

# STATES OF JERSEY

## Environment, Housing and Infrastructure Panel Review of Nitrate Levels in Jersey's Water

**THURSDAY, 26th JANUARY 2017**

**Panel:**

Deputy D. Johnson of St. Mary (Chairman)

Deputy T.A. Vallois of St. John

Connétable S.A. Le Sueur-Rennard of St. Saviour

**Witnesses:**

The Minister for the Environment

Director, Environmental Protection

Head of Water Resource Management and Regulation

Water Resource Management and Regulation Officer

Head of Plant Health

[14:13]

**Deputy D. Johnson of St. Mary (Chairman):**

Okay. Right, a general point to begin with. The issue of high nitrate levels in Jersey's water has been a longstanding problem. Why is it only now that a Water Management Plan is being brought to the States?

**The Minister for the Environment:**

Well, there is no doubt, Chairman, that we do have high nitrates in our water. We have known that for some time. Nitrates are part of our agricultural community and particularly with the 2 main crops that we grow in the Island, one being potatoes and the other one being grass, we know that both those crops respond very well to fertiliser. Over the years, with our dominant agricultural

community, we have put a lot of fertiliser on the ground. I do not think there is any doubt about that. Nobody is trying to dispute that. I think it is fair to say that when the E.U. (European Union) limits for nitrates in water were reduced from the ones we were used to - they were cut in half pretty much overnight some years ago now - that started to get everybody to focus on nitrates a little bit more. Certainly, we had an Environment Scrutiny Report in 2011, which is quite recent I accept.

[14:15]

I think what I am trying to say is as the years go by people are taking more notice of their environment, not only with nitrates but pesticides and wildlife biodiversity. I think it is only right that we focus in more on nitrates. We have known for some time that the Minister for Health and Social Services advises me and gives me permission, if you like, to grant derogations to Jersey Water to exceed, if necessary, the limits for nitrates in drinking water. At the start of the last derogation period, quite heavy hints were given by Health that this allowance for derogation was not going to continue for ever. So we took that on board and it is no surprise really that the derogation that I have just granted to Jersey Water for the upcoming period I have been advised, and I have advised Jersey Water themselves that that is very likely to be the last derogation they will get. So, all sides of the argument now, whether it be farmers, Jersey Water or the department, realise that it is fairly likely that when we get to the end of this current period Jersey Water will not be allowed to exceed the E.U. limits whether they like it or not. That focuses everybody's attention and I think it is only right that this time we have a Water Management Plan. We have been working on it for quite some time now. When I became Minister in 2014, the plan was pretty much ready to go, but at that time the plan focused very heavily on nitrates. I thought it was important that we also concentrated on pesticides generally and, as it turned out, last year was not a good year for chemicals and pesticides in water. I am pleased that we took that extra time to make sure that the water plan which we have just agreed concentrated as equally ... looked upon pesticides and chemicals as equally as important as nitrates. But we do have a plan now. We have gone through the process of listing the challenges to the water and environment in Jersey. We have our Water Management Plan, as I say, and we now look forward to implementation over the coming years and seeing the results of the efforts that we have put into it.

**The Deputy of St. Mary:**

Thank you. Following on from that, you say that the Minister for Health and Social Services will be unlikely to grant a further dispensation, and I understand that. Was it politics ... well, could you have asked for a dispensation for less than 5 years, which might have given more comfort to the public, do you think?

**The Minister for the Environment:**

I could have done. I suppose I could have done. It is one of those things. We have it up our sleeve at the moment and I would point out that while Jersey Water have a dispensation, they have not needed to use it recently. In some ways, it is a little bit like the laws that are going to come along with this Water Management Plan. It is very much my hope that with the farmers working with the department and with Jersey Water very closely, and certainly in the last 18 months we have worked much more closely together than we ever have done before, it would very much be my hope that we will not need any dispensations because the limits will not go over the limit. It is very much my hope that the laws we are going to put in place I will not need to use because certainly it is my desire to work as hard as we possibly can to make sure we reduce the levels of nitrate without the need for heavy-handedness via the legal process.

**The Deputy of St. Mary:**

Yes, and we obviously all share your hope you will not need to use them, but within the 5-year plan are you fairly confident that you will be able to never ...

**The Minister for the Environment:**

As confident as I can be. Certainly, I will have the powers in place to take quite heavy action if I need to. As I said, I am very much hoping that I will not have to do that. But now we have this Water Management Plan and we have the ability to look much more closely at catchment areas, and now we have technology which is really starting to come to the fore, we can work in a much more detailed way. The other thing is, and I cannot reiterate this enough, now that we are all working together with the farmers and with Jersey Water, I think our ability to address this issue has increased dramatically in the last 18 months. So it would very much be my hope that we will ... while we might have a dispensation for 5 years that halfway through, by the time we get to year 3 or year 4, I am very hopeful that we will see significant reductions, which would avoid any need for dispensations in the future anyway.

**The Deputy of St. Mary:**

Okay, thank you. Moving on then, the questions related to the sufficiency proposals to address these nitrate levels, the Water Management Plan sets the objective of reducing nitrate levels to below 50 milligrams per litre in all drinking water sources. The preferred scenario as set out in the W.M.P. (Water Management Plan) for achieving this is a continuation of rural payments and the introduction of water catchment management orders. What analysis has been undertaken to determine if the preferred scenario in the W.M.P. will achieve satisfactory nitrate concentrations in drinking water?

**The Minister for the Environment:**

Well, we are going to do a lot more monitoring, and I might bring Scott in in a minute because I think you make an interesting point there. The rural ... because you mentioned subsidies and area payments, and the new Rural Economy Strategy, which we are going to be launching in the next fortnight, takes a very different approach to public goods. Whereas in the past we have had single area payment, which meant that farmers received a set amount of money per vergée pretty much regardless of what they did, in this new scheme we are going to continue with the amount of total money we give them, but we are going to ask something back in return. The main thing that we are going to ask is that we are going to say to them: "If you want this money, you will after the 3 years of the plan be up to a L.E.A.F. (Linking Environment and Farming) accreditation." That in turn will give us a very much more focused farming industry, and that is focusing on inputs to make sure that the chemical and fertiliser inputs are at the right levels. It looks at biodiversity. It looks at returning to the public some levels which the farmers must attain if they are going to get this money. Scott, do you want to just very, very broadly talk about L.E.A.F. and the environmental benefits of moving over to it?

#### **Head of Plant Health:**

Certainly. The previous 2 Rural Economy Strategies have been ... or certainly the last one was area based. So if you farmed 2,000 vergées, you got £33,000 in money, with some conditionality attached to it. What we are doing this time is going for much more of a performance-based approach. So, year 1, all land managers in receipt of public money will be required to have reached a level called Red Tractor, which is a basic full food chain compliance audit process. Half the S.A.P. (single area payment) recipients are already at that standard. By year-end 2018 we expect everybody to be 50 per cent through the compliance checking, through the process of adopting L.E.A.F., and by the yearend 2019 we are expecting anyone who wants to receive public money in a farm environment to be L.E.A.F. accredited. L.E.A.F. is a series of questions, checkpoints, gates and advice that really focus people's minds as to how they are tackling their day to day farming operations with things like nutrient loading, biodiversity, et cetera. Alongside that, there are various components within the Rural Economy Strategy that have been designed to sit in parallel with the water plan, so we will be offering training to the farmers. We are looking at precision agriculture, particularly placements of fertiliser in potato crops. Currently, fertiliser is broadcast, so there are certain areas of the field that are not planted in potatoes, like the wheelings and the headlands. We think that we have calculated that is 10 to 15 per cent of the area of the field that does not have potatoes in it, so there is no reason why it should have fertiliser in it. So, I think the 2 strategies work well together and complement each other. There has been a lot of thought between the E.P. (Environmental Protection) and the E.M.R.E. (Environmental Management and Rural Economy) team as to how we can synergise these 2 strategies and get them talking together properly.

**The Deputy of St. Mary:**

Yes, we have a few questions on agricultural policies later, but you mentioned the R.E.S. (Rural Economy Strategy), which I was steering clear from for the moment for your sake. It has not been published, has it?

**The Minister for the Environment:**

No, it has not and it is coming out very, very soon, next week we hope. I only mention it because the R.E.S. is quite a beefy document. There is lots of good news in it and I think one of the main things about the R.E.S. is it will be overarching and encompassing all these things. One of the important documents that it works with is the water plan, and I think it is important to say that in the R.E.S. we realise that in return for public taxpayers' money we are now going to be looking for farmers to do more in the way of delivering environmental good back to the public.

**The Deputy of St. Mary:**

Yes, I have seen sufficient in draft to know that there will be a trade-off really between the farmers receiving payment and their behaviour.

**The Minister for the Environment:**

The other thing I can reiterate, as we have with the water plan, the farming industry has played a big part in developing the Rural Economy Strategy. They are very much signed up to it and very supportive. This is not a strategy coming down from Government which farmers are wary of or afraid of. They have been working with us and they are very much looking forward to getting on and getting to this level of accreditation. We have set a target and if at the end of 3 years every farmer on this Island is L.E.A.F. accredited, I think we would be one of the first places anywhere where 100 per cent of the industry come up to that sort of level. So it could be a really good plus point for the Island if we can achieve that.

**The Deputy of St. Mary:**

Yes. As I say, I think the Rural Economy Strategy ... we obviously do know about it. It may well be another panel will wish to speak to you on that at some time.

**The Minister for the Environment:**

Yes, I will look forward to it.

**The Deputy of St. Mary:**

Yes. Within the R.E.S. I think there is something called a water code, is there not? Is that right?

**The Minister for the Environment:**

Yes. Well, maybe Kate ... Kate has done a lot of work on the water plan. Maybe you could just talk to us on the code.

**Water Resource Management and Regulation Officer:**

Yes. Just to refer back to your previous question around the objectives, the objectives actually in the longer term are to reduce nitrate down to 50, but that is post-2021. This is a 5-year plan. Because you get environmental lag times in any kind of improvements from what you change on the ground to what you experience in the watercourse, although we have quite shallow water table here and so forth, it is expected to follow on quite rapidly. But we are talking some lag times and the removal of the dispensation within the plan time is also accounted for by some engineering works that Jersey Water is doing. I just wanted to add that because you are quite right, there is not ... we are implementing measures that reduce losses of nitrogen and also phosphate and pesticides, but as far as actually getting to the target of 50 and not having any peaks by the end of the 5 years, I do not believe evidentially that we can say 100 per cent that that is going to happen. But our measures plus the fact that Jersey Water are putting in some engineering works are going to make the difference. The point of the plan being a 5-year plan is that you review it. Towards the end of the 5-year plan you review how you are doing and you adjust accordingly so that if the measures do not appear to be sufficient, you then have another look at it and make some decisions then about whether or not you need to implement some further measures. Because it is not necessarily going to be a magic wand, but it is going to make sure that we are continuing to progress in the right direction. So there was that point to make. So the dispensation is correct, but it is partly other measures that Jersey Water are going to be ... because the plan measures need to be seen as a whole and not just in isolation in the ones that we are proposing. Because it is not just the Government's responsibility, it is also the other stakeholders. But the water code is something that we already have in place. It is an approved code under the Water Pollution Law. It has historically been delivered through the Rural Economy Strategy and ourselves, but it is actually an approved code of practice under the Water Pollution Law. How it ties in with the R.E.S., the Rural Economy Strategy, at the moment is that the subsidy regime farmers sign up when they get the single area payment to follow the water code and if they do not follow the water code or they can be demonstrably found to not be following it, they face penalties, financial penalties, of withdrawal of certain proportions of subsidy.

**The Deputy of St. Mary:**

That will continue under the R.E.S.?

**Water Resource Management and Regulation Officer:**

It is going to change because the way that it is delivered will change, as Scott was just saying, as far as the new subsidy regime is concerned. But the water code will still be a central way that we

communicate good practice to the farming industry and we will also have some underpinning regulations that are tied to the bits of the water code that will make it a legislative requirement as well as an incentive matter under rural payments.

**The Minister for the Environment:**

I think one of the important things with the new water plan is it takes us from an era where we were very much advising and saying to farmers: "We would be very grateful if you would do this. There is a code of practice to follow and while it is not obligatory, this is the way to farm well." We are now moving into a situation with the water plan that when the legislation comes through if farmers misbehave and we find we can prove that they are misbehaving with fertilisers or with chemicals, we can take action. We can take it to court and we can fine them or they will be sentenced accordingly by the court. One of the things we are moving to is water management orders. Where things may have been done by regulation in the past, the Minister of the day will have the ability to move things by order. There is quite a prescriptive list ...

[14:30]

**The Deputy of St. Mary:**

This is a new law you will propose just now?

**The Minister for the Environment:**

Yes, this is a new law and we are nearly ready ... well, if you have not had it already, you will be getting it very soon before it goes. But it is going to have quite a tight list because on one hand the Minister will have more power, but it is important that the powers of the Minister are regulated to very tight areas. I am just looking through the list here. It is going to concern things like the importation, the storage of fertiliser, the application of fertiliser, and importantly it is going to give the Minister the ability to control certain water management areas, catchment management areas, specific from the other parts of the Island. So we are moving from a code and we are now moving into an era of the new plan where, if necessary, the Minister will have powers to take action directly. So with some of the farmers in the past we are ... we are now almost telling you ... and I hope we are not going to have to tell them and take legal action, but we will have the power to do it. We are just ramping up the ante a little bit.

**The Deputy of St. Mary:**

Thank you. So at the risk of generalisation, farmers will have a financial incentive to comply and will risk ...?

**The Minister for the Environment:**

Not only will there be the financial incentive that the State's help will not be coming down the line, but there will be the next level. You may end up finding yourself on the end of a prosecution and in court. I am very much hoping that is not the case.

**The Deputy of St. Mary:**

Which is a financial incentive in my book, but anyway. Yes, okay.

**Connétable S.A. Le Sueur-Rennard of St. Saviour:**

You were saying before about the application of the fertilisers and how much would be coming in and how much it would not. Just drifting just a little bit, I am organic and when we ... dairy farmer, so when I get my inspections with the Soil Association, they always make sure about the amount of feed I have brought in - so I have the receipts for those - to the amount of cows I have been milking to see whether I have fed or overfed. If you were to test or if the farmer was to test the soil to find out how much fertiliser or something he needed on it to help it to come back, could you not then say you can order X amount of fertiliser but you cannot put any more than that on? Would that regulate it slightly the same?

**The Minister for the Environment:**

There are a number of different ways of doing that and certainly we speak in the plan about fertiliser plans. I do not know who wants to talk on RB209, but there are calculations which farmers do now where they look at what they have. You are better qualified to talk.

**Head of Plant Health:**

Under assurance protocols, even currently farmers should be analysing the soil annually to work out what crop requirements are and then not applying more nutrient to the soil than is required.

**The Connétable of St. Saviour:**

They have records of that for you to see?

**Head of Plant Health:**

They have to keep records of that for us to see. They also have to keep records of it for Red Tractor and later on L.E.A.F. to see as well.

**The Connétable of St. Saviour:**

That is right, yes.

**Head of Plant Health:**

So that is already in the structure of what we are doing.



**The Deputy of St. Mary:**

Can I just go back a stage? You mentioned earlier on about a review of the plan towards the end of the 5-year term. How soon could it be? I mean should we not be doing it earlier than that or are you saying that ... I appreciate it takes time for measures to take effect but there is going to be a half-year mark or something like that maybe?

**The Minister for the Environment:**

I think it will be important to have a little bit of time under our belt to see and not only have we got ... we can be quite accurate with fertiliser: "How much have you put on? When did you put it on? What crops?" What we cannot know upfront, of course, is what the weather is going to be like. Are we going to be faced with a particularly dry spring when a lot of farmers are putting fertiliser on? Are we going to have an enormous amount of rainfall, which will help to flush? In all circumstances that makes a difference. We know that a certain amount of fertiliser leaches out on a normal year. On a very heavy year of rainfall the same amount will leach out; it will be more diluted. In a spring that is extremely dry, really, really dry, we may see some of the fertiliser retained in the field because it does not dissolve in the same way. So we know we have the vagaries of the weather to work with and that is when we talk about spikes and Jersey Water receiving water into their reservoirs at higher levels than 50. Quite often that will be as a direct result of weather. I do not know if you want to talk a bit more about spikes, Tim?

**Director, Environmental Protection:**

Yes. The spikes really are the derogations or dispensations. As the Minister mentioned, we have not or Jersey Water have not actually needed one since May 2013, which is good news. They are trying engineering fixes. So, so long as the reservoirs are full at this time of year, which at the moment is a bit of a problem, then that is full of low nitrate water. Then that will last them through the planting period. But in terms of monitoring the impact, obviously the plan contains indicators. We constantly look and, in fact, use Jersey Water data to see where we are and report that back to the farmers and the water group. Jersey Water have also established an interactive map. So at any one point a farmer can log into the map, look at their streams, their catchment, their farming area, and see exactly what the levels in the streams that he or she is farming are. So it is as very immediate as we can.

**The Minister for the Environment:**

I think I might point out that there are a number of different ways of managing how we keep the nitrate level in our drinking water below 50. Obviously, Jersey Water have the ability to draw water from certain reservoirs and not from others. They also have the ability to switch on, if they felt it necessary, their desalination plant to blend water, but that ... and the third one, as we have already

mentioned, they have the ability to put in engineering work. So they can take a stream and bypass the reservoir, and that is what Tim was just talking about. When you have a reservoir full of low nitrate water, the last thing you want in May ... sorry, in March, April, May is for a stream to be feeding high nitrate water into that and bringing up the level. So the engineering works that Jersey Water are going to undertake is to bypass some of these streams that are very high. The point I want to make is just because Jersey Water can blend or mix or bypass does not mean that we must not focus on the initial problem, which is reducing the level of nitrates in our stream. Jersey Water have the ability to move water around and make sure drinking water stays below 50. That does not mean ... we must not take our eye off the ball of being better with the nitrates that we put on the field because at the end of the day, that is the problem that needs to be solved, the level of nitrate in the streams and in the groundwater.

**The Deputy of St. Mary:**

Okay, I take the point and thanks for the assurance that we are ...

**Head of Water Resource Management & Regulation:**

If I may, the other thing to add to that is that this is not going to be the only water plan. We see it as an ongoing kind of cycle for our business. So, at the end of this period we will review the data, and the data that supported the water plan in the first instance was the first significant water management document we produced that looked at all of our monitoring that we do. So, during the review period, we will be doing a similar exercise and nitrates might not be the only issue in the next cycle. So it might be something like water scarcity or something like that, which we will then develop a plan to address that in water plan number 2. It is an ongoing thing.

**Deputy T.A. Vallois of St. John:**

In terms of outcomes and the hope for what this Water Management Plan will eventually do leading up to 2020, in the document you talk about key performance indicators. One of them in particular is about compliance with the proposed regulations under the water catchment management orders to be met by 2020. What will be required to ensure that that is the case?

**The Minister for the Environment:**

Well, there are going to be rules and regulations and obviously there are a number of key performance indicators. One will be how many prosecutions, how many times did we see levels over the level ... levels of nitrate over and above where they should be. There are a number. I am trying to think of ... here we are, okay. So increased compliance checks. We have a number of ways of checking for compliance at the moment and we might find a number of farmers during the course of the year get spoken to or fined potentially or have their monies reduced because they infringe some of the rules of using fertiliser. I am thinking back in the last couple of years, I can

think of 2 or 3 farmers that have lost or had money taken away because fertiliser has been found on the road. They have not been subverting it responsibly. The machine has not been set right. We cannot have farmers trickling fertiliser down the road to be washed into the drains and straight into reservoirs. So there is one indicator. If in the next 3-year period we get no more situations like that again, we will know that farmers are thinking a lot more carefully about it. There will be other indicators just like, for example, monitoring the amount of nitrate in the various streams round the Island. Jersey Water, in conjunction with the department, do a huge amount of monitoring and we look at graphs from all these different streams, graphs at the start of the reservoir, so the water going over the top of the reservoir, graphs of water going into the sewage treatment works. Those are the sort of key performance indicators that we will be looking at and are the levels of nitrate in all these various places reducing. Is the amount of fertiliser coming on to the Island reducing? Are farmers taking active steps to use less fertiliser and be more accurate? Are they taking up the initiatives from the department to buy machines which allow them to place fertiliser ... there is a whole raft of different things we can look at, but at the end of the day the ones that affect us the most are where people are found to be, for want of a better word, misusing fertiliser, if you like.

**Head of Plant Health:**

Can I just come in on a point about compliance as well? The current system we have and with the current amount of manpower that we have, we aim to compliance check about 10 per cent of land managers at the moment. Now, that is annually and for us that creates quite an operational tension because we are using advisory staff to then become compliance officers for a couple of weeks a year. As we shift into the new Rural Economy Strategy using the Red Tractor audit and the L.E.A.F. audit, those are externally audited by audit companies. That removes our officers from that operational tension, which is something I want to do because we want to be advisers and we want to be friends of the land owners. We do not want to be policemen. But it also means that we will be moving from 10 per cent to 100 per cent compliance checking every year. So every claimant in the scheme will be checked every year.

**The Deputy of St. John:**

So you are going to have audit companies going out and checking for compliance?

**Head of Plant Health:**

Yes.

**The Deputy of St. John:**

But what is the risk of that becoming some kind of checklist exercise?

**Head of Plant Health:**

Most, in fact all, agricultural businesses are doing this already. They have to supply to supermarkets. So they are very used to the audit system used by Waitrose, Tesco, Nature's Choice, blah-blah-blah. They are literally stacked with these audits. What we have done is we have picked a basic one, which 50 per cent of our land managers are using already, and we have picked a sort of Rolls-Royce as well, of which some people are already voluntarily members. So they are very, very used to the field-to-fork audit system now.

**The Deputy of St. John:**

In terms of getting to the point of 95 per cent compliance, where are we actually starting from? So what is our compliance rate at the moment in terms of if we are going to measure from now to 2020?

**The Minister for the Environment:**

I am trying to think of the percentage. Is it 10 per cent we are checking at the moment?

**Head of Plant Health:**

Ten per cent we check and I think that what has happened over the last number of years is that people have started to take our compliance checking quite seriously. Originally, I do not think it was taken seriously enough. Certainly, we have seen the number of compliance breaches fall.

**The Minister for the Environment:**

Mainly on the back of one or 2 quite noticeable claims, I suppose, because farmers talk to each other quite a lot. But it only takes one farmer to lose a chunk of money out of his single area payment because he has been naughty, the word has got around. While we have been checking less in the way of percentages, while we have been down at 10 per cent, in that 10 per cent we have had some deductions. There is a long time since we have deducted any money from anybody's single area payment. The farmers have realised that we are serious and, as Scott says, I think they have been taking the whole subject a lot more seriously because they have seen neighbours or people that they know who have actually lost money because they have not done the job correctly.

**The Deputy of St. John:**

So we know that there is currently only 10 per cent being compliance checked, but what is the actual compliance figure? Do we know that?

**Water Resource Management and Regulation Officer:**

Can I take this one?

**The Minister for the Environment:**

Yes.

**Water Resource Management and Regulation Officer:**

I put the figures together in the plan and in the K.P.I. (key performance indicators) it says 20 days going up to 100 days, basically. What we have done is it is actually ... there are lots of officers going out and spending time, or quite a few of us, so they are all estimates that were put together to price the plan up. Because we needed to look at what it was going to cost and also how effective it was going to be. So what the aim is to move compliance to 95 per cent where there is water management orders in place, and to do that - I mean, I am saying it is an estimate - we think that we are going to have to increase from 20 days a year to approximately 100. So basically we need more people going out on farms to actually assess compliance.

**The Minister for the Environment:**

I was just going to say that is a more political decision. We want to put more resource into this Water Management Plan and we have said that all along. We do not have the final detail of how we pay for a compliance or a catchment officer, but certainly Jersey Water are on board, the industry is on board, we are on board. Between the 3 of us, we are going to find a way to fund that post. On one hand, we are going to have an extra person who is going to be a countryside ranger, for want of a better word, who will be talking to farmers and landowners about how they use their land, where there may be areas of their land where it is likely that fertiliser might leach. On the other hand, we have the L.E.A.F. audit, and as Scott said, officers at the department have found it quite tricky, especially in the last 10 years, where on a Monday and Tuesday they would be going out advising and then towards the end of the week they may turn in up in another capacity and say: "Well, you have not done this. I am now a compliance officer." But the L.E.A.F. accreditation comes with L.E.A.F. auditing, which is done externally and it will be L.E.A.F. people that will come to the Island to do that work.

[14:45]

I am just repeating what Scott said, but officers can stand back from compliance work and concentrate on advisory. Certainly the catchment officer would be an advisory role, because what we need to do is work with farmers and landowners to just educate them a bit more and they need to see people going around checking.

**The Deputy of St. Mary:**

If it helps to have a batch of questions on resources a little later on in the programme, we can do that. Yes, you mentioned about deductions from single area payments, et cetera. Is there any table/schedule for that? How much are water offences? How rigorous is that and what are ...

**Head of Plant Health:**

Table? You mean as in how they are calculated?

**The Deputy of St. Mary:**

Yes, how are they penalised?

**Head of Plant Health:**

It is generally 3 per cent for a first offence. If you repeat that, we double it, and if you repeat it again, we triple it.

**The Deputy of St. Mary:**

2 per cent?

**Head of Plant Health:**

3 per cent and 6 per cent, then 9 per cent.

**The Deputy of St. Mary:**

2 per cent of?

**Head of Plant Health:**

Of your total payment, and obviously payments vary at the moment with area, but it is my hope that we have ended that era, because the financial incentive now is to pass your L.E.A.F. audit, and if you do not pass that because of your behaviour, you do not get any payments at all by the end of 2019, so there is a very strong incentive for this to be done.

**The Minister for the Environment:**

But again, I think it focuses on the new direction of travel here, which is farmers need to deliver some public goods in return for taxpayers' money that they are receiving through whichever strategy we have at the time. In the past, we gave them money and they went off, they got it pretty much regardless. More recently we have had, as Scott has mentioned, a couple of instances where we held some of that back, but we are now moving into an era where if you do not deliver some environmental goods back to us, you will not be in a position to receive the money. It is more of a quid pro quo, rather than handing over money to the industry.

**The Deputy of St. Mary:**

I do note the sea change as well. Can we move on to a different topic regarding assessment of the challenges faced by you in maintaining an adequate supply of clean water with a reduced concentration of nitrate? The plan states that: "Jersey needs to balance growing the economy with protecting and enhancing the environment and keeping Jersey as a great place to live and work in 2016 and beyond." It is a theme we have come to several times in our presentation, I think. In monetary terms, do you know what the overall social, economic and environmental value is to Jersey of reducing nitrate concentrations?

**The Minister for the Environment:**

In monetary terms, I think there are 2 things that we point at immediately. One would be the cost to the Department for Infrastructure if they had to add on to their new sewage treatment works a plant to remove nitrates. I believe - and officers will correct me - that might be £30 million. The second thing, which is easily calculated, is the amount of money that Jersey Water would need to spend if they needed to reduce nitrates before the water went into their mains. I think that is about £3 million. So there are 2 immediate very straightforward and easy ones to quantify, because they have a financial number on them. When it comes to the cost of the countryside, it is difficult to quantify. Certainly Jersey farmers could not deliver the outputs that they do currently without fertiliser, so on one hand we are not looking to ask them to remove all fertiliser applications at all, because that might put the industry in a very precarious position, but I think there is a middle ground to be taken here. We want farmers to look a lot more closely. You have mentioned and the Constable has mentioned already how we calculate that. Moving forward, my hope would be that we can calculate it in even more detail. The technology is going to help us amazingly in the next 10, 20 years and it may well be that with reduced, but very accurate, inputs of fertiliser, we can do great things, we can get the crops to grow even better, but still use an awful lot less fertiliser. The cost to the industry would be enormous if we made them stop using fertiliser. I put it the other way around: I believe it can be a win-win situation, where they spend less money on fertiliser, but do not have a reduction in output from their land. That is going to come out of technology.

**The Deputy of St. Mary:**

In the round though, the lack of purity of water is a cost to the Island as a whole in terms ...

**The Minister for the Environment:**

I see a bit more where you are coming from now. There is no question that we do not want to be the only place in Great Britain or the only place in Europe or we do not want to be at the top in nitrates in water tables. There certainly would be a reputational value to the Island if we, instead of being successful through this water plan, were less successful and farmers just carried on. If

we were promoted, for want of a better word, as the nitrate centre of Europe, that is not good. Jersey has a quality reputation in all sorts of things: the quality of our potatoes, our milk, our countryside or our beaches. The last thing we want is to be at the wrong end of a nitrate story, which is why we are doing this.

**The Deputy of St. Mary:**

Yes, so the benefit which you are seeking to achieve is of benefit to the Island as a whole. I am thinking particularly of the tourism industry.

**The Minister for the Environment:**

Yes. I am sure we will come on to it and we may as well mention it now. There is no doubt that while it is not the only contributor, the nitrate levels in water that enter into St. Aubin's Bay make a contribution - maybe a very large contribution - to the amount of green sea lettuce that we have there. While the rest of our beaches are very wonderful, St. Aubin's Bay in the height of August is not at the moment. That is a reflection on the Island that we wish we did not have, but it is not going to go away next year or the year after, but certainly that is a downside. St. Aubin's Bay is a part of the Island where the water does not circulate freely or very well, it is quite shallow, it gets very warm and we add to the problem by putting nitrate and phosphate into the bay. We cannot help that. The vast majority of the waters that leave Jersey go into St. Aubin's Bay, but we aim to do better. We accept that it is an issue. We do not like it, but we are going to do our level best to address the issue. Now, that is a reputational problem. Can we put a financial consequence on it? I doubt we can, but we know it is important and we know we need to tackle it.

**The Deputy of St. Mary:**

I think we agree there is a financial consequence, but I appreciate it is difficult to put a financial figure on it.

**The Minister for the Environment:**

Yes. Certainly people who ply their trade selling coffees or hamburgers or food along the St. Aubin's waterfront would have something to say about that, I am sure. The Department for Infrastructure, along with myself and officers, had an open meeting at Bellozanne quite recently where we invited anybody who wanted to come to talk to us. We went away from that meeting and did some very specific physical things, moving some stones, moving some bits and pieces to help the café owners. We are hoping to have more meetings like that, but we accept it could be better and we would very much like the problem not to be there. But we are going to do the best we can to solve it. Sorry, did you say something about the amount of the actual financial quantifiable effect?



**Water Resource Management and Regulation Officer:**

We tried to do an economic assessment of water use as part of the prep for this plan in the previous document. It is about having the right amount of data available, economic data, all sorts of different types of data. Just trying to use someone else's data that has not been collected for that purpose turned out to be quite difficult to do. As part of the prep document, there was not really enough data to do a full assessment. We estimated that, for example, the value of water-based recreation to the Jersey economy is between £2.8 million and £4.4 million a year, which was based on just estimates that we had from visitor surveys and things like that, but also it does not take into account local residents, so that is just people coming in, for example, because there just was not the information available. But this morning we were just talking previously about some separate assessment around public goods and services or ecosystem services, where you attempt to value some of the less obvious benefits. You could talk about walking in the natural environment being beneficial to health, for example, but do you put a cost on that? It can be done, but it is a big bit of work and it was outside the scope of this plan, so we did not try to do it, because we had a limited amount of resource. You will see we did a sort of qualitative assessment of how the different scenarios would affect various goods and services in the plan, but we did not try and cost it up because it was beyond the scope.

**The Deputy of St. Mary:**

Leading on to a specific point then, you mentioned public health initially and the pressure not to renew dispensations. Is that a quantifiable cost to public health, of people drinking ...

**The Minister for the Environment:**

It has always been a difficult one and certainly the first alert that was publicised was a supposed blue baby incident, which never really ... the data behind it never came out. Nevertheless, the E.U. decided to reduce the World Health Organization limit from 100 down to 50 almost overnight, as I said earlier. Some of these carcinogenic pesticides have got some very quantifiable data about them doing all sorts of nasty things to us. There has never really been a lot of data about nitrates having a major effect on health. Nevertheless, the E.U. have got a limit which we have to abide by and that is what we have been working to. But I think we would struggle to find any data to say that high nitrate levels have got a definite effect on health, but I have no data to say that they do not have a detrimental effect on health either, for that matter.

**The Deputy of St. Mary:**

Public Health must have concerns, otherwise they would not put you under this pressure.

**The Minister for the Environment:**

Yes, I guess, and I suppose at the end of the day they are working from a precautionary basis and they look to other levels. Certainly we know from the last few years the E.U. have had a level of 50 and they would have their reasons for that, but I look to Public Health for advice as to whether I am going to give the dispensation. Their advice thus far has been yes, they have been happy to go along with it, but the current period that we have just embarked on will probably be the last. I do not know if we have anything more to say about health data with nitrates. There was some talk about a little bit of work coming out of Canada last year, but I am not sure that that has been verified either.

**Director, Environmental Protection:**

No, it is all, as the Minister rightly says, a precautionary approach I think is what the Minister for Health operates on. When the Minister grants dispensation, we must by law, the water law, consult with Health on the health impact, so naturally the dispensation and Jersey Water report goes to them and they appraise it. Yes, there was a Canadian paper which put some links on thyroid issues with high nitrate water in an area of Canada where the population was all drinking high nitrate water. Now, nothing was proven, but it set the alarm bells on for Health, so adopting the precautionary principle, they then did a study and got somebody to look at that in Jersey. It is of course very complicated, because not all our bore hole or mains supply ... we only need one person to come into the Island with a thyroid issue and our data is skewed. But I think that work is ongoing. The precautionary principle really is, yes, get it fixed.

**The Connétable of St. Saviour:**

Talking about health, the sea lettuce seems to be the main focus at the moment. In France, they have had this problem with the aroma coming from it affecting things. Do you go along with that? Do you think that is a ...

**The Minister for the Environment:**

We certainly would not dispute the French data, but I think there are very distinct differences between what happens in Northern Brittany and what happens here. That is around the amount of seaweed. Now, in these areas of Northern Brittany where they have had incidents with animals and people, the seaweed is the depth of this table, it is a metre-plus deep and there is so much of it there that it has the opportunity to create gases. When the surface crust of that is then broken, the gas escapes. Certainly that was something that was brought to my attention last summer and I made a point of asking the environmental health officers to monitor in the week previous to the Battle of Flowers and they spent some time walking up and down with their monitoring equipment and could not find any troubles at all. I think we need to be very clear that while sea lettuce is a problem for us, it is also a recurring problem in other areas, and specifically Northern Brittany, but the problem in Northern Brittany is many, many times greater than the problem we have over here.

**The Connétable of St. Saviour:**

Is that because it is left to stack up? Because I know they have been clearing the beaches here, but is that because it has been left to stack and they do not bother or what?

[15:00]

**The Minister for the Environment:**

I think there are a number of different issues, but the first one is I do not know that they necessarily try to remove it, but I think in Brittany generally they have a very large industry with pigs and other agricultural industries and they have rivers and large streams which discharge into the sea. Of course their land mass is a lot larger than ours, so that the stream emptying on to the Northern Brittany coast may come from maybe hundreds of miles back, where it has the ability to pick up all sorts of nitrates from various pig farms or poultry farms. Brittany has always been fairly intensive and a lot of this stuff has ended up going down the rivers and streams into the sea, hence the high levels of nitrate generally in St. Malo Bay, Granville.

**The Connétable of St. Saviour:**

Thank you, Minister.

**Head of Water Resource Management and Regulation:**

The only thing to add on the nitrate health side of things, Jersey Water are advised by Professor John Fawell, and Professor John Fawell sits on the World Health Organization group, so we get the absolute up-to-date information in terms of where the world sits in terms of nitrates. Certainly his indication is that that 50 limit is not going to change any time soon. There is no evidence to suggest that it will, so we can have access to goods.

**The Deputy of St. Mary:**

Just to wrap up the question on the umbrella of costs, fairly simple ones: the cost to farmers of excessive nitrogen fertiliser application, they are going to waste their money by ...

**The Minister for the Environment:**

Yes. I think at the end of the day, what we have to say is if you grow a crop in a field which has a high value like a Jersey Royal potato crop, for example, the risks of not putting enough fertiliser on are quite great, because if you only end up with 75 per cent of your crop, that 25 per cent that you have lost has a lot of value to you and that may be all the profit. The temptation therefore is always to make sure that the crop has got enough fertiliser; the temptation therefore is to sow a little bit more - or it was in the past - than may have been required because the cost of that

additional fertiliser vastly outweighed the potential losses if you had not put enough on in the first place. I think that has been the hangover from decades that we have had to get over, is trying to convince farmers that, yes, you can accurately predict how much you need, you can put it on accurately with special equipment and your profit is not going to suffer. I think farmers are always worried that if the crop is short of fertiliser and they cannot get the yields, their bank balance suffers and so it has always been a lot easier to make sure. Financially, you are better off to spend a little bit more to make sure you get what you can than take a chance on not having enough. Sometimes we have seen instances where fertiliser - and not recently, this would have been 10, 15, 20 years ago - may have been applied to fields days, maybe even weeks, before the planting of the potatoes because of convenience. If the weather goes wrong between the fertiliser application and the planting, a lot of that fertiliser would have been lost. Nowadays, because of modern techniques and larger farms, the plough, the fertiliser, the planting is all done in the same day or within 36 hours, so that is not a problem. But I think what I am trying to say is the financial risks to farmers in the old days, it was just so much easier to make sure that there was enough fertiliser.

**The Deputy of St. Mary:**

You say in the old days. Is advice now such that they are encouraged to use no more than necessary?

**The Minister for the Environment:**

Absolutely. We touched on it earlier. They are obliged to do fertiliser plans, they are obliged to make sure they are not putting on too much fertiliser. If I go back to my very early days in the industry in the sort of 1970s, the vast majority of the controls we have in place now were not even considered. It was not that farmers were being told, there was nothing illegal, it was not bad practice particularly, their growing techniques were different, but it was just a different way of doing things. You look back to the 1950s, we used chemicals like D.D.T. (dichloro-diphenyl-trichloroethane). At the time, that would have been the department's advice to try to look after beaches, or we were walking around the beaches spraying D.D.T. everywhere. Hindsight is a wonderful thing.

**The Deputy of St. Mary:**

I am not criticising the past, I am just saying now you have used twice the words "obliged to follow certain advice" so they get penalised for exceeding dosage?

**Head of Plant Health:**

Good agricultural and environmental practice stipulates that advice, and as I have said already, farmers should sample soil annually to calculate the rates of fertiliser required if a crop is going

into it. Those records are kept. They will be audited by the external audit bodies. If there has been sufficient deviation from the regulations and guidelines as to how much fertiliser to use, they will not pass their audit and they will be jeopardising their financial payment for the year.

**The Deputy of St. Mary:**

So there are recriminations if they do exceed. Fine, okay.

**The Connétable of St. Saviour:**

Hang on a moment, you were saying they would be jeopardising. It will not necessarily be stopped if it is ...

**Head of Plant Health:**

I think there is a spectrum of error in anything, is there not? There can be an honest mistake: "I have lost that record." We are not going to penalise somebody an entire year's subsidy for making an honest mistake, whereas if there is repetitive over-application, than that becomes a different case.

**The Deputy of St. Mary:**

My final question on costs for the moment is what would be the cost to Jersey Water if the problem had to be solved exclusively by water treatment? Presumably the answer to that is the creation of the nitrate plant, would that be it?

**Director, Environmental Protection:**

Creation of a nitrate plant, capital costs, running costs.

**The Deputy of St. Mary:**

Yes, and what to do with the nitrate afterwards.

**Director, Environmental Protection:**

It is a historic figure, but it would be £40 per household per water bill increase. Then of course the high nitrate stream coming out of that plant, what do we do with it, as an Island?

**The Deputy of St. Mary:**

Yes, I know.

**Director, Environmental Protection:**

So you have got another problem.

**The Minister for the Environment:**

I mentioned desalination earlier on. That is another option, because they can create water from the sea, but there is a cost. Historically, there has always been a large cost to desalination and that would continue. The current plant is electrically driven, but that does not mean to say it is cheap. There is a major cost to Jersey Water to switching on the desalination plant. That is an option to help to keep the nitrate levels down in drinking water, but there is a cost to that as well. That would be a daily cost as opposed to a capital cost of putting in a nitrate scrubbing plant.

**The Deputy of St. Mary:**

Yes, we have not touched much on desalination. For the benefit of our advisers, could you please provide running costs for that? That would be helpful, thank you.

**The Minister for the Environment:**

Yes, very recently we have had a visit - I have had a visit - to the new desalination plant. Last year the plant was out of action because Jersey Water, I think they doubled the capacity. They closed it down, they have done a revamp and doubled their output capacity. Again, looking forward, we are talking about water in the future and how we need to make sure we have got enough. That is certainly something Jersey Water are thinking about. The desalination plant is very new. They have had a major revamp and it can now create, for want of a better word, twice the amount that it could do beforehand.

**Head of Water Resource Management and Regulation:**

But what you need to bear in mind is that you cannot put that water straight into supply because it has to be re-mineralised before it can go into it. It needs to be mixed with other water that is available.

**The Minister for the Environment:**

Yes, the pipe goes straight into Val de le Mare Reservoir and it is mixed there before it is put into the mains.

**The Deputy of St. Mary:**

Some more technical problems in the questions coming up, so I will perhaps hand you over to the Minister here, if I may.

**The Minister for the Environment:**

Depending how technical they are, I might hand over to somebody else.

**Panel Adviser:**

Sticking around the sea lettuce issue, what is the nitrate level in Jersey's coastal waters and what would the target need to be in order to adjust the impacts for sea lettuce on tourism?

**The Minister for the Environment:**

That is a very good question, because as I have just mentioned, the target level for nitrate in St. Aubin's Bay would differ from the target level in other parts of the Island, purely because of the way the bay works. It is shallow, the water does not circulate readily and it gets very warm because it is shallow and of course south-facing as well. Unfortunately it ticks all the boxes for growing sea lettuce. I do not know, do we know the answer to the level of nitrate in the sea? Certainly the Infrastructure Department have done some testing. I cannot remember what the levels were.

**Head of Water Resource Management and Regulation:**

They have done a lot of work, but I cannot think of the numbers off the top of my head, but we can certainly provide it.

**The Minister for the Environment:**

We can certainly send you the numbers. I do not know, how long ago was it that Infrastructure tested on their route out?

**Head of Water Resource Management and Regulation:**

We are testing as part of the ongoing work that we are doing looking at the nutrients within the bay. That is an ongoing programme that we have been doing for a good 2 and a half years now, I think. The status assessment of St. Aubin's Bay has been done and that has come out as moderate based on some of the macroalgae.

**The Minister for the Environment:**

Was there a specific nitrate level, milligrams per ...

**Water Resource Management and Regulation Officer:**

We do. It is low though. It is a lot lower in saline waters, but I would be lying if I could remember it off the top of my head, because it is not my area, but it is point something rather than 50 or whatever.

**The Minister for the Environment:**

The other thing I am sure you do appreciate is obviously fresh water and sea water have different densities, therefore there is one at the top and one at the bottom. One of the points that was made to us when we had this open meeting with the public at Bellozanne with Infrastructure, we

had some people who came down and quite readily shared their views with us about how they think that it may all be happening in the top 2 or 3 feet, but there is a lot more fresh water and the salinity is lower down. It is really complicated.

**Director, Environmental Protection:**

It is a separate piece of work. Sorry, we are not prepared for that, but it is all to do with the sewage treatment works, with the discharge limit. According to the Urban Wastewater Treatment Directive, we did some previous surveying in St. Aubin's. That came out as sensitive. Ten years after, the survey was repeated and came out as not sensitive. However, in that interim period, the methodology of the same work had changed, so it is still borderline. We have done a lot of Water Framework Directive sampling in St. Aubin's Bay as a result of the last Scrutiny review, a lot of inshore work as well. The Department for Infrastructure have done a lot of modelling work on sea lettuce and various circulation patterns as part of their planning application for the proposed sewage treatment works, which will come in in the next 2 weeks. There is all that going on. The golden crux, as you say, is what can St. Aubin's Bay withstand and what are the levels in St. Aubin's Bay for sea lettuce growth, which as pulling us down, as Jody said, to moderate status. We want to get good status, notwithstanding the golden nugget is to control nitrates at source. If you do that, you limit, as the Minister said, drainage coming, because 70 per cent of the Island drains into St. Aubin's Bay. That will be limited. You are also limiting this stuff which comes through the sewage treatment works, cuts away the £30 million spend in phase 2 of that operation. It is all linked.

**Head of Water Resource Management and Regulation:**

I think it is also fair to say that it depends on which area of the bay you are talking about. If you split the bay up into the 3 areas, zone C, which is the outer bay, that is predominantly dominated by the wider kind of St. Malo nutrient levels. The zone which is what we call the mixing zone, out from around the catchment points and the near shore area, that area is not even covered under the Urban Wastewater Treatment Directive per se. It is zone B, the bits in between, which when you look at the nutrient data for that, you do see spikes occasionally from the works, but it is predominantly again more so coming from the wider bay. That is of course at high tide. At low tide, it is a bit of a different story.

**The Minister for the Environment:**

The other thing we need to remember in St. Aubin's Bay, and I have dug out the map, there are 6 major - well, as major as a stream can be in Jersey - streams emptying into the bay as well as Bellozanne at any one time. Even if, for example, we put something at the sewage treatment works which removed all nitrate, so that everything that came out of Bellozanne was zero nitrate, we have got any number of - at least 5 - major streams which discharge straight into the bay,



which gets us back to the initial thing that I said, that even if the Department for Infrastructure can take nitrate out, even if Jersey Water can take nitrates out, the challenge - and the one that we must face up to - is removing nitrates in streams and groundwater, because in St. Aubin's Bay, a significant percentage of water that goes into the bay comes from streams. It does not come via Jersey Water and it does not come via the Department for Infrastructure. The challenge is to address the nitrate issue on the Island as a whole, via agricultural predominantly, so that Jersey Water and Infrastructure does not need to be addressed there. We address it at source.

**Head of Water Resource Management and Regulation:**

Historically work has been done in 1997 and was repeated in 2007. What that demonstrated was it is about 50:50 split between the works and catchment sources.

**Panel Adviser:**

We have got one more. I guess the worry is that if the levels are as you say, if the standards are as low as you say, then even reaching 50 on the farmland may not solve the sea lettuce problem. The second question relates to something you were saying, the kind of background concentrations in the wider bay. We understand that in 2014, the European Commission infringed the French Government for failing to prevent water pollution by nitrate in the surface water, in the sea off Brittany. What is the background concentration of dissolved inorganic nitrogen in coastal water off Brittany and to what extent might this be contributing to the concentrates in your inshore waters?

[15:15]

**The Minister for the Environment:**

I do not know the detail and the exact numbers, but I know that the subject has been one which has been discussed widely. Some people may say that Jersey's sea lettuce problem and nitrates in the sea around Jersey is a direct result of the amount of nitrate coming off the Brittany and Normandy coast and others would say: "No, that is not correct. We create our own problem." I suspect the truth is somewhere between the 2. I would think in St. Aubin's Bay, certainly as you get closer to the shore, we must be contributing to our own problem, but there is no doubt when you get out a mile offshore the amount of contribution coming from Jersey must be minimal, because the amount of water that leaves the Island to enter the sea is small compared to the Rance or other rivers on the Northern Brittany coast or coming past Mont Saint-Michel through Avranches or other ... I cannot think of the others, but there is any number of large streams, small rivers, and in some cases large rivers, that are discharging into the sea. Close to the coast I think we have to hold our hands up and say we will be responsible for some of that; further away, I cannot see that we have very much influence. We are lucky in a way that we get such a massive tidal range. It means there is a lot of water flowing around that comes from out of the Atlantic, but

having said that, we are in the bay of Mont Saint-Michel, bay of Granville, which does not circulate quite as widely as Guernsey, for example, who sit in a completely different tidal stream, even though they are only 30 miles away. We can find out the detail for you, I am sure.

**Director, Environmental Protection:**

There has been extensive work. As part of the sewage treatment replacement, D.f.I. (Department for Infrastructure) have undertaken transects all the way up to the Minquiers, which is about halfway between here and France, looking at levels. As regulator, we are quite guarded against that. What we did not want them to say is: "Cannot do much about it, because it is all coming in." As a result of that we instigated an inshore zone, this mixing zone. The theory is the high nitrate water coming out from the Bellozanne treatment works and the streams is not getting mixed up with the wider zones B and C, because it is going up and down the coast and forming like a soup, and that is where the sea lettuce is growing. We have had a brief look at that data. It does not seem to indicate that that is happening. We will be very keen to look at the E.I.A. (Environmental Impact Assessment) from the replacement sewage treatment works coming out in February from D.f.I. We have been involved in questioning the modelling work; we have been involved in looking at preliminary results to see what happens with that Bellozanne outfall water as well, does that stick around or get out when it is high tide? Because basically we have to understand the system to understand the sea lettuce problem. We have just commissioned Cefas (Centre for Environment, Fisheries and Aquaculture Science) to, if you like, pull together all the various data. We have got open wastewater treatment; we have got the Water Framework Directive; we have got all this stuff that D.f.I. have done, all the stuff we have done. How do we assimilate that into a monitoring programme, low cost, effective, going forward that we can run or D.f.I. can run and how can we get those figures of controlling it at source, how does it link with the water plan? If we can limit or decrease nitrate at source, what does that mean for green seaweed growth in St. Aubin's Bay? Because no matter what is going on offshore, we have got the moral responsibility to make sure that our contribution to that soup is limited, of course.

**The Deputy of St. Mary:**

A basic question to follow up: do we know the level of concentration of nitrates in the water which the French were penalised for?

**Director, Environmental Protection:**

Off the top of my head, no, I do not.

**The Deputy of St. Mary:**

This is an ongoing problem for them, is it?

**Director, Environmental Protection:**

Absolutely.

**The Minister for the Environment:**

I am just looking at ... I dug it out to see whether it was here. These are some publications which have come to me from France and these are basically water observations in some of these areas in Northern Brittany. You can see how extensively the French ... this is from March last year, this one is from June last year. This is publicly available documents that they send around. They are taking it very seriously. I know they are trying to address the issues. I was trying to see whether they had a figure anywhere here for water going into the sea, but I do not think they do. But they are talking here in June of levels of 34 and 30 milligrams per litre. I would need to look at that more closely to find out exactly where those samples were taken.

**Head of Water Resource Management and Regulation:**

We will provide you with the status assessment at St. Aubin's Bay, which will have all of that information. We just do not have it today.

**The Deputy of St. Mary:**

A more general question, this relationship between the agricultural industry and the water utilities here regarding reduction of levels in farmland, but I think we have probably covered that in the sense that, in conjunction with the R.E.S., am I right in thinking that the majority of farmers you speak to are onside with your plans?

**The Minister for the Environment:**

Absolutely. The farmers have been consulted all the way through the R.E.S. and there would be no doubt that they are right behind and very much with us on this. Just talking about Jersey Water and the farming industry, I think it would be fair to say in the past that Jersey Water would have had a bit of a moan and said the levels were very high and the industry would have said: "Yes, okay" and carried on, but I cannot reiterate enough how much in the last 18 months the industry and Jersey Water and the department have worked together. That was recognised initially through a group called the Nitrate Working Group, which encompasses dairy farmers, arable farmers, Jersey Water, the department. I do not know if there were any other ...

**Water Resource Management and Regulation Officer:**

Public Health.

**The Minister for the Environment:**

Public Health were involved with that. The success of the Nitrate Working Group was such that everybody decided that they wanted to keep it going. It is now known as the Action for Cleaner Water Group and we continue to look at issues. Most recently we have been looking predominantly at different pesticides and chemicals to make sure that what we are using currently does not give us the problems which we had last year with Oxadixyl. That group are very committed to cleaning up Jersey water, not just nitrates, but chemicals and pesticides, and I think that is just as clear an indication as I could wish to give you that the relationship between the agricultural industry and the Jersey Water company is better than it ever has been.

**The Deputy of St. Mary:**

Yes, I appreciate that the farming industry has been almost a whipping boy of the problem for some time. I am aware that great strides have been made. But again, you are talking mainly about the big growers and the J.F.U. (Jersey Farmers Union). I presume there are still some rogue farmers out there who will not ...

**The Minister for the Environment:**

I would not like to think there are any rogue farmers out there, because we were very clear that we wanted everybody represented around the table, so we have the arable industry, we have Jersey Royal, who are by far the largest growers, but we also have Albert Bartlett, a representative of, and we have farmers who grow for Albert Bartlett. I am trying to think of the others we have sitting around the table.

**Water Resource Management and Regulation Officer:**

R.J.A.H.S. (Royal Jersey Agricultural and Horticultural Society), so dairy were represented as well.

**The Minister for the Environment:**

Those people were charged with going away and making sure that everybody in the industry is aware of what is going on. The Farmers Union are represented, but there are growers as well, and as Kate says, R.J.A. are there, so the dairy farmers are represented.

**Water Resource Management and Regulation Officer:**

We have done quite a lot of other consultation before the water plan as well, the diffuse pollution project. During that, we went out to pretty much ... or we offered free farm visits to every farm to help them with their nutrient management plans, soil protection reviews and manure management plans. We offered one-to-one visits; we did workshops; we did training events. We went out and asked them why they made the decisions that they made and listened to the answer and tried to give them the things that they felt they needed to help them comply, so things like the farm risk map on the internet that we have created to help them to know more easily which land is at risk of

spreading slurry on and that kind of thing. So it has been quite a 2-way relationship all the way along.

**The Minister for the Environment:**

Certainly last year I was adamant that we would make sure our email and contact list with phone numbers and stuff was right up-to-date. I can put my hand on my heart and confidently say that when we send a message out to farmers nowadays that everybody gets that message.

**The Connétable of St. Saviour:**

Sorry, I know you are testing the water around St. Aubin's Bay, but there is a big concentration of growers at L'Etacq, St. Ouen. Do you ever test the water there to see if there are nitrates in there? Obviously they do not have sea lettuce.

**The Minister for the Environment:**

We do. Tim will give you the answer, the amount of testing ...

**The Connétable of St. Saviour:**

But that is where there is a big concentration of growers.

**Director, Environmental Protection:**

Absolutely, yes. It is one of our main problem areas, to be honest.

**The Connétable of St. Saviour:**

But they do not have the sea lettuce. Is that because they do not have the warmth?

**Director, Environmental Protection:**

Oh, I see. No, we test St. Ouen's Bay as well, limited extent, more as a control because it is pristine in terms of nitrates. It goes into of course Val de la Mare Reservoir first and then St. Ouen's Pond, so it is dilute. It is retained in the reservoir, so nitrates will come out, but it is fair to say that the sandy soils, the early land at what we call Val de la Mare West Stream, a fairly small catchment, is one of our problem areas. Scott and his team have been visiting farmers, auditing, seeing what is going on to see if we can crack that one, because it is a major supply in for Jersey.

**The Connétable of St. Saviour:**

Yes, but you are not going to say about the sea lettuce, because they do not have it.

**The Minister for the Environment:**

You are quite right, Constable, the L'Etacq area is very sandy, heavily intensive for potato growing and all the land on top of Val de la Mare is sandy again, a lot of spuds there. But of course St. Aubin's Bay and St. Ouen's Bay are very different. St. Ouen, obviously a lot of surf, a lot of movement of water and quite deep, relatively. St. Aubin's Bay, southerly-facing, shallow, water does not circulate, and for want of a better word, the water is not changed in St. Aubin's Bay in the way that it is changed in St. Ouen's Bay twice a day.

**The Deputy of St. Mary:**

Sorry, the clock has gone, our allocated time, so perhaps we will go on to the next subject, which is available resources, which you have touched on before. I think I will let Tracey lead this one.

**The Deputy of St. John:**

We touched on this slightly before about resources, but we understand that increased agricultural compliance checking and monitoring is a fundamental principle of the preferred option in the Water Management Plan, so what resources exactly will be in place to enable improved awareness and compliance among the farming community?

**The Minister for the Environment:**

The first resource that is in place is there is money available if people want to sign up to obtain first the Red Tractor and then sign up for L.E.A.F. and get to the L.E.A.F. standard. That in itself will deliver, as Scott said early on, a level of compliance checking. If you want to be L.E.A.F. accredited, you will need the L.E.A.F. person to come to your farm to make sure you have ticked all the boxes, so there is a level of compliance there. That does not necessarily need a financial resource from us, because the farmer will engage with the L.E.A.F. audit process. But what we did talk about earlier was the catchment officer, the ranger, if you like, the nitrate ranger. I do not know what we will call him, but we refer to him as a catchment officer. We are in discussions with Jersey Water about that how that might be funded. We are working very closely with them, I cannot stress that enough, but Jersey Water may say: "Is it really for us to pay for the catchment officer? Should that not be for Government?" and we would say: "These catchments are feeding water into your reservoirs and you are making money." I think somewhere between the 2 will be where we will end up, but certainly as a department we would very much look to Jersey Water to help us. On the mainland, would the water companies pay for ... I think they do pay for catchment officers in Scotland. Would they do that?

**Water Resource Management and Regulation Officer:**

Yes, often water companies will. They normally term it so that it is over and above the minimum for actual regulatory compliance, so it is compliance plus, so places like Wessex Water, Yorkshire Water, they often have their own schemes where they will either go out and advise farmers on

nutrient planning or they might have some pots of money available for capital works for improvements towards equality because they have done the cost assessment and it is deemed over a longer period of time to be more cost effective than putting in treatment basically. I know Wessex, for example, have got a small team of catchment advisers that go out and they have not had to put in any new nitrate. I think also they have got a big issue with metaldehyde, so slug pellets. I do not think they have had to put any more investment into that either, or that ... I am not sure if that cannot be treated. So there are good precedents in that regard. We have looked at the government costs for the plan and we assessed it to be for the option approximately £98,000 a year over the 5 years of the plan. It was indicative so again, as I was talking earlier about the assessment that we made, some of it was just professional judgement or the best cost estimates that we had when we were looking to try and cost the plan.

[15:30]

But what we wanted to do was compare it to business as usual. For example, the 20 days of compliance checking, moving across to the preferred scenario, which was why we went for scenario 2B rather than 3 because that pushed the government costs from I think just under £500,000 for the entire plan to nearly £1.5 million, if you start putting capital expenditure on farms for things like more effective slurry spread as if you are going ... to get a week we priced it up at about 50 per cent of the costs, so the farmer would bring 50 per cent and we would bring 50 per cent. But once you start getting into big capital expenditure and you have then also got to have the people that get those grants out the door as well. We are not geared up to do that at the moment either. Your costs really start to increase quite majorly and starting to ...

**The Deputy of St. John:**

So I get this, because for me I have this view that there is no point in having certain types of legislation or strategies or plans in place if you are not going to put the resources or the money in to complete it or do what you are aiming to achieve. To understand, with the K.P.I.s you have got in this plan, your outcomes that you are hoping for in 2020, what is needed? What is the difference between ... what have you got now to support the Water Management Plan compared to what you need to achieve those K.P.I.s?

**The Minister for the Environment:**

The K.P.I.s are produced at the moment using our current resources and obviously we could continue to use current resources to continue to produce results, which would give us some K.P.I.s but what we want to do is to do more and to do better than that, which is why there is a cost implication here. I guess the answer is we could continue to have the same number of results by continuing to put resources in that we currently do. But we want more results, we want to test

more, we want to do a whole lot more work to make sure that we are getting better. £100,000, is it for a catchment officer roughly?

**Water Resource Management and Regulation Officer:**

About 40 of that is catchment, is additional compliance, about 40 of it is additional monitoring and the rest is spread over the 5 years. It is basically upfront cost of some of the law drafting and other stuff that we are going need to do to prep that up. So we worked out, we can carry on until about 2018 as we are, because we are doing preparatory law drafting, the Pesticide Law, the Water Management Orders, obviously the L.E.A.F. and Red Tractor stuff will start to provide, so we will get some automatic additional compliance checking from that. We need to find some additional money where ...

**The Minister for the Environment:**

This is an important subject and there is no option. We have to get this right. We have to reduce nitrates in water. Carrying on as we are or has done for the last 5 years is not going to be acceptable. We need to do better and we will. If we find in 18 months' time or by the time we get to the end of the potato season in 2018, for example, if we are not seeing the results starting to go the right way, we feel we need to commit a bit more resource, well we either have to find that inside the department or we will have to go away and see if we can find some more resources. But resourcing the option that we have chosen to go down has been spread relatively around. The bill to Jersey Water over the 5 years is £1.2 million roughly, Government £500,000, farmers over £600,000, and the other industry a bit less than £200,000. So we have not picked on anybody particularly. We are taking some of it ourselves but Jersey Water realise they are going to have to spend some money, after all it is their business. They want to safeguard their businesses so they are taking the correct steps, putting some money into capital projects. Farmers have accepted they are going to have to do a bit as well.

**The Deputy of St. Mary:**

You are talking mainly about funds going from Jersey Water or your department. Going back to the bigger picture where tourism benefits, et cetera, should not other departments be making a contribution? Is it not right they should?

**The Minister for the Environment:**

They are making a contribution but I think it is just a question, as Kate said in the U.K., the water companies would see a cost benefit to funding catchment work because they may well put out £100,000 here but they know it is going to cost them a lot more than that if they have to clean up the water. Again, we get back to what we really want to do is to clean the problem up at source and whether you are Jersey Water or whether you are Department for Infrastructure it is going to



be beneficial to have farmers put a little bit less fertiliser on their fields, have it more targeted so the crop takes it up, and less of it going into the stream. Because what we do not want to be doing is spending millions and tens of millions of pounds trying to clear up the problem at the end of the pipe when we can cure the problem at the beginning of the pipe, which is why we have gone for this option. As Kate said, we could have gone for the option where Government put a huge amount more money in and it may be, who knows, in the future we may have to look for ways to put more money in if we really need to do that. But personally, I believe that we can get the levels down without major expense. I think farmers can target less amounts of fertiliser more accurately and get the same results, less leaching for equal outputs. I know it sounds very simplistic and not like rocket science at all but I do believe with technology that we can ... and careful technology and farmers thinking about it that we can do better very easily.

**Director, Environmental Protection:**

That £100,000 per year spend, we have already spoken about some huge capital savings, health, tourism, S.T.W. (sewage treatment works), Jersey Water, it is a huge invest to save. But the way we have done it to date - because we are an extremely small team, Kate has done most of the work, half her time really, whereas S.E.P.A (Scottish Environmental Protection Agency) and the U.K., they have departments in this area - was utilising the money we had before, £200,000, the John Young amendment. We have managed to roll that over and save it to deliver this plan. The key resourcing is our compliance officer coming in.

**The Deputy of St. Mary:**

I think in certain departments we do appreciate you use your funds very wisely. We are just trying to get a bit more for you really from resources.

**The Minister for the Environment:**

I accept we could have done it differently but the one thing I would say is that Kate and the team haven't arrived with a plan in a couple of months and we have done a lot of looking at what other people do elsewhere. One of the benefits - if you can call it a benefit - of coming to the game a bit late is that there are lots of other scenarios to look at outside of the Island to see where people have done well. We feel we have picked the best bits. Certainly Scotland is ahead of the game. I am prepared to say I think there is a lot of good work done in Scotland and Kate has spent quite a bit of time there looking at the way that they work. We have picked the best bits, we hope.

**Head of Plant Health:**

Could I just mention ecosystem services as well, because we have not mentioned that yet? It is linked with the R.E.S. because the reservoir ... I know we are obviously talking about the R.E.S. but halfway through the R.E.S. there is going to be a mid-term review and it links with the water

plan because another piece of work we are doing in the department as well is an ecosystem services review, which starts to try ... we talked about the monetary value of these things and so it starts to begin to calculate what the value of the green space in Jersey is, what the value of the health benefits to residents walking on the cliff paths are, what the benefits you are bringing in external 1(1)(k) residents. It tries to put a handle on what all these things are worth to us. Also it starts to put a handle on who the key providers are and who the beneficiaries are as well. In 3 years as we hit the mid-term review in the R.E.S. we will start then to be able to really visualise who should be paying for some of these services. Who should be contributing? Who is getting the benefit? So I think then Government can start making some very informed policy decisions about where we go with funding, what funding we should be looking at in the future.

**The Deputy of St. Mary:**

That would be useful.

**The Deputy of St. John:**

Can I ask, notwithstanding the whole compliance and monitoring and training and all those types of things, in order to show that the actual plan has been successful in 2020 there needs to be somebody who is able to measure this from a baseline to the final output? Is that going to be part of somebody's job within the department currently or is there somebody else going to be doing that or is it the Statistics Unit? Where does that measuring lie? Who is responsible?

**The Minister for the Environment:**

Tim, maybe you would like to explain the hierarchy and how it all works, but there is Environmental Protection, we have got very specific jobs within Water.

**Director, Environmental Protection:**

It sounds a bit wishy-washy but we have got a lot of data. I personally, to get this indicator, which is what are nitrates doing around our Island and individual catchments, use Jersey Water data. They are out there weekly. I think I used 29 sites throughout the Island weekly being measured by Jersey Water. So that is quite a good robust dataset. I am quite happy and I am happy I can see trends and again treat that back to farmers.

**The Minister for the Environment:**

Of course we do our own testing as well. We do not rely exclusive on Jersey Water data, so we are doing our own testing in different sites to make sure that the data all matches up.

**Director, Environmental Protection:**

Borehole data is a bit more problematic. We do our own testing. What we have been working on is liaising with the States of Jersey analyst, so when people go in to get their borehole tested, that we can get those results and analyse those as well. So we have got that dataset. We have got a database, which we are just about to upgrade, and I think that has got about 400,000 data records in. So it is going back quite a way and that is all heavy metals and everything around Jersey. Quite a robust dataset to do some stats on. So we are starting to see some real indicators. As part of the water plan it was also the rationalisation of our monitoring. We were conscious that Environmental Health monitor, the States analysts monitor, Jersey Water monitor, but let us collect all this and see who is doing what and rationalise it so we are not replicating or auditing where we need to. As part of our work we regulate, for example, the discharge at the Energy from Waste plant. We regulate La Collette. All these licences we put in place requirements on the operator, mostly Department for Infrastructure, to collect comprehensive data. It is not for us to show that there is no pollution but they should be collecting data and auditing that data and presenting us with a report to which we then audit and verify. There are lots of data streams out there. Hopefully we are getting to a stage where Jersey is not replicating; not seeing someone else collect the same data from the same stream. We have increased the amount of targeting the risk-based approach of that data collection; Jersey Water particularly have. It is no good going into a stream which you know is clean and then trying to collect all the data from it, so you target it according to the risk.

**The Minister for the Environment:**

Of course if we get issues like we had last year, both the department and Jersey Water go into overdrive for any extra sampling and we spent a lot more money last year and Jersey Water spent a significant amount of additional funds on sending away samples. We were almost overloading some of these labs in the U.K. for the number of samples that were being sent away purely to just increase the amount of data we have got coming forward so we have got a better picture of where the issues are happening.

**The Deputy of St. John:**

I know there is lots of data around but I think, from my understanding, to understand how you are going to use that data to show under this Water Management Plan whether the scenario in which you are using is working. Whether the help and the assistance that you are providing to farming, whether it is working to reduce nitrates.

**The Minister for the Environment:**

The data, the sampling, will inform and we will see where the levels of nitrate are in the stream. We can then move to the advisory, the catchment officer going into the areas where we can see because we can see ... let us just take for example the Val de la Mare stream or another one. If

we can see that is bad or worse than the others because the data shows us, the catchment officer goes in, we go in and advise, and if the advice does not seem to be working or we cannot find ways of reducing, this is where we are going to get the ... another law will come into play or before the law comes into play, as Minister, the Minister may decide to make some orders in a particular catchment area where he will say: "I am sorry, what we have done thus far is not good enough. I am going to reduce the amount of fertiliser you can use in this catchment." Or I am going to say: "No fertiliser in this catchment" and you will make some orders and see, and you work from there. If the data still does not come down we will look again. I would like to think orders are a long way down the line. But the new water plan will allow us to ramp up the ante. If the data shows we are not achieving the results move to the next stage. If that does not show improvement we move to the next stage. We have to get this problem right.

**Director, Environmental Protection:**

On the more human side, I think you are inferring, we have got the compliance data as well, compliance checks on farm, all that will give us, we will just pass that on.

**Water Resource Management and Regulation Officer:**

The baseline was this challenge is for the Water Environment document so that is why, as part of this, the first part of the ... before we wrote the plan we had Atkins look at all of our data and apply Water Framework Directive metrics, which is basically a broader thing so nitrate is one of the standards but it is also a much more holistic approach because as well as being for public health it is also around environmental quality.

[15:45]

If we want to make the environment better then it has to function as a system. That includes biodiversity, it includes macroinvertebrates, it includes diatoms. There are a much wider range of metrics that you can use to measure the quality of water because it is about the quality of the habitat that it is providing, if you want to do a holistic job.

**The Minister for the Environment:**

If you have got perfectly clean water and there is nothing growing in it that is not always good. There are other things that should.

**Water Resource Management and Regulation Officer:**

That is what we have done. So we baselined it using ... we had Atkins look at the system in England and in France and take the standards from there. So we have got a baseline of a certain proportion of our water bodies being at either bad or moderate, good or high status. The point that

I was trying to make earlier about the review at the end of 5 years is that it is not like you are not watching what is going. You have got the dials and you are looking at various things during that process, but you have a major review at the end and you rerun the classification basically so that you can see how you have done over the 5 years. Then you say: "Okay, pesticides have reduced" or whatever. Or there might be a new problem coming along that we are informed about by the data because it is also about quantity. The classification is also looking at are we using more water than we have got. This has not been prioritised in this 5-year plan because at the moment our water status on quantity is fine. If we started going into drought conditions over that 5 years we might want to review whether we need to implement some measures for that next time around. So we have got our baseline and that is what we are going to be looking at because it is an independent system of classification that Atkins have come up with for us that we can reapply to our data towards the end of the 5 years.

**Head of Water Resource Management and Regulation:**

They provided us with the tools to do that so we have got the spreadsheets and the various things that we can reclassify in the same way as we have done for this plan to see where we are at.

**Water Resource Management and Regulation Officer:**

But we might need to get some additional help in because we have got the day job to do as well, if that is the question you are asking, is whether we need additional or whether we are going to have someone to do that. The answer is no, we will have to see whether we can do it or whether we are going to need to buy back in some bolton brains and capacity to be able to run that classification towards the end.

**The Deputy of St. Mary:**

Sorry, you mentioned boreholes a minute ago. I have not had much conversation about that. Regulation, the testing of it, it is down to the owner of the borehole at the moment, is it not? Do you see that as a gap in the overall system in the sense that they can be ...

**The Minister for the Environment:**

It is all public knowledge. Last year we had a problem with a particular chemical and we wrote to every borehole. There was a lot of information that we put out there. It is no secret people who have their own private borehole water supplies are ... it is exactly that. It is a private water supply and you are obliged as a private owner to check it or to do whatever you wish to do with it. You may wish not to, you may wish to put a filter or what have you. But we were very clear last year that we informed everybody that there might be an issue, that they might want to test, and we moved from there. They are what they are, boreholes.

**Director, Environmental Protection:**

We were concerned at the time as a department that the people who own boreholes are they fully tested, do they send samples up to the States analyst as they should? Are they treating the nitrates? Reverse osmosis is the only way. I was unaware that it was a large number out there. So we went through all the old data that the States analyst had looking at treatment systems, looking at results so that gave us a good idea. Our colleagues at Environmental Health then put together an advisory leaflet because a major thing was to say: "It is your responsibility. This was the best practice, get it tested once a year, give those tests to your water engineer and get some treatment in" just to get that information over and other health advice on it as well, because we were not convinced that the household would ... buy a house with a borehole, and it has got a tank in the shed that does everything, does it not?

**The Deputy of St. Mary:**

But you say I think the rest of it is about half the bore ... about 8 per cent of the households are on borehole and I think you reckon half of those are over nitrate level. Basically that is down to the householder and not government interference or Water interference?

**Director, Environmental Protection:**

Yes, there are regulations; if you rent that property then as a landlord you are liable to supply obviously water but at the moment there are no private water regs in any Island.

**The Minister for the Environment:**

How much does government need to hold people's hands? How far do we go?

**The Deputy of St. Mary:**

Yes, I appreciate that.

**The Minister for the Environment:**

We certainly contacted everybody last year. Everybody was fully aware. I think there was an enormous amount of publicity over the Oxadixyl issue. We issued the results of all the water testing on a regular basis. Was it fortnightly, weekly? I cannot remember. Every testing result we had last year we put out in the public domain. We circulated, we publicised and we did everything we could so it is not that we were trying to hide anything. We were trying to encourage people to test their supplies. But at the end of the day it is a private supply and if it is yours and you use it for your own personal consumption that is down to you.

**The Deputy of St. Mary:**

I understand. A fairly similar theme. A lot of people on private water supplies also have a private sewage system, a form of septic tank. You take the same view there, do you, that if there is any leakage to the adjoining land, et cetera, it is more likely to affect their own supply than anyone else's, so it is ...

**Director, Environmental Protection:**

We would take that under the Water Pollution Law. It is very difficult if a septic tank is leaking against ... it is diffuse pollution and it is difficult to pick up on as a pollution incident. We did some work on looking at those households with a borehole and a septic tank and there was indication - it was not significant - that those people with a septic tank had higher levels of nitrate in their borehole.

**The Minister for the Environment:**

But again, if it is your private water supply it is up to you. Most people will know where their soakaway is and where their borehole is, you test your water. But I think the other thing I would say is that certainly in the last 10 years or so that the rules around new build and what you do with your sewerage is much tighter than it was. Certainly we look at the calculations now when people come to us and say they want to ... this is from a planning and building control point of view. I am sure you probably know. If you want to put in a new build you are asked to show how much will it cost you to connect to the mains and the various ways of doing that. How much will it cost for the odd ... and if you end up with a septic tank and soakaway system it is not because you have just been given a tick box exercise. We look very, very carefully. We understand that the principle of soakaways is not the way we would wish ... the direction we would want to be going in for that matter. But we do not want to stop people building houses, if that is the only way of having your drains work, but technology again, with macerators and stuff, it is possible to move it a long distance now through quite a small pipe and connecting to main drains is not the problem that it was 20 years ago. It is just a question of more cost in digging trenches unfortunately.

**The Deputy of St. John:**

Can I just ask a really simple question on that and forgive me if it sounds odd? But does government not have and the States have a responsibility to ensure everybody has clean water so therefore the least amount of nitrate in it, whether it is private boreholes or whether it is through whatever else. But surely there is a principle there that we should ensure that there is clean water.

**The Minister for the Environment:**

I know where you are coming from but we are not stopping people having clean ... there are any numbers of different ways you can have water on your property. You can have a borehole, you can have a well, you can catch the water off your roof. You can phone a hauliers contractor and

have your water imported. A lot of people do. We see the tankers going round and a lot of the time the tankers are going round filling up people's personal water supply. Not the swimming pool or what have you. That is the water that they drink. A lot of water goes from Millbrook Pumping Station in tankers direct to people's homes. It is a personal choice. You go to buy a property or you live in a property you can have your water delivered in a number of different ways. Is it an obligation? The water company is private. But they continue where they can, as government would do the drains, continue to try to expand the network, but the more people who are connected the next one is always going to be a little bit more expensive because you end up with the most difficult one right at the end. On that basis Jersey Water will continue to put mains water into areas where they have a number of people who can take it. But the cost to them of connecting that very, very last person in Jersey will be a lot of money. But they are getting there slowly.

**The Deputy of St. John:**

But we are in a very different position.

**The Minister for the Environment:**

I know where you are coming from, Deputy, and you are right.

**The Deputy of St. John:**

To other jurisdictions there may not. We have a shareholding within our Jersey Water.

**The Minister for the Environment:**

Would it be human rights, I do not know.

**Director, Environmental Protection:**

It is part of our daily job as a water resources management and regulation team to safeguard groundwater and surface water. So whether or not we are chasing our point source, the leaking of a tank, pesticide spills, monitoring, water plan, it is all designed to improve the quality of our groundwater and surface water, and that is what we do. The end result of what people do with their borehole and the treatment they put on I think government's responsibility is to inform them so they can make that informed choice. That is the treatment I need and that is what I need to do in order to get myself clean water, and that is the risk that is entailed.

**The Minister for the Environment:**

To be clear, we have not spoken a lot about the difference between point source pollution and diffused pollution. We have had some incidents over the last years where we had a problem at St. Ouen's Bay below the airport, and we know that is a point source pollution and we can point the



finger and people can be compensated because you know what the chemical is, where it has come from and why it is there. When we get to diffuse pollution situations it is a lot more complicated who is responsible, what is there and proving that a farmer or the farmers are responsible when it could be a soakaway or it could be some natural phenomenon. It is hugely difficult.

**Water Resource Management and Regulation Officer:**

That is why sewage control is the way forward though because one of the problems about the public goods and services argument around who owns the shared resources, air, soil, water. It is one of the big issues and that is why there are ... if there is often market failures to protect those non-renewable resources because there is no perception that anyone owns them and so there is, in my view, a government responsibility to make sure that the underlying resource is preserved and that is why source control, that is why we have gone for that option, is because if Jersey Water decide to put some treatment on that does not then help the people that are on that private water supply, for example. It is about doing it as much as we can for the greater good. It is also around biodiversity and other things. So I think we do have a responsibility to try and reduce the amounts of pollutants going into our water by using government policy to encourage that, which is what we are trying to do with the water plan and with the way that the area payment or the government subsidy is being delivered. If that is not the right answer ...

**The Minister for the Environment:**

This is the toughest policy. I mean I hope we are not going to have to get tough ... I do not particularly want to get tough with the industry because I hope we are going to get there without it. But this is the toughest policy we have ever had and these laws will be the toughest laws we have ever had to control. We could act very much quicker. We could ban stuff. We could put the agricultural industry out of business. We could make up all sorts of laws and restrictions but I think what we are doing here is acting responsibly. We have identified an issue and we are moving to solve it as sensibly and as quickly as we can without causing major ructions. We want our countryside to stay green and pleasant.

**The Deputy of St. John:**

I think I see that and I understand that. I think that is why the resource side of things is, to me, so critical with this. So having the right resource is being absolutely honest, upfront and clear about what it is exactly that is needed to deliver the ultimate aim is really important.

**The Minister for the Environment:**

All I can say is, I very much look forward to the results of your review because if you feel very strongly that we need more resource to cope with the K.P.I.s and make sure we are doing the job even quicker or better that would be welcome or helpful.

**The Deputy of St. Mary:**

I think resource really concerns the panel on other things too, other aspects.

**The Minister for the Environment:**

The Environment Department's part of wider government but in the Environment Department we made, as you all know very well from the figures, considerable savings over the course of this M.T.F.P.

**The Deputy of St. John:**

That is why I am concerned.

**The Minister for the Environment:**

We have had to do that by identifying where we can reduce the source and savings and efficiencies. I am not going to go there. Would we like to have enough money to resource this plan better and do more? Absolutely. Have we had to mix in with everything else and say, you know: "We have got to make efficiencies across the board", yes, we have had to and balance it up. Maybe we should look at putting a bit more resource in but I would like to think that we would do that in conjunction with the industry and in conjunction with Jersey Water. With Jersey Water, at the end of the day, they are a business making money out of selling water to the people. If we help them to spend less money and make more profit ... it is a 2-way street.

[16:00]

The 2 of us need to work together more. We are looking to Jersey Water for some help in resource. Maybe you will help us to acquire a little bit more additional resource as well. In between the 2 we will solve the issue.

**The Deputy of St. Mary:**

One final point from my point of view is the nitrate free agriculture, that is growing crops through compost, et cetera. That is more a subject for the R.E.S., I do not know. But is that an area you are considering or developing or pushing?

**The Minister for the Environment:**

Let us just talk about organics to start with. There is a part of the R.E.S. that deals with organics. We have an organic action plan, which we funded some years ago. We have targets for the organic industry. I would love them to work more together and I have said to them on a number of occasions: "We will help you to get more for your crops so you will receive more money for your business." At the moment 3 per cent of our land is organic. I would like to see that doubled. But I realise it is not for everybody, and the Constable will testify to that. Growing Jersey Royals organically is something that can be done. There is a small market for it but I do not know if we converted the whole Island to organic Jersey Royals whether we could sell them all. I do not know what the yield would be. There are some challenges. Certainly one has to put your hand up and say organics ticks a lot of the boxes that we are trying to achieve. Obviously there are no pesticides so pesticides are reduced; there are no nitrates so nitrates are reduced. It increases biodiversity, it helps wildlife, it ticks lots of boxes. But I think we need to be realistic, the dairy industry would not be the dairy industry of today if it was organic and the arable industry would be the same. In all instances we need to be able to do a bit of both. But we should have more organics. I said only this week to the Council of Ministers. I am looking at the land that the States owned and the Crown own and looking to see whether we can increase the percentage, but government have a policy of reducing nitrates and pesticide and we should back that up by saying where we own small bits of land - and we do not own as much land as I thought we did - but where we have bits of land maybe we should be saying to our tenants: "Okay, in return for a reduced rent we will expect you to farm the land organically." Organic farming ticks a lot of boxes where some of the directions of travel we have the Environment Department. But we need to recognise that the agricultural industry on the Island would not be the same if we were all organic. So we balance the 2, we move along. But there are outlets for organic produce, Waitrose particularly are very keen to take local produce, local organic produce. We will do all we can to help local organic farmers market into those supermarkets. We put money into Woodside Farms pack house last year specifically so that a whole range of Jersey farmers have access to the supermarkets. One of the secrets, in my view, to making more money off organics is for the organic farmers to work together more closely to identify markets that they can fulfil as a group, which they cannot fulfil as individuals. That is the secret. If you can get a consistent order for a reasonable large amount of produce you can see some targets, you can see some prices, you can see a marketing programme coming down the line. But they will only do that by working together. We have said to them: "We will help you to make more money out of your produce but you need to talk to each other more."

#### **Head of Plant Health:**

I think they need to be more commercially focused and more organised between themselves. There is definitely a market here for more organics. I think they can double and probably triple the area that is growing but they need to approach it in a more business-like fashion, to be honest.

There has been more financial support area for area put into organics consistently for the last 5 to 7 years than all the other sectors. There have been adlib payments as they have gone along. In the new Rural Economy Strategy if you have organic status you go straight into the top level of the scheme. There are far fewer hoops to jump through.

**The Deputy of St. Mary:**

So incentives in there then?

**Head of Plant Health:**

Absolutely. But I think the ball is back in their court now to perform.

**The Deputy of St. Mary:**

I am conscious of the time factor. This hearing in no small part for the benefit of our advisers. Have you got any more questions you want to ask of the assembled company?

**Panel Adviser:**

I think that has been very comprehensive.

**Panel Adviser:**

I think the Minister and his 4 officials have given clear, helpful and comprehensive responses and from my perspective I have got no additional questions.

**The Minister for the Environment:**

We will provide the data that we can find on nitrates and seawater.

**The Connétable of St. Saviour:**

Can I just ask one more about this lettuce because it does keep coming up? Do you think oysters could save the bay?

**The Minister for the Environment:**

Oysters will take nutrients out of the sea, mussels would take a lot more nutrients out of the sea. St. Aubin's Bay is certainly a very multi-use area and whether oyster tables or mussel poles could interfere with marine activity, I suspect it would. We have got a lot of saline. So that is a problem on its own. Could we save the day? I suspect we would have to have an awful lot of oysters in the bay to really make a difference. But certainly we know oysters filter water and mussels filter a lot of water and they take the nutrients, they use the nutrients to grow. I just put on record there is an initiative to plough furrows in the sand and there is an initiative to put oysters in the bay to help solve the issue. I have been to the person concerned on both occasions and said: "I am in no way

against these initiatives coming forward” but the oyster one in particular would be a commercial opportunity, and if the numbers that we were presented with were true there is a lot of money to be made. I do not see, if there is a good potential for profitmaking opportunity, why Government should be putting money into it. But I have indicated to the people concerned if they want to make an application I would be very keen to see it and I would help to move it forward. But I do not think it is the Government to put monies into growing commercial oysters.

**The Deputy of St. Mary:**

Thank you. I think we are all done on this side. May I thank you, Minister, and all your colleagues for your help and our advisers for listening?

**The Minister for the Environment:**

If there is anything more we can do we will be only too delighted and we look forward very much to your review because we can only ... hopefully it makes our work better.

**The Deputy of St. Mary:**

I declare the meeting closed. Thank you.

[16:07]