, it's one of those statements within the consultation that, actually, the industry has been given—a 'This is the reduction' without maybe other analyses, or maybe other tiered approaches, or other types of approaches that maybe would have been preferred.

[204] Mr Howells: I think if I can just add as well on the issue of compensation: compensation will compensate for the animal that is lost, but in no way does it compensate for the loss of production and the loss of income for farmers as a result of TB.

[205] Mr James: Insurance companies used to insure against TB, but they stopped that many years ago, so that instrument isn't there. Therefore, if you're going to have—and it's suggested in the consultation—an insurance scheme, somebody's got to underwrite it, and that's important.

[206] Dr Fenwick: I'll quickly add, in terms of compensation—given that it's something that's discussed regularly and has been for many years—if I remember rightly, there was some very useful work done by University of Exeter a number of years ago now—probably more than a decade ago—which shows that the percentage of compensation, or the amount of compensation given to a farm is a small percentage of their overall financial losses.

[207] David Melding: Okay. Well, I think, after you've more fully thought about all these things, we'd appreciate any more precise comments you want to make about the compensation proposals, and perhaps that could come to us in writing.

[208] Second point: we heard evidence earlier from Dr Paul Livingstone who's been central to the TB eradication scheme in New Zealand. I did ask him what their experience was about their red meat exports, and whether the TB status had had any impact and, indeed, was there any fear that they could lose trade if it wasn't tackled. He said there really hadn't been any effect, and they've not been under pressure, from that source anyway, for a more vigorous scheme. I thought New Zealand was interesting because, obviously, they don't have, as we do currently, the protection of the EU in terms of mitigating any potential response you get from competitors or countries that have traditionally taken our red meat products. So, I know this has been raised by the farmers' unions—is there more evidence to suggest that we're in a more vulnerable position than it would seem that the New Zealand farming industry has been in?

[209] Mr James: I would just say that, in trade negotiations going forward, we know that you can make a trade negotiation with a country, but very often it's the phytosanitary, the vet certificates and whatever that can then be the stumbling block to stop it happening. Most certainly, that's happened with North America—the US—on beef. I know that the Irish had issues putting beef in—you know, they had an acceptance. But the reality is, you know, this could be an excuse, David, to say, 'Well, this area's got—'. So, that's a risk, isn't it? That's a risk, and I think that needs addressing.

[210] Dr Fenwick: I heard those comments made by Dr Livingstone. It was unclear to me, given how long their TB eradication programme has now been running, whether he was talking in the present tense, the near past tense or the very much longer ago tense, given how long their programme has been running, as we've been told explicitly by people in New Zealand and Australia—people who are very high up in terms of their eradication boards—that that was absolutely a key concern for them when they embarked on their very aggressive eradication programmes, and very successful programmes. I also understand that the commission have raised this concern very recently with farmers who've been out there talking to their animal health department. In terms of trade negotiations, why wouldn't you? If you were negotiating on behalf of a TB-free country, absolutely why wouldn't you use it as a tool? Even in our clean area, we're over the TB-free threshold—that's Gwynedd and Anglesey and places like that. We are, sadly, over the threshold there—only just. But in cases like Pembrokeshire, we are way over that threshold. You need to be below the threshold for six years, if I remember rightly, before you're actually officially TB free.

[211] Mark Reckless: Can I thank both farmers' unions here today for your evidence? I spoke yesterday to the Cabinet Secretary around the consultation. I know she does want to see a good quantity of responses coming in. The way these consultations sort of work, clearly your organisations are well set up to reply to each of those questions and make your overall points in terms of the way the consultation's been structured. However, I don't think that should preclude individual farmers from replying, and I don't think everyone is expected to answer all the questions. If people believe something should happen in this area, or they have particular reasons why, please encourage your members to share those with the official consultation. Thank you very much.

[212] Mr James: I thank the committee for the opportunity but point out that we've also got a nitrate vulnerable zones consultation as well. So, we're expecting a lot from our farmers at the moment. They're not the type that normally do that sort of thing, but we are encouraged by them on the NVZ one, and hopefully on the TB one as well.

[213] Dr Fenwick: Can I, Chairman, make one important point that was touched upon earlier on in terms of biosecurity? One of the proposals is to link cross-compliance penalties, financial penalties, to failure to implement certain perceived control measures. As Hazel has indicated, we're unclear as to what those measures would be. I would say we already have problems because the testing window requirement—the requirement to test farmers within a certain period of time, quite rightly—is also linked to a cross-compliance measure. When that was consulted upon a number of years ago, we did emphasise the need for some consideration to be taken of exceptional circumstances. We now have a number of cases where vets have decided that an individual animal, for example, is not safe to read on the third day of the test. And instead of there being a system whereby the vet makes a note saying, 'This is a danger to human health and safety'—and we've already tragically seen one death, and we have many members who have been injured during TB testing—those people are automatically being fined because the vet has made a very good decision to protect human health and safety. The whole

problem is then being handed over to an appeals process rather than being nipped in the bud. It is a concern, when you start talking about penalties being applied for failure to implement things that may be ambiguous in terms of their interpretation, or are subjective in terms of an inspector's interpretation—it does raise concerns because there does seem to be a culture of simply handing a penalty over to an appeals process rather than saying, 'Hang about, this was a rational decision and therefore we are not going to penalise you.'

[214] Mark Reckless: Thank you for that. [Interruption.] Sorry, if I can close it there. Thank you for that, Nick. That is a point that you made to me personally, and you now have that on the record. So, thank you all very, very much for coming in.

[215] Dr Fenwick: Thank you.

[216] Mark Reckless: We'll now have a five-minute break.

Gohiriwyd y cyfarfod rhwng 10:59 ac 11:08.
The meeting adjourned between 10:59 and 11:08.

Twbercwlosis mewn Gwartheg yng Nghymru
Bovine Tuberculosis in Wales

[217] Mark Reckless: Thank you very much, both, for coming. Can I apologise that we're late beginning with your session? And can I also say, for the record, that the relative time we've given to the farmers does not imply relative weight to evidence? We had two organisations and they both seemed to represent their members. So, I trust, with both of you, we'll work to get your evidence as best we can. Thank you for the work you've done with me previously as Chair.

[218] Can I ask, are there any circumstances in which you would support the culling of badgers? Is this, for you, an evidential issue or an issue of principle?

[219] Ms Wilberforce: It's an evidential issue. I think we would think about our wording as to whether we would describe it as support or whether it would be an acceptance of measures, I think. Do you think that's a fair description? But it's an evidence-led issue for us, it's not an issue of principle that we object to the culling of badgers regardless. We're very much led by the evidence in our policy.

[220] Mark Reckless: Can you point to any circumstances previously where you have supported or at least acquiesced in badger culling?

[221] Ms Wilberforce: I would point to the other work that we undertake with culling. So, we are involved in the culling of deer and grey squirrels. So, we have policies that describe our approach to the culling of wild animals, depending on the circumstances and the context. So, it's not that, as a movement, we don't get involved in that kind of work, but it's just that, thus far, for us, with badgers, the evidence has not supported culls.

11:10

[222] Mr Byrne: I think it's also worth pointing out that, as a wildlife trust, we're not just ecologists, but we're also landowners as well. So, in Wales, we have 200 nature reserves, 88,000 hectares-worth of land, and many of them include farms and farm tenants. Lizzie works a lot with graziers on the land as well, and Lizzie's been involved in the intensive action areas in the badger vaccination trials and also with colleagues in Gwent Wildlife Trust, who have been working with DEFRA on the other systems of vaccination, oral vaccination trials, in the Gwent Wildlife Trust as well. So we've been involved in this for quite a while, looking to go down that evidentiary route and working with Welsh Government and working with the UK—DEFRA—Government on that, making sure we have that evidentiary route. We've been working with Welsh Government in their stakeholder panels, and we do a lot of liaison with the UK's leading scientists, in particular Professor Rosie Woodroffe as well. So, I do think that we do take a really evidentiary aspect, and, as a wildlife trust, we try to do that in all aspects of our work.

[223] Mark Reckless: Looking at the evidence presented to us, and Rosie Woodroffe's analysis and assessment of the tests and previous studies we've had, we noted that, if you had the perturbation effect, at least around an area that wasn't sufficiently large, it might outweigh any reduction in TB within the area, albeit that, after a number of years, that effect might no longer be the case. Would you accept that, if you were to cull badgers over a sufficiently large area and sufficiently intensively, then you could expect a reduction in the TB incidence within the area that would be greater than any perturbation effect outside that would upset it?

[224] Ms Wilberforce: Our understanding was that that wasn't one of the things that was being proposed for Wales, at present.

[225] Mark Reckless: It's not specifically about the consultation, but just a general question from me as Chair of the committee.

[226] Ms Wilberforce: Okay, well, the evidence from—. Do you want to—?

[227] Mr Byrne: Yes. Again, as I mentioned before, we take an evidence-based approach and, as I said, we've read all the studies and we've talked to the proponents of those studies as well—Professor Rosie Woodroffe. And I know that she gave evidence in your review, suggesting that there is a net benefit if you take a sufficiently large area of culling, and there was a 12 per cent drop in TB. But that was over nine years, and that's net. So, in some places, in the edge effects, you're going to get an increase and actually, within it, you do get a decrease. But that's over nine years and, I think, as she pointed out, to do it, you'd really, effectively, need to do a coast-to-coast, highly expensive and complete eradication, and you're only going to get a relatively small drop. So, it is that evidentiary point of view that we look to and, as I said, I think Rosie and Gareth covered that quite well in the last session.

[228] Mark Reckless: Thank you. I'll bring in Vikki.

[229] Vikki Howells: Thank you. I'd like to ask you some questions specifically around cattle control measures that are proposed in the Welsh Government's consultation document. Do you think that those measures, as outlined there, could be sufficient to address cattle-to-cattle transmission? Do you think they're going to be effective?

[230] Ms Wilberforce: I think our view is that they will improve the situation and they will help address some of the current issues. We particularly like the fact that Welsh Government have drilled down to the fact that the drivers vary in space and they vary according to industry-led differences. So, I think it's really important, and I think we support those because of that, recognising that the picture's very complex and that you need to get that level of detail and target the cattle measures. I think there are still outstanding problems with the ability to detect TB 100 per cent accurately, especially within big herds. I think that's going to be an ongoing challenge, because the test isn't perfect—obviously, that applies to both cattle and badgers. But I think what's been proposed is moving in the right direction.

11:15

[231] I think the only note of caution is about anything that risks reducing the scrutiny in low-incidence areas, because places like Australia, where they've eradicated TB—they've identified the big problem was investment when it's almost gone. We know from our own historic TB picture in the UK that you've got to maintain that scrutiny and investment, even when TB levels are very low. But, yes, broadly, I think we're supportive of the cattle measures.

[232] Vikki Howells: Thank you. Just for my last question, how much of a role do you feel that the farming community have to play to support good practice?

[233] Ms Wilberforce: Critically important, and I think experience probably shows it's going to have to be a combination of carrot and stick to address that. Clearly, it's been very, very difficult for the industry over a very long period, but the successful delivery of biosecurity, particularly, is dependent on farmers' behaviour and buying into the evidence and the proposals. So, I think, yes, they've got an incredibly important role to play.

[234] Mr Byrne: I think I'd add to that that, as Rosie pointed out in her evidence, there's the evidence that TB stays in the environment. Even if you remove all the badgers and you remove all the cattle, TB will still be in the environment for, potentially, up to months. So, they've been looking at trialling measures to see how they can mitigate that in terms of biosecurity measures—she's suggesting slurry control measures, et cetera. But she didn't have a list that she could give you now, because she wants to look at them and trial them. So, I think it will be very important to have a look at that—the results that are coming out about that.

[235] But, we also think there's a communication issue in terms of biosecurity, getting the farmers fully invested in that and giving them the right information, because there's a lot of disinformation out there about badgers, cattle and TB and how big a percentage that they play in it, when the evidence shows that 6 per cent of cattle transmission is from badgers—only 6 per cent. So, there's a communication issue there, and, in our consultation response, we've wanted to highlight that any measures going forward, should be accompanied by a communication strategy, and we've put that in our draft consultation response. We'll finalise that consultation response between ourselves in the next week or so and we'll submit that to the committee, as well. So, I think, again, that will be evidentially based.

[236] Ms Wilberforce: Can I just add to that, sorry, if you don't mind? I think there's been a bit of a communication issue, perhaps, not just with biosecurity as a whole, but with people understanding what is a very complex process. In my day-to-day dealings with the farm businesses that graze on our land—so, for example, when the sole occupancy was removed and things, they didn't fully understand the process. I think people's understanding of the change in policy, and perhaps not fully understanding the information that comes back from labs and things, has led to more frustration and less buy-in when policy changes again. People are getting a bit cynical, 'Oh, they're changing the rules again,' and they're not really always fully understanding what's expected of them. I think that erodes faith in the system and it erodes their ability to actually behave in the way that's best for their own business, as well. So, I think there is an issue with how the rules and the language are communicated.

[237] Vikki Howells: Thank you.

[238] Mark Reckless: Jenny, would you like to come in at this point?

[239] Jenny Rathbone: The particular thing I wanted to ask you was, really, given what we heard on 10 November from the experts on the badger species and perturbation, what are the potential risks to the area adjacent to the south-west of England of perturbation of badgers that are shifting across because of all the culling that's been going on there?

[240] Ms Wilberforce: Perturbation is probably the biggest challenge, I would say, to tackling the disease altogether, because, although we understand the mechanism by which it can make TB in both badgers and cattle worse, it seems to be proving quite difficult to establish when it happens and when it doesn't. The stuff that's been published around this has said—well, one of Rosie's papers said, 'We couldn't rule out the fact that you could take three badgers out of a social group and not cause perturbation, but neither could we rule out that taking one badger out would.'

[241] So, it makes it very difficult to look at any one scenario and say what the consequences in terms of the scale of perturbation are going to be. But, from all the work that's been done around not even necessarily very large programmes—so, road schemes and forestry operations, for example—they have been shown to cause perturbation. So, I would argue that it's a very significant risk of making the disease prevalent in both badgers and cattle worse around even quite a small operation. You can't rule out the risk. We don't have anything that allows us to be sure that we can control that. Does that answer your question?

[242] Jenny Rathbone: To some extent, yes. So, just sticking with this whole concept of perturbation, one of the expert witnesses said that the only way you can avoid the problem of perturbation is by having a significantly large area, if you were going to conduct culling, that was boundaried by natural boundaries like the sea and mountains to prevent the perturbation. I just wondered what you think about that as a concept.

[243] Ms Wilberforce: The only absolute about perturbation is that you can only stop it happening if you can absolutely guarantee that you can stop badgers moving, which means either getting rid of all the badgers or doing something that doesn't affect their behaviour at all, which is why vaccination removes that, because it doesn't actually take any animals out of the system. So, I think when you start looking at creating a system where there's no movement of badgers, you're talking about a scale of operation that's—. Well, I think Rosie said it—you're looking at something that's at such a scale it would probably contravene the Bern convention, and the fact that, actually, all the experience shows so far that you can't even trap a significant enough proportion of the badger population to ensure that that doesn't happen.

[244] Mr Byrne: And I think somebody mentioned before that it didn't work in England. It didn't have the effect that they wanted it to have, partly because they couldn't trap all the badgers. There's the famous quote about shifting goalposts et cetera. Again, Rosie's covered most of that. We as an evidence-based organisation will take the most recent science, and that is that it just doesn't work.

[245] Jenny Rathbone: So, overall, do you think that the Government's proposed approach of dividing up areas into high risk, intermediate risk and low risk is the right approach, and having different control measures for each area?

[246] Mr Byrne: Yes, we do. It's been proven to work elsewhere, as was previously mentioned, in Australia and New Zealand. So, we do think that the regionalisation approach has worked. Actually, we should say—well, what I wanted to say at the start was that we do commend the work that the Welsh Government have done over x number of years. Again, it's statistics and statistics, but we do know that the number of herds with TB outbreaks have been going down, so we do commend the Welsh Government on the work that they've been doing over x amount of years.

[247] Ms Wilberforce: And I think, in addition—I was just thinking about this now—there's evidence that when you've got regional strategies, including specifically biosecurity, and if you've got tailored solutions, people are more likely to buy into it. It's such a complex picture that broad-brush solutions are likely to be ineffective anyway, but if people feel that they have tailored solutions, they're more likely to engage in the process, because the chances of success that come with that tie into the level of scrutiny that local situations have been given. I think there's some published evidence that people comply with biosecurity solutions that are tailored to high-risk areas more readily.

[248] Mark Reckless: Simon.

[249] Simon Thomas: I was just going to ask you, as wildlife trusts, what your assessment of badgers as a species in Wales is at the moment. Is it an endangered species, are there too many or is it just right?

[250] Ms Wilberforce: No, it's not an endangered species, and the legal protection on it was never associated with its conservation status or scarcity. As you know, the legal protection is to prevent persecution. There are higher numbers. I don't know whether we've got a really good population estimate for Wales at the moment, but numbers have gone up and a lot of people are saying they're appearing in upland areas where they weren't before. It might be a bit of a crude way to state it, but, if you farm for cattle, you farm for badgers. The process of creating

cattle pasture provides such a good environment for badgers that that will have encouraged that increase in population. But I think the legal protection still has a very important role to play, because they are so controversial, and there are such strong views on badgers at the moment that they're probably at more risk of persecution than they have been, perhaps, for some years before.

[251] Simon Thomas: And what about TB itself in badgers? Just thinking of the disease in badgers at the moment, is that a problem in terms of wildlife sustainability?

[252] Ms Wilberforce: The badger found dead survey that's been ongoing, I think, normally only finds a percentage of infection between about 5 and 10 per cent. So, it's not a high-level infection in the badger population, and people like Rosie who work with handling badgers have never seen any sign of visual ill health in the animals associated with it. So, I think it needs to be considered as a spillover issue from agriculture and not a wildlife welfare concern.

[253] Simon Thomas: Okay. So, to turn now to the relationship between badgers and cattle, which you've already said you accept exists, and I think everyone knows that—there's a symbiotic kind of thing going on—first of all, you said you have an evidence-based approach. Accepting that, what's the evidence that the vaccination of badgers, in the way that it's been done in Wales, actually works to control the disease in the wildlife?

[254] Ms Wilberforce: There's published evidence showing the efficacy of the BCG vaccination of badgers, both in the lab and in the field.

[255] Simon Thomas: But we don't have the evidence yet from Pembrokeshire, do we?

[256] Ms Wilberforce: We don't have the evidence of the follow-on impact in cattle, but what we have is evidence that it works on controlling the disease in badgers. It reduces the prevalence of the disease in badgers, whereas of course culling, even localised culling, increases the prevalence, even if it reduces the number of badgers. It has the opposite effect on the disease in the badgers.

[257] But because the work in Pembrokeshire was never set up as a trial—it was set up as a treatment—it's always going to be difficult to pull out the impacts of the work on the cattle. All you can do is look and say, 'Well, we've got reducing incidence.' Okay, so the number of cattle slaughtered has gone up, but so has the number of animals tested, so you've got an improving disease picture. But it's very difficult to pull out which of the contributing measures, what proportion of those measures, have contributed to that.

[258] Simon Thomas: So, your current position as regards any cull, you said, is one based on evidence, not on principle, because you've talked about other culls that have happened, like grey squirrels, for example—there are other culls that have happened in Wales for biodiversity purposes, and they've been supported more widely. So, your current opposition to a cull in that sense, or any culling, as I understand it, is based on evidence, you say. So the evidence is which? Is it evidence that it doesn't work at all, or is it evidence that says, 'It does work, but it works in such a limited way that it's actually not valuable and not worth doing as a tool to deal with TB in cattle'?

[259] Ms Wilberforce: Broadly, it's to do with risk management. The risks of culling that can make TB in cattle worse are not fully within the control—

[260] Simon Thomas: So, we're back to perturbation here, are we, or other issues as well?

[261] Ms Wilberforce: Well, it manifests in perturbation, but there are many contributing factors to that, including civil disobedience, which has been seen in England, and all these risks that are only partially controllable that affect what level of impact badger culling has. So, the balance of risk is significant. It's risk based, particularly, I would argue.

[262] Simon Thomas: It's not in the consultation, interestingly enough, but the statement to introduce the consultation by the Minister did talk about a risk-based approach that could potentially include the culling of badgers in particular, quite defined areas—so, not the Pembrokeshire kind of proposal, but in particular defined areas where the disease has been shown to be repeating itself in cycles, where cattle control measures are all in place and haven't eradicated the disease. Now, that looks to me like the tailored solutions that you were talking about in evidence earlier. So, in that context, do you have a view—and I appreciate it's not actually in the consultation, but it is in what the Government said—do you have a view on whether that could be a tool that, while I don't suppose as Wildlife Trusts Wales you'd ever want to support it, but it could be a tool that you'd be prepared to see go ahead in a context where other avenues had been exhausted?

[263] Mr Byrne: Again, we have to point you to the evidence that Rosie gave. Small-scale culling, which is effectively what it is, <u>especially in the absence</u> of a vaccination, so it's not—

11:30

[264] Simon Thomas: Yes, but we won't have a vaccine for at least a year, and the Minister has said that.

[265] Mr Byrne: Yes, so instead of it being test, vaccinate or remove—a TVR—it's a test and remove. She said that it won't work because of the perturbation effect; it would potentially make the neighbouring farms' risk of having TB greater. And you'd potentially be doing it in areas where you don't have that at least four-year vaccination programme either. So, again, as I said, we take an evidentiary approach and if Rosie, as the lead scientist who's been doing this for 20-odd years, et cetera, says in published peer review papers that it won't work, then we've got to take that opinion.

[266] Simon Thomas: You're obviously based in Wales, but you have colleagues in Ireland and Northern Ireland. This test, vaccinate and release policy or test—we're not quite sure, still, what it is in Northern Ireland—but do you have any feedback from the experience there and from the Republic of Ireland where, of course, they capture and kill? We're told—and we'll certainly explore it as a committee—that the scientific view there is different to Dr Woodroffe's. So, do you have colleagues there who take different views?

[267] Mr Byrne: I've only discussed this with colleagues in Northern Ireland. There's Ulster Wildlife trust and the view there—well, not 'view'. They're doing TVR trials, they're blind trials, et cetera, and they're not due to report for another couple of years. We've talked this over with the Welsh Government as well, saying, 'Surely, you can get some—. You know, you're a Government, they're a Government, they can give you some early interim findings', and they said, 'No, we've tried; we've asked and they're not.' So, my colleagues in Northern Ireland are as much in the dark as the Welsh Government in terms of the information coming out from Northern Ireland.

[268] The Republic of Ireland, unfortunately, I genuinely have no—. I didn't read any of the studies. At one of the meetings, we did have one of the Government officials come over from Ireland and she was giving some of her findings of surveys in Ireland, et cetera, where it was just about badger movement around farms, and how they concurred with some of the research that's been done over here that badgers and cattle do not get within 5m of each other, and also it is actually quite rare for a badger to go into a farmyard scenario. So, unless Lizzie has more information about the Republic trials—.

[269] Ms Wilberforce: No, not a great deal. I'm under the impression that badger density is a bit lower in the Republic of Ireland.

[270] Simon Thomas: Yes, I just wanted to ask, if I could, to conclude then, just on that. From the point of view of wildlife trusts, clearly the badger is an iconic mammal, and we share the British isles, to use 'British isles' in the geographical and not political sense. The British isles share that same post-ice-age environment where the badger is an iconic and key species. There might be a slightly lower density, but has there been a reaction to the culling in the Republic of Ireland from either similar organisations to yours or the public? It seems to me from outside that there seems to be a different view taken of how the badger is protected and how its place in the environment is looked after in the Republic to that in Wales. I'm just trying to understand whether there's a scientific reason for that or whether it's a more political or cultural reason.

[271] Ms Wilberforce: I think Gareth Enticott has done some work on that, hasn't he?

[272] Simon Thomas: Yes.

[273] Ms Wilberforce: He's looked at attitudes in rural Wales. I'm not—

[274] Simon Thomas: But you haven't got a feed into that, no?

[275] Ms Wilberforce: No, not really, no. I'm sorry.

[276] Simon Thomas: That's okay. I just wondered if that was something that helped us at all, but if we can't get the evidence then it doesn't help in that sense. Okay, thank you.

[277] Mark Reckless: Thank you. Jayne, do you want to pick one up?

[278] Jayne Bryant: Thank you, Chair. You've both mentioned biosecurity in some of your answers, and Lizzie, you've mentioned tailoring solutions in certain areas. Perhaps you could expand on what role effective biosecurity and husbandry practices can play in reducing the spread of infection, both between wildlife to cattle, and cattle to cattle.

[279] Ms Wilberforce: I think it's quite an evolving evidence base at the moment. I've been talking to Christianne Glossop and she's clearly, and correctly, of the approach that you want to do whatever you can to help. But the more recent evidence is going much more down the line of showing that transmission is most likely via the environment and, as James was mentioning, not between badgers and cattle; clearly there will be cattle to cattle and badger to badger. So, any biosecurity and husbandry practices that are effective will be about breaking that transmission

link. So, there are some things that can play a role. If you have got badgers going into farm buildings, they've shown that interventions can 100 per cent stop that—the weak link on that has been farmer behaviour. So, one of the studies that tested badger exclusion from farm buildings showed that it was 100 per cent effective, but wasn't always delivered correctly in terms of on-farm behaviour. But, you've got other things that you can do, like preventing shared water troughs and measures like that. I think it does come back to that tailoring, and it's really nice that Welsh Government has started to identify the individual chronic herd breakdown level where, in some cases, they know maybe wildlife isn't an issue and in some cases it is. But, the wider biosecurity issues around preventing transmission in the field, for example, is still an emerging evidence base. Rosie has looked at some of these issues, but hasn't managed to come up with anything conclusive. Is that fair?

[280] Mr Byrne: I believe that they've just relatively recently found out about, or come to the conclusion that, it's the environment link, that bacterium stays in the environment for days to weeks to months, depending on the situation. So, I don't think that she's had a chance to fully go through all the potential new measures that could potentially come out of biosecurity. But, certainly, I know that they've talked about slurry management. That is, if cattle do have TB then it is going to be potentially in their manure as well, and then if that's being spread around an area, then potentially you're spreading the disease as well. So, potentially, that's one biosecurity measure that needs to be looked at. I'm currently also working on the Welsh Government consultation on nitrate-vulnerable zones, and one of the solutions there is talking about slurry management as well. So, within our consultation response we've kind of made the link between the two, and hopefully there'll be some discussion and cross-over between the different departments working on these two issues.

[281] Jayne Bryant: So you'd say that there's certainly a new body of research and work to be done then on this area.

[282] Mr Byrne: Yes.

[283] Ms Wilberforce: But there are some easy hits that can still be applied and I think some of the local private vets have been good at working with farmers on that—things like double fencing between holdings and cleaning out water troughs, and just good practice. So, there are some easy hits as well.

[284] Jayne Bryant: Brilliant, thank you.

[285] Mark Reckless: Sian, would you like to ask any questions at this point?

[286] Sian Gwenllian: Yes, just a general point. You talk a lot about the evidence base and you talk a lot about one eminent leading scientist. Are you aware of other, similar evidence on the same level as you've talked about?

[287] Mr Byrne: Well, there's one scientist, Rosie, who we have frequent conversations with because she's been invited onto the same boards in Wales as we have. But she's been working with others, like Christl Donnelly, et cetera, who've written various papers as well, and you've had Gareth in here as well—. So, yes, we do—. Personally, I'm aware of the other research, but my conversations have been mainly through Rosie.

[288] Ms Wilberforce: I think we would recognise that the data from the large trials are very complex; the randomised badger culling trial is being re-analysed by lots of people, in lots of different ways, and come up with slightly different conclusions. We've always supported badger vaccination because it's shown to have a positive effect, but removed risk. I think if we can take no other message away from the array of very complex data and interpretations, it's that it's complex and there's risk associated with the culling. There's such a huge evidence base out there, and some of it's quite contradictory. That just gives me so much concern. That's why we've not been able to fully address all the risks associated with it, because this is just such a complex picture, and there's clearly no simple answer. There is no simple answer.

[289] Mark Reckless: You referred to an emerging evidence base, and there were clearly different issues with various—I hesitate to call them trials or pilots—and I was disappointed that what happened in Gloucestershire and Somerset and more widely doesn't seem to have been properly quality controlled to give any compelling evidence either way. I just wondered—clearly, you don't think the evidence shows that culling is effective and should be rolled out on a broad basis. Would you nonetheless accept further properly controlled pilots or research projects, whether in Wales or elsewhere, that did seek to develop a better understanding of whether culling in certain circumstances could assist in reducing TB incidence?

[290] Ms Wilberforce: I suspect the issue is that people don't want to wait for further trial processes. Clearly, there's a need to take action now, but on a lot of these things, it would be nice to have more evidence. Every time something is deployed, it has changed slightly from the way in which it was trialled. It makes it very difficult to tell what's working from what isn't. So, say they started including the TVR approach within an area where there's been badger vaccination, or something like that, you can't really learn very much from it. If it was making things worse, you might not be able to pull that out because so many measures are happening in the same place at the same time, and because they're not being done in a trial context. I understand that people don't want to constantly wait on new trials and new evidence, because this is a critical issue now, but if there was the capacity to undertake trials, as well, of some of these new measures, so that you're learning on the trails that have been done before, and learning from the field experience, and then trialling a new approach so you can actually test whether it works rather than throwing everything at one area and never understanding how you

could replicate it—. It's like George's Marvellous Medicine. If you get a positive or negative result, you can't find out what it was that created it.

[291] Mark Reckless: Thank you. Jenny.

[292] Jenny Rathbone: We heard from the NFU that there was a massive outbreak of TB in cattle following the clearance of a nearby woodland. That was obviously to do with perturbation. I just wondered what—. Obviously, perturbation occurs when someone's building a road or laying a gas line or whatever. What measures do you think would be best, based on the evidence currently available, to mitigate the effects of what may be unavoidable perturbation, just because there are other things that need to be done?

[293] Ms Wilberforce: I think sometimes there's not enough preparatory work done ahead of some of these operations. The planning system in Wales has got quite good systems in place for ecological assessments and understanding and mitigating impacts. Things like large forestry operations don't always carry that same level of scrutiny and mitigation. So, I think that's an area that could be improved. When vaccines are available, wider use of vaccine would help. I think, normally, better assessment of the badger populations in an area and where the risks are would be a good start, especially for planned activities where you've got a long lead-in time.

[294] Mr Byrne: I've dealt with planning applications for 10 or 15 years and read a lot of environmental impact assessments. Never once have I seen an environmental impact assessment relating to impact on badgers from a major road or forestry operation that actually brings this issue up. So, maybe that needs to be included in the environmental impact assessment process.

[295] Mark Reckless: David, did you have any questions that you wanted to ask?

[296] David Melding: I have some questions. Thank you, Chair. The Government's stated goal is to eradicate TB. Do you share that?

[297] Mr Byrne: Yes.

[298] Ms Wilberforce: Yes.

[299] 11:45

[300] David Melding: So, if that's the end, then you obviously have to actively consider the means. Now, Dr Livingstone, who led the eradication programme in New Zealand, said that the general policies or suite of policies around managing the cattle herds in England and Wales is good. But he said the huge failure is the policy with regard to the wildlife that can be vectors and that, without both approaches being vigorous, then you're not going to get an effective eradication programme. Do you agree with that?

[301] Ms Wilberforce: I think it's fair that you're going to have to tackle the disease in badgers, but the context is very different. So, in New Zealand, the wildlife reservoir was in a non-native species and there were multiple benefits to controlling that species. So, the context is very—. Because the context and the legislative context is different surrounding how you manage the wildlife reservoir, and issues around the density and the social structure, all the things that are details to do with the species and the distribution and the behaviour of the wildlife host mean that one model doesn't necessarily transfer to the other. So, his point of principle that you're not going to eradicate TB in cattle while it's endemic in badgers is fair, but his solution won't apply here.

[302] David Melding: I don't think any of us would run out of here saying, 'We need the New Zealand policy', but—

[303] Mr Byrne: There are not many possums in Wales, for a start.

[304] David Melding: If I interpret this correctly, Lizzie, you said that the genesis of the problem in badgers was probably a spill-over effect from farming. That's your position.

[305] Ms Wilberforce: Yes, that's my understanding, that it appears in badgers in response, historically—

[306] David Melding: So, badger TB is an epiphenomenon of TB in the cattle population.

[307] Ms Wilberforce: Yes.

[308] David Melding: And I'd have to infer from this that you would then advocate the most vigorous controls of the cattle population, where there is, of course, extensive culling at the moment, and presumably, though it's not wildlife, I suppose, technically, it must cause you an

ethical unease. So, the current controls have been there for a long time, and they have not reduced—well, they've reduced somewhat the prevalence, but it's still a very general problem. So, presumably, we need to do much more from your viewpoint with the cattle herds. So what is that? Would we have exclusion areas, effectively, for farms? You know, I ask this as it's a fundamental question, but at the moment, we want to manage farms that have had significant outbreaks back in to be able to rear cattle again as soon as possible. Presumably, you think that's erroneous.

[309] Ms Wilberforce: I should just clarify, when I say it's a spill-over from cattle, I don't mean that it doesn't go from—once it's endemic in an area, that disease moves between cattle and badgers. I'm not implying that badgers only ever catch TB from cattle. I mean in terms of the source of the problem in the first place. So, both do need to be addressed.

[310] I think one of the difficulties is that cattle control measures have been in place for a long time, but the industry has evolved a lot, so some of the risk factors, like herd size, have changed a lot. Herd sizes have got larger, and the larger the herds get, the harder it is to eradicate the disease from the herd, as well. So, it's quite a difficult question to answer, because the risk factors are changing all the time, but I think we recognise that a lot has been done to address it in cattle. But, clearly it's not 100 per cent effective in managing it within the cattle population—

[311] David Melding: Can I take you one step back, then? Your analysis that TB in the badger population is an epiphenomenon of farming—that's a deeply historical observation, and it has no active effect today, because when that link was made, it's so long ago that it's not a critical factor today, because we have TB in both populations.

[312] Ms Wilberforce: No, I think it's relevant now if you've got cattle movements, long distance, and undetected TB, and you've got a new outbreak in Anglesey as a result of cattle movements. It's relevant in that context, but, no, I meant historically.

[313] David Melding: So, in terms of eradication policy, you would have to have approaches that were designed to tackle both wildlife and cattle.

[314] Ms Wilberforce: Yes.

[315] Mr Byrne: Yes.

[316] David Melding: That's helpful, and—

[317] Mr Byrne: From our point of view, because of that scientific evidence of perturbation, the tackling of it—we believe that, still, the long-term, best view is of vaccination.

[318] David Melding: That's your long-standing position and I acknowledge that. Can I just go back to badger numbers? I think you said that they have increased, but would you say that's just a natural fluctuation and that inevitably there's some fluctuation that occurs in populations, or are badger numbers at such a level that they're causing an impact on other species that are endangered at the moment?

[319] Mr Byrne: Are you referring to hedgehogs, for example?

[320] David Melding: They've been mentioned, but they predate on other things, presumably.

[321] Mr Byrne: The vast majority of a badger's diet is earthworms. There's been studies of badgers—not just in the UK but in Europe on the Eurasian badger—of their diet, and a very, very, very small proportion of a badger's diet is hedgehogs. It's one of the myths that are being put around, that the decline in hedgehogs is related to badgers, which is completely not the case.

[322] David Melding: Let's talk about the general principle. You see no evidence that the current size of the badger population in Wales, and presumably other parts of the UK, is of such a size that it's having deleterious effects on other wildlife populations.

[323] Mr Byrne: No.

[324] David Melding: Okay, thanks.

[325] Mark Reckless: What are the badgers eating in greater numbers than they were, and why isn't that having an effect on the size of that population?

[326] Mr Byrne: As far as I'm aware, over 50 per cent of a badger's diet is earthworms. After that, it's berries, et cetera. But, yes, they are omnivores and they will eat some other things.

Studies that have been done on the results of faecal analysis, et cetera, show that there's very small proportions of mammals, birds, et cetera, within their diets—and frogs.

[327] Ms Wilberforce: The randomised badger culling trial did show that removing badgers did increase hedgehog numbers a little bit, so they do have an impact. But as James says, the massive decline in hedgehogs is primarily driven by habitat, not by badgers. But people are always very keen to look at one species in isolation, and you do hear quite often about the impact on hedgehogs, but people also don't mention that, in some of the culling trials where badgers had been removed, it causes a competitive release of foxes, so fox numbers go up. So, changing numbers of any species will have a balancing effects on all the other species in that ecosystem. That's inevitable. I just worry about people cherry-picking when they're trying to make the case around this issue. They're a bit selective in which species they're promoting the impacts on, shall we say.

[328] Mark Reckless: Simon.

[329] Simon Thomas: I just wanted to say one thing to you. You mentioned, in reply to David Melding, herd sizes. Clearly, there are changing practices in agriculture, including intensification of dairy as well. As I understand it, we don't have hard evidence yet completely about this, but there's certainly some practices, including housing cattle completely, that indicate that that may be a way of breaking this link between the two species, because of course the cattle are not going out to pasture. It's not about barriers against the badgers coming into the cattle housing, it's the pasture element that I think is emerging scientifically as the link here.

[330] You're a wildlife organisation, I appreciate that, but presumably you come in to wildlife organisations with wider concerns about animal welfare and husbandry and farming practices and so forth. If the response to TB is an intensification of agriculture and more housing of one species, which would be the cattle, are you content with that as an approach, or would you prefer us to explore a wider range of solutions to this that includes maintaining more traditional farming practices?

[331] Mr Byrne: I would say that the wildlife trusts—we are a wildlife organisation. We're a conservation organisation as opposed to an animal welfare organisation, in general. So, it's not something that we look at or is in our policies, et cetera—[Inaudible.] Individuals will have their own—

[332] Simon Thomas: That's fair enough. I just wanted to understand if, as an organisation, you had a particular attitude or approach to farming practices in that wider sense, or whether

you are, as you just said, focusing just on the wildlife and conservation.

[333] Ms Wilberforce: I think we do insofar as we—. From a restoration of biodiversity perspective, we do need there to be a viable farming industry that's able to graze cattle, especially in our countryside. That's one of the tools that—. My trust in south-west Wales has got 90-odd nature reserves, and many of them are cattle-grazed, and would be severely impoverished over time if we weren't able to cattle-graze them. So—.

[334] Simon Thomas: We've been grazing cattle in this landscape for several millennia, and that's why we have the biodiversity we have.

[335] Ms Wilberforce: Absolutely. And, for wildlife and cultural reasons, we wouldn't want to see that change. So, it's not about—. We're very keen to see a solution that allows the businesses to continue, for sure. It's just finding that solution, isn't it, that's the difficulty.

[336] Mr Byrne: I was referring to the animal husbandry aspects of farming practice per se, in terms of farmyards and housing, et cetera. But, yes, certainly, a lot of conservation in the UK is driven by grazing management of one sort or the other. And so there's a lot of very—. We work with—. As Lizzie pointed out, not just in her wildlife trust, but across the UK, and across Wales, we work with a lot of graziers, a lot of farmers, to graze upland areas to make sure that they're appropriate for greater biodiversity numbers. As we mentioned in the introduction, we do have a stake in wanting to get rid of TB as well within the countryside.

[337] Ms Wilberforce: We aim to buy a crush big enough to take water buffalo.

[338] Mark Reckless: Thank you very much. And I think it is clear, at least, in your acceptance of trials that get more information that would be scientifically useful to decide the best approach with respect to TB and badgers, that you're not, in principle, opposed to culling ever, and I think the committee has found your contribution valuable. So, thank you very, very much for coming in.

[339] Mr Byrne: It would be worth just saying, and I think Rosie mentioned this as well, that, because there's trials going on in Northern Ireland around test and vaccinate or remove, if somebody else is doing a trial, and there's an option to learn from it, I think, before implementing something to see whether it works or makes the problem worse, then I think it's worth waiting for the results of that.

[340] Mark Reckless: We are engaged with what's going on there, although we have different perspectives as to the nature of the activity and how that will report, but we are apprising ourselves of it. Thank you very much.

11:59

Twbercwlosis mewn Gwartheg yng Nghymru
Bovine Tuberculosis in Wales

[341] Mark Reckless: Dr Hovi, welcome. Please can I apologise for your being later before us than we advised? We're very grateful for you coming down to speak with us. Can I ask you for the record to state what your role and position with DEFRA is?

[342] Dr Hovi: I'm veterinary head of TB policy, and I, in fact, am employed by the Animal and Plant Health Agency but I work embedded in the DEFRA TB policy group, and I co-ordinate the evidence team of scientists and vets who advise DEFRA on TB policy.

[343] Mark Reckless: Excellent. How long have you undertaken that role?

[344] Dr Hovi: I've had that role now for five years.

[345] Mark Reckless: Could you tell us what your view is on the efficacy or otherwise of the 2014—? I know it's your employer's strategy, but, for achieving TB-free status in England, how's it going?

12:00

[346] Dr Hovi: I think it's going well. We've made enormous headway in the last five years in implementing the policy, which was announced at the beginning of 2014, but we obviously made some—. Some of the measures were implemented already before the 25-year strategy was announced—for example, the zoning of the country into different risk zones—and subsequently we have tailored the control measures according to those different risk zones. So, that was one of the fundamental principles of the strategy. We are obviously heading now the words 'official TB-free status' for the low-risk area, which is over half of the land area of England, and about 43 per cent of the cattle herds in England are in the low-risk area. Our

intention is to bring forward the application for the official TB-free status for the low-risk area of England with the Commission this coming summer. We have the data already for that, and the Commission has expressed interest in receiving such an application. We're basically following the same evidence base as Scotland did when they applied for official TB-free status in 2009. The cattle incidence and prevalence in the low-risk area have remained very steady, very low, and below the required standards for official TB-free status, and are very, very similar to Scotland. And we've mirrored the Scottish policy in terms of, for example, introducing post-movement testing recently, which they did before they became official TB free.

[347] Elsewhere, our edge area policy has been steadily tightened up—the cattle measures in the edge area, which is the barrier between the high-risk area of England and a low-risk area of England, and contains about 7 per cent of the herds in England. We have—

[348] Mark Reckless: Which area is this in terms of counties? Can you just confirm for the record?

[349] Dr Hovi: The edge area has included whole counties and part counties up until now, since 2014. We have consulted this autumn to widen the edge area towards the high-risk area by making all counties whole counties, partly because it just makes better administrative sense. We introduced successfully at the beginning of 2015 six-monthly testing in some of the high-risk parts of the edge, and we've seen very beneficial impacts of that six-monthly testing, and it's been tolerated relatively well by the industry in Cheshire.

[350] Simon Thomas: Can I just clarify—[Inaudible.] So, within the intermediate areas you have different testing regimes. Is that correct?

[351] Dr Hovi: Absolutely, yes.

[352] Simon Thomas: So, that's based on risk assessment of the herds or risk assessment of areas?

[353] Dr Hovi: Primarily, risk assessment of areas. So, in low-risk areas, we're only doing four-yearly routine surveillance testing, exactly like Scotland did before they went official TB free. We assessed that in 2013-14. Two independent universities—the University of Glasgow and the University of Warwick—modelled the testing regime or the surveillance regime, and they came to a conclusion, both independently, that there was no disease control benefit from extending the annual testing across the low-risk areas. And, because it would have cost us quite a lot of

money that we could then spend, for example, on tightening the cattle controls in the edge area, we decided not to do that. In hindsight, it has worked for us.

[354] Mark Reckless: And when determining policy in the high-risk counties bordering Wales—Gloucestershire, where the cull started, but then into Herefordshire and Shropshire—what consideration do you give to the Welsh context and the impact of policy pursued in those counties across the border?

[355] Dr Hovi: We haven't yet come to a situation where licence applications have been issued in those areas that border Wales exactly. As you may know, the culling policy in England is industry-led, and the industry carries out the culling, and Natural England issues licences to cull companies that are set up, and they are set up under very clear guidance from Natural England in terms of what they have to put in place before they start the cull or can be given the licence. And one of the issues that has been considered, and has been considered very important, is having relatively hard boundaries for the cull areas so that the perturbation effect can be mitigated.

[356] Mark Reckless: Jenny.

[357] Jenny Rathbone: Mitigated, but obviously not eliminated, so I think that's one of the concerns for us in Wales, that the activity that England may carry out in the areas bordering particularly south Wales could have a significant impact on the prevalence of TB in Wales.

[358] Dr Hovi: Absolutely. I appreciate that fully, and that's why it is important that those hard boundaries are there and the mitigation is there. There are certain types of hard boundaries that can virtually eliminate the risk. So, for example, a fast-flowing river, which badgers won't cross.

[359] Jenny Rathbone: But they can still go across a bridge at night.

[360] Dr Hovi: Yes; that's a possibility, yes. So, we will need to come to that bridge, if you like—cross that bridge when we get there. We haven't had any applications for cull areas, culling licences, in areas that border directly Wales, and we would have to then consider that jointly with the Welsh Government.

[361] Jenny Rathbone: So, if you did, you would definitely consult the Welsh Government on the potential—

[362] Dr Hovi: Absolutely, yes. We work very closely with the Welsh Government colleagues on TB control. We have joint meetings regularly.

[363] Jenny Rathbone: Okay. The other question I had was really: in the high-risk areas, is there any correlation between the type of cattle-rearing that's going on in the high-risk areas and the prevalence, obviously, of TB, because it's been said to us that there's a much higher risk of TB infection in large herds, which tend to be dairy herds?

[364] Dr Hovi: There has been a huge amount of risk analysis carried out about TB and various different aspects, and it must be said that the herd size always comes out on the top. So, it usually wipes out all the other potential risk factors and there are constant arguments about whether being a beef herd or a dairy herd is a risk factor, but when you start carrying out the analysis and you put in the herd size, it tends to trump all the other risk factors. So, large herds are more at risk of TB. It's a combination of factors as to why that is: (a) we find it more difficult—with the imperfect tests that we have for TB in cattle, we find it more difficult to clear herds of TB when they are larger. So, you have just mathematically a larger chance of having a false negative animal in that herd. We know from herd-level modelling—and this has been carried out in other countries as well, not just here—that in large herds the reproductive rate of TB, of the disease, in large herds is much higher. It's somewhere between 4 per cent and 5 per cent, when in small herds it's very, very low; it's around 1 per cent. There's obviously more contact between more animals in a larger herd. There is more mixing. Larger herds also probably have more contact surface with the environment, whether it's other cattle herds or badgers, in the case of TB, and they tend to have more fragmented—they tend to be on fragmented holdings. So, cattle move around between higher risk areas and lower risk areas, often. So, those are probably the most common explanations as to why large herds are more at risk, but it's a fact that nobody will dispute.

[365] David Melding: How do you define 'large herds' when you do your analysis?

[366] Dr Hovi: You can define them in different ways when you do your analysis, and it's a continuum, so you can't say that, well, you can have a herd of 200 cattle and the risk is not there, and when you jump over that then the risk comes, because the risk itself is a mixture of all these things. It's a mixture of how fragmented the holding, for example, is. So, a large herd that's held in a well-fenced farm with double fencing, no contact with other cattle, and good husbandry, no incoming animals, no purchased animals, et cetera, might have as low a risk as a much smaller herd that has those other risk factors. So, I'm afraid I can't give you a number or the herd size that would be safe.

[367] David Melding: I wasn't after that, but it's useful to know where you have to add more vigilance, then, I suppose.

[368] Mark Reckless: Jenny.

[369] Jenny Rathbone: Just given the consistency of this message that large herds are more at risk, has any consideration been given by the UK Government to either recommending or requiring a limit on herd size, or density more importantly?

[370] Dr Hovi: No, not for TB control. This same effect can be seen in other endemic diseases as well, like BVD and IBR, et cetera. So, I suppose that would be interfering with the industry too much, and we of course know that, for example, on average, herd size in Scotland is the greatest of all the devolved authorities in GB, and they are disease free. So, large herd size does not prevent you from eradicating TB. We don't see it as an impediment to that. We just need to do the right things. It's slightly harder with large herds.

[371] Mark Reckless: Vikki, did you want to ask about the online mapping tool for TB?

[372] Vikki Howells: Yes, thank you, Chair. I was interested to read about DEFRA's online mapping tool, which is being used to show the location of TB incidence and how that underpins all the work you do around risk-based trading. Could you give us some information about the costs and the uptake of the online mapping tool, please?

[373] Dr Hovi: The cost of the mapping tool wasn't enormous. In fact, the tool was built on an existing tool that the Animal and Plant Health Agency had, and this tool has been used as long as I remember. I joined APHA in 2006, and we already had that tool in place for internal use. So, our staff have had access to that tool for years, and it was just an expansion of that work. What we particularly did before we released the tool was that we made sure that we could update it as frequently as possible so that people wouldn't feel taken aback when they wouldn't see something that had happened in the previous month on the map yet, even though we had caveats about that. So, now we are updating every two months. It hasn't been a major cost to do that.

[374] I suppose the biggest consideration before that map was put out was the consideration of how individuals whose farms could potentially be identified, even though we don't give any farm names or county parish holding numbers on the map—how they would react to that. But the industry on the whole, when we consulted them on it, were very positive about it, and we do

demonstrate that kind of information during exotic disease outbreaks. So, we just felt that it was something—there was no reason why we wouldn't apply that for TB.

[375] We have seen peaks in the use of that mapping tool at various times. Initially it was used, obviously, a lot. I think it gets about 600 to 700 hits a week, which is reasonable. We're not promoting it. We're not expecting people to be looking at that map constantly, but we would certainly—. The feedback we've had on the map—and Gareth Enticott has been embedded in the team in APHA in Weybridge who run the tool, and has been doing some work—he hasn't published that work yet—on how people use that tool and what improvements we could make to it. So, it's been well received, and we are very keen that it's used by farmers to perhaps decide where, area wise, they want to buy cattle, or, if they want to rent grazing land in an area, it might be a good idea to check whether there's a lot of TB around that area, because it might be an indication of a wildlife reservoir in that area, and, particularly if you're in an area where you don't have TB, you wouldn't want to then send your heifer to graze in an area where there's a lot of TB.

[376] Mark Reckless: Good. I was about to go to Simon Thomas. I'm not sure if he will, but if he does put questions in Welsh, the translation is available on channel 1.

12:15

[377] Simon Thomas: No, I shall spare my bilingualism today. You started your evidence by saying that, in your view, the strategy in England, which is officially for TB-free status, is successful. It started in 2014 and has been a success so far. First of all, I'd like to understand—I know what the range of evidence is—what persuaded DEFRA that a cull of badgers in particular areas would be a successful tool for dealing with the wildlife reservoir when there was the evidence around perturbation that we've certainly heard, as a committee?

[378] Dr Hovi: The RBCT evidence, that's our key evidence base—the randomised badger culling trials.

[379] Simon Thomas: So, to be clear, then, as I understand it, that evidence came in two parts. There was the initial report, but then there was also the ongoing monitoring in those areas—perturbation died down and then there was an effect that was more long lasting, so it was that overall, long period—

[380] Dr Hovi: That overall evidence base showing that, in the long term, the negative impacts of perturbation are overcome by the positive impacts of the long-term effect on the cattle

disease. I think it's very important—I've looked at some of the evidence that has been given to the committee previously, and people do talk about perturbation all the time. I don't think anybody would dispute that perturbation happens in badger populations when badgers are removed or die naturally, or whatever. It is the perturbation effect on cattle TB that we are all concerned about. We are not concerned about badgers moving about, because if it doesn't cause any harm to cattle in terms of TB, we are not bothered about it. So, I'm always keen to point out that it's the perturbation effect on cattle that we are interested in.

[381] In the RBCT, it was shown very clearly that that did happen and it happened early on after the first or second year of the culling. It was a concern, but it's quite clear from the overall evidence, that, even with relatively small cull areas that were used in the RBCT—and they didn't make any allowances for hard boundaries—they chose the areas and matched them and that's it, so there was no mitigation for perturbation at all. And I suppose it was something that they didn't anticipate either, when they started the trial, so it was a finding that shocked everybody a little bit. As you know, the reactive culling approach in the RBCT was terminated early because of the harmful effect of perturbation in the surrounding areas. So, we've taken that into consideration.

[382] Nevertheless, the positive effect of culling in a large area where proactive culling is carried out is still a 16 per cent reduction in diseased cattle overall. We figure that that's adequate for us. We are hoping that, with a different way of doing the culling, we are allowing much larger areas and, in fact, we said that the areas have to be greater than 100 sq km, but most of the cull areas that we have ongoing at the moment—the 10 cull areas—are much, much larger than that and we're hoping that that, together with the hard boundaries that are a requirement for the licence, will mitigate the perturbation effect.

[383] We only have results from the cull areas, and we're carrying out a similar matching exercise as was done during the RBCT, and Professor Christl Donnelly is doing that for us, where we follow the impact of the culling in these areas. In the first two years in Gloucestershire —. The only data that we have so far are for the first two years, because you have to follow the cattle impact for 12 months after the cull has finished, so even third-year data we don't have yet. But, for the first two years in two cull areas in Gloucestershire and Somerset, the published analysis so far hasn't shown any perturbation effect in the surrounding 2 km area. So, we're hopeful that we won't see it, at least to the extent that it was seen in the RBCT.

[384] Simon Thomas: So, just looking at Gloucestershire then, because that's where you've got the most data, have you been able to measure at all, yet, the reduction in the prevalence of TB in cattle?

[385] Dr Hovi: Yes. We have published the data for the Gloucestershire and Somerset culls for the first two years—the impact of the first two years of culling. So, that data has been

published. It was published in August. We publish the data on a rolling basis as we go ahead. So, next year we will be able to publish the data from Dorset, and then going forward for the additional seven areas and the new areas. At the moment, APHA and Professor Donnelly's team are still able to find comparison areas across the high-risk area that are not culled. But, eventually, we hope to get to the point where it's difficult to find matched comparison areas that have the same cattle densities and same land class type et cetera. So, eventually, the analytical work will start suffering from that, but, for the time being, we're doing that and we're publishing the results.

[386] We have not seen any difference between the comparison areas and the cull areas so far, neither in the surrounding area nor in the cull area. So, a statistical difference. The power of that calculation is very poor at the moment because we have so few areas yet, but that's all published. We wouldn't expect any drop in cattle disease yet. The RBCT data suggest that you wouldn't see a decline in cattle disease until three to four years after the first one.

[387] Simon Thomas: No, that's what I wanted to try and understand, really, because the proposal that we had in Pembrokeshire at one stage in Wales was a four-year programme, as I understand it. There was no preparation to understand what would happen then until the end of the four years.

[388] So, you're publishing the figures where you haven't got the analysis, if you like.

[389] Dr Hovi: Well, the analysis—

[390] Simon Thomas: Well, the analysis is there, but the conclusions, I should say.

[391] Dr Hovi: The conclusions are that we haven't seen any change. We haven't seen the perturbation effect in the surrounding area, and we haven't seen yet any statistically significant change in the cattle disease in those areas.

[392] Simon Thomas: I'd just like to understand a little more about how this is done because it strikes me that, on the face of it, there's a bit of a conflict here between having a large-scale approach, which you just outlined—hard borders and taking it through a high-risk area—and an industry-led approach, which, by its nature, depends on presumably a group of farmers coming together in a particular area deciding they'd like to do something about a wildlife reservoir, agreeing how to do it, contracting with somebody to do the shooting and so forth. So, in that sense, you've got a clear strategy but you don't have control over the execution of that strategy because you're dependent on the industry to respond to the strategy by coming forward with

plans. As you've just said, the new areas haven't yet come forward with plans in those areas. Is there a conflict here, in reality? How do you manage that conflict?

[393] Dr Hovi: Ideally, if you had the resource and Government-led culling would be considered as an effective way of doing this, then you could potentially choose your cull areas better. You could perhaps cull from outside in, or you could cull the highest prevalence areas. We have looked at that. We do analyse the areas and the level of cattle disease in those areas very carefully, and look at even the land class type in terms of budget, density et cetera in those areas. So, we have not yet come to a point where we would have to say, 'You can't go ahead because you just don't have enough TB in cattle in this area'. The value-for-money analysis would very rapidly then become negative if we allowed that. The high-risk area in England has relatively evenly high incidence and prevalence rates of TB. We haven't come to that yet. That's again another bridge that we have to cross. The licensing process will give the Secretary of State powers, or she can give guidance to Natural England on licensing and we can advise.

[394] Simon Thomas: Does Natural England take into account cost-benefit analysis, or is it just the conservation or—?

[395] Dr Hovi: They have licensing. Basically, on the principle for licensing, they know what can and what can't be licensed. That can obviously be tweaked over time. At the moment, the policy is that anywhere where there is badger-related TB, if we have evidence of badger-related TB and where prevalence of TB is very high in cattle, and anywhere in the high-risk area, badger culling will be licensed as long as the other licensing conditions—hard borders, biosecurity levels, no overdue testing amongst herds, access to adequate amount of land in that cull area et cetera, and all the other good guidance that they have about the numbers of contractors, equipment, training, et cetera—as long as those licensing conditions are met, then, at the moment, we're not in a position where we have to worry about asking whether these areas are eligible for culling because of the level of disease we have in those areas.

[396] Simon Thomas: We have been told, though, that in the areas where the cull is taking place that the level of cull did not reach the guidelines or what DEFRA was expecting—I can't remember off the top of my head; it might have been 70 per cent, or it might have been different.

[397] Dr Hovi: The aim of the culling is to cull 70 per cent of the badger population as quickly as possible, preferably in the first year, and then, for the following four years, to maintain that badger population at that low level. I suppose, and all—

[398] Simon Thomas: And the areas didn't reach that level, did they?

[399] Dr Hovi: Well, we have published all the evidence and all the data on how many badgers have been culled and all the evidence on how the badger numbers in those areas were calculated. So, that's all available publicly, and we will publish this year's results as well. Our interpretation of those data is that we have achieved adequate levels. I think we had a problem in Gloucestershire in the first year, and that was the only area, so far, where we've had serious issues about having to go back and extend the cull period, for example.

[400] Simon Thomas: Just finally on this, you're probably aware that the Welsh Government, in launching its present consultation, which has got a regionalisation approach that is similar to yours, said very clearly that they were ruling out an England-style cull, but did say, in launching the consultation, though it's not in the detail of the consultation, that they could take action in particular localised areas where there'd been continuous reinfection to cull badgers in a very local area.

[401] Your evidence today and your experience would suggest that, actually, that's the wrong approach, that, in fact, it's more effective to take the wider area approach, hard boundaries, 70 per cent effective, and maintain it for four years to get rid of the disease from the wildlife population. It's a different Government—indeed, you don't work for that Government—but I just wondered how you responded to the proposals that the Welsh Government have now, which say that your way isn't working and that they've got this other way, but your evidence today suggests that that won't work either.

[402] Dr Hovi: I haven't looked at the evidence base for that kind of approach. I suppose we would support any—. We certainly would agree with the Welsh Government that the disease in the badger population needs to be addressed, as well as in cattle, or, otherwise, you will get to a certain level of disease and then you have that transmission—one transmission route is not controlled, and you will have a problem. So, I would agree with Paul Livingstone on that.

[403] I suppose that kind of small-scale, reactive approach to culling really hinges on this perturbation effect. So, if the perturbation effect remains similar to what we saw in the RBCT, then there are risks with that approach. But then, on the other hand, the Republic of Ireland has been carrying out that type of reactive culling, if you like, for years now, and have actually turned their epidemic into a declining epidemic, and they are themselves adamant, based on their evidence, that the culling has contributed to that. Ireland has a very different badger population. The current estimate of the England badger population suggests that the Irish badger population density was about 10 times lower than in England at the moment, when they started—

[404] Simon Thomas: So, perturbation isn't such a problem then.

[405] Dr Hovi: Yes. So, perturbation probably happens all the time anyway, because the badgers—. The studies that the Irish have carried out on the ranging distances for their badgers suggest that badgers range much more widely in Ireland anyway. There's a natural explanation for that: badgers are very territorial animals, so the further you go, the more chances there are that you meet another badger and, usually, it's a hostile encounter. If the badger densities are low, you can roam further without encountering a hostile other badger. So, that's really the explanation of that.

12:30

[406] So, the perturbation effect is there already, or sort of underlying in Ireland, probably. So, when you introduce culling, it just carries on. You don't notice the perturbation effect in cattle in the same way as you would in England, where the badger setts are probably much more constrained in their ranging behaviour.

[407] Mark Reckless: Can I bring in Sian for her question?

[408] Sian Gwenllian: I'm just interested in the risk analysis that took place back in 2014, when you were putting a plan in place, and now it seems that there is more evidence backing the fact that what you did in 2014 was the correct kind of approach. It looks like, doesn't it, from the data that's coming through? But what actually pushed you in that direction? How was the risk analysis carried out, and how did you formulate the plan, if you like? What was the main driving force to make you have the particular plan that you came up with?

[409] Dr Hovi: And this is about the whole strategy, not just the badger culling?

[410] Sian Gwenllian: Yes, the whole strategy.

[411] Dr Hovi: I suppose exactly the same way as the Welsh Government has formulated their disease control strategy for TB. You have fundamental principles of disease control. You want to protect areas that are clean, or herds that are clean of TB. You want to put in as good protection as possible. You want to find the disease as early as possible, and then you want to hit it hard when you find it. They are very fundamental principles for us. But, also, perhaps something that Wales is now considering, we felt very early on that we needed to identify those areas where the disease was not endemic, and set in the protection for those areas very early on, and that has paid dividends certainly, because we can now officially be free in those areas.

[412] From my point of view, or my advisory point of view, veterinary advice, you just use the channel or principles of disease control, and then, obviously there is a lot of other advice as well—social scientists advise the Ministers, economists advise the Ministers, and we could obviously do a lot more on the cattle control front, if there was unlimited resource, and if the industry could tolerate stricter cattle controls. So, even farmers sometimes ask me why we allow any movements at all from the high-risk area into the low-risk area, because 90 per cent, virtually all TB that we find in low-risk areas of England, we can directly associate it with cattle movement from the edge of the high-risk area, or from Wales indeed. So, we could do that, and that would be a very draconian risk-based trading measure, but you have to take into consideration the industry. Australia did that, and they virtually killed off the cattle industry in the north of the country, because it was dependent on finishing the animals in the south, and they just stopped—

[413] Simon Thomas: Wales is certainly very dependent on—

[414] Sian Gwenllian: Thank you.

[415] Mark Reckless: Do any Members have any further questions to Dr Hovi? Jayne.

[416] Jayne Bryant: Just quickly, Chair, the policy that you've had in England, I don't think it's been without its problems, has it? I just wonder if there's anything that you would like to say about that.

[417] Dr Hovi: Created problems?

[418] Jayne Bryant: Just general problems in terms of—. I think with the accreditation scheme, there was a 30 per cent drop-out from vets, I believe, because of people carrying out these TB tests, and I was just wondering what other problems that you might have faced with implementing this policy.

[419] Dr Hovi: From the badger control policy point of view, I'm sure you're all well aware of the problems that has caused. The badger is an iconic species, and it's much loved by the British, and there is a very strong lobby against culling badgers. And we've obviously had massive problems, and the opposition to culling. There is no denying that that has increased the cost of the culling hugely because of the need for policing around that policy. So, I wouldn't want to pretend that we haven't had our problems on that front. We can see that that opposition is declining, and the problems caused by—. For example, you will see from the value

for money analysis that DEFRA has published now twice on the culls, that the cost of the culling has plummeted per cull area and we anticipate that the value-for-money benefit, which is about £0.5 million per cull area, will grow as time goes by and culling becomes easier. So, on the cull front, I think we all know where the problems are.

[420] In terms of zoning the country, there was enormous opposition initially from the cattle industry, and there was a very strong feeling that everybody wanted a level playing field. We just had to go back and say, 'In disease control, you can't have a level playing field, and if we don't do that for other diseases, why would we do that for TB?' When we had blue tongue in England in 2007 or 2008, the whole of the south-east of England was in a protection zone for months and months. I was working there as a regional veterinary lead at the time and I know that several sheep enterprises went belly up during that period, because they couldn't move the sheep the way that they needed to. And the south-east farmers protected the rest of the country by voluntarily vaccinating against blue tongue and paying for it themselves. So, there is no level playing field in disease control. High risk is high risk and you have to contain and mitigate against that and low risk, you want to protect those farmers.

[421] For example, I remember going to the farmers' meetings in the low-risk area, initially, and they said, 'No, no, we want to be with the rest of the country; we want to have annual testing, et cetera.' And, now, you go to the same meetings and everybody's really happy that we are where we are and everybody's very keen on it and people are starting to suggest, 'Why can't we stop the movements from the high-risk area altogether?' So, people do change their attitudes and you just have to—. I think, to some extent, we, as the veterinary advisers, need to give advice that is sound from a disease control point of view and then try and sell it to all and sundry.

[422] Mark Reckless: Good. Dr Hovi, we're very grateful to you for coming in and for the co-operation of your department in supporting our work here. Thank you very much.

[423] Dr Hovi: Pleasure.

[424] Mark Reckless: Members, we haven't completed the agenda we'd intended for today. I know a number of Members had to leave.

12:37

[425] Mark Reckless: I'd just like to flag item 7 and the paper to note on air quality. Jenny, I think you particularly wanted to see that that is there.

[426] Item 8 on TB and our consideration of evidence, we will hold that until after we've spoken to the Cabinet Secretary next week. On items 9 and 10, there are two possible approaches: either I can just organise what we now have to do with the clerks, or I'm very happy to move into private session so that those Members who do want to give their views on how we develop those will be able to do so. For those Members who need to go, no decisions will be made until the session next week. Would those Members who have a small amount of time be willing to stay for 10 minutes?

12:38

Cynnig o dan Reol Sefydlog 17.42(vi) a (ix) i Benderfynu Gwahardd y Cyhoedd o Weddill y Cyfarfod
Motion under Standing Order 17.42 (vi) and (ix) to Resolve to Exclude the Public from the Meeting for the Remainder of the Meeting

Cynnig:	Motion:
bod y pwyllgor yn penderfynu gwahardd y cyhoedd o weddill y cyfarfod yn unol â Rheol Sefydlog 17.42(vi) a (ix).	that the committee resolves to exclude the public from the remainder of the meeting in accordance with Standing Order 17.42(vi) and (ix).

Cynigiwyd y cynnig.
Motion moved.

[427] Mark Reckless: Okay, so I move the motion to move into private session. I totally understand anyone who has to go, but anyone who is able to stay.

Derbyniwyd y cynnig.
Motion agreed.

Daeth rhan gyhoeddus y cyfarfod i ben am 12:38.
The public part of the meeting ended at 12:38.