

Environmental Audit Committee

Oral evidence: Water Quality in Rivers, HC 74

Wednesday 23 June 2021

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Members present: Philip Dunne (Chair); Duncan Baker; Mr Robert Goodwill; Helen Hayes; Caroline Lucas; Cherilyn Mackrory; Dr Matthew Offord; Claudia Webbe.

Questions 200 - 285

Witnesses

I: Sir James Bevan, Chief Executive, Environment Agency; David Black, Interim Chief Executive, Ofwat; and Nick Harris, Acting Chief Executive, Highways England.

Written evidence from witnesses:

[Environment Agency](#)

[Ofwat](#)



Examination of Witnesses

Witnesses: Sir James Bevan, David Black, and Nick Harris.

Q200 **Chair:** Good afternoon and welcome to the Environmental Audit Committee for the fourth oral evidence session in our inquiry into water quality in rivers.

I am pleased today that we are joined by the chief executives of three of the public bodies responsible, in differing ways, for this subject. I would like first to invite our witnesses to introduce themselves and their responsibilities.

Sir James Bevan: I am James Bevan, and I have been in the role of chief executive of the Environment Agency for the last five years.

David Black: I am David Black, interim CEO of Ofwat. I have been in post since 1 April this year. I have been at Ofwat since 2012. Ofwat is the economic regulator for the water and wastewater sector in England and Wales.

Nick Harris: I am Nick Harris, and I have been the acting CEO of Highways England since the beginning of February this year. I have been at Highways England for nearly five years. Prior to taking on this role, I was the executive director of operations.

Q201 **Chair:** Thank you all very much indeed.

I am going to start the session by asking some general, scene-setting questions before handing over to other members of the Committee, who have some more specific questions. I will exercise the Chair's privilege and jump in occasionally on some of the other questions, and then come back with some rounding-up questions at the end.

I will start with a question to you, Sir James, in relation to the Environment Agency. You have not been in post for the 25 years since it was formed, but it was established with a statutory function to enhance the freshwater environment. From all the information that has been made available to us, the agency is not doing a very good job at that in that only 14% of English rivers have achieved good ecological status and, by other measures, none of the rivers in England achieves the sort of status that we would all like to see. Why has the Environment Agency not made progress in improving the water quality of our rivers?

Sir James Bevan: Thank you, Chair. Can I also thank you and the Committee for inviting me today, because I do think this is a big and important issue.

First, a word of context, if I might, just to set the background to the state of our waters, and then let me answer your question directly.

If I had to use one word about the state of our rivers it would be "flatlining". They are in much better condition, in many respects, than they were several decades ago, but the situation is not nearly as good as it should be. Over the last few years, progress has stalled and I am



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happy to talk about why I think that is, but I think we should start with the good news.

Overall, water quality in our rivers is much better than it was 20 or 30 years ago. I will give you a few examples. Sewage treatment works, which I am sure we will come on to later, are now discharging far less phosphorous, 67% less, and far less ammonia, 79% less, into rivers than they did in 1995. That matters because those pollutants kill wildlife. Since the 1990s, there has been a big increase in the number of macroinvertebrates—snails, those sorts of things—in rivers, which indicate the improving health of our waters. The number of serious pollution incidents that the water companies cause—and I am sure we will come on to that—has been reduced dramatically from over 500 in the early 1990s down to one tenth of that in 2019. I will add that the bathing waters on our coasts, which I am sure we will also get on to, are in the best state they have probably ever been. In 2019, for the first time, more than 70% were rated excellent. If we had done that rating two decades ago, most of them would have failed outright to meet even the minimum standards. Many people deserve credit for that. The Environment Agency is one group of people, because of our regulatory and other work.

However, there is bad news and I am not here to deny it. Water quality in our rivers is flatlining and as you said, Chair, our latest assessment of all the water bodies in England shows that only 14% of rivers meet the criteria for good ecological status. There are complex reasons for that, and there are complexities within that analysis. While only 14% of rivers meet the criteria for good status ecologically, within that there is quite a lot of complexity. If you take biological status, which is one element in that classification, over three quarters of our rivers are at good status for things like invertebrates. For physicochemical status, things like temperature, pH, dissolved oxygen, most rivers are up to good status for ammonia and dissolved oxygen. On the other hand, chemical status, which is the concentrations of specific things like arsenic and iron in water, our last results show that no—zero—surface water bodies met good chemical status. That is a significant drop from the last few years, due to the different way in which the EA is assessing and giving a more accurate picture.

So it is a mixed picture. Why is it happening? I think it is happening partly because of growing pressure on the water environment—developments, a growing population, climate change—and it is happening because the two main polluters, the water and farming sectors, are not yet, in my opinion, doing enough to protect and enhance the environment. It is also happening, partly—and I am sure we will get on to this—because the Environment Agency, for all the good work that I think we have done, has very limited resources with which to regulate those sectors as we would like.

Q202 **Chair:** We will be coming on to bathing water later, but you have just been referring to the good work that has been done on beaches. As far as I understand it, only one river has bathing water quality status and that



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is the River Wharfe in Yorkshire, and that only got it in December, and much of it is aspirational; it is only a small area that is achieving that status at the moment. I therefore think it is hard to say that the bathing water quality status of the rivers has improved.

Sir James Bevan: And I did not say that, Chair, but you are absolutely right. The only inland bathing water that exists is the one in Ilkley, which was recently designated. That will require, and it will get from the Environment Agency, a lot of work and attention to bring it up to the standard that is good for people to swim in.

Q203 **Chair:** You mentioned flatlining, and I think we would agree that, since the work that was done on chemical pollution to cut down industrial incidents, significant progress was made in the 1980s and 1990s. But since 2008, pollution incidents from water companies' sewerage assets are around the same level, and have been flatlining since then. You do not seem to have been able to improve conditions coming out of the water companies in the last 14 years.

Sir James Bevan: I have a different view. We publish annual assessments of the performance of water companies, the next one is due out in a couple of weeks, and I think the evidence will show that over the last couple of decades, not least because they have been pressed by the Environment Agency, the overall performance of water companies is improving, including reducing serious pollution incidents among various other things.

To give you a sense of that, the latest environmental performance document, which is coming out shortly, will show the lowest number of serious pollution incidents from water companies that we have yet recorded, down from where it was last year. It will show that more water companies are now at the highest level of performance, what we call four-star performance, in terms of complying with the key requirements to protect our waters, and it will show improved performance on most of the metrics that we use to assess whether those water companies are complying with their permits.

That is not to say that every water company is doing well. Some of them are doing extremely badly, and we will name and shame them when we publish the report.

That is not to say that it is good enough because one serious pollution incident from a water company is one too many, so we need to keep going, but I think the record shows improvement by the water companies over time.

Q204 **Chair:** We will get into the enforcement role and the resources available to you, which you have touched on. But surely your calculation of performance has to be based on the ability of the Environment Agency to monitor what is happening within the water companies' sewerage assets and, at the moment, the only thing you have to rely on are individual testing by your staff visiting water companies, self-reporting by water companies of the material that is emerging into the river system from



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their plants, and the event duration monitors. You are not testing water quality in the receiving waterways, are you?

Sir James Bevan: Again, I will have to disagree with you, Chair, with regret. We do monitor, as you say. We monitor in various ways. We do about 9,000 sampling visits a year to about 13,000 different locations, and that gives us about 1.5 million bits of data. We get that from field observation and laboratory analysis. There is a lot of monitoring going on. Some of it is done by the water companies, but it is audited and checked by us, so we have faith in the data. Quite a lot of it is done by us. But we don't just monitor; we also visit locations where we know there are particular problems and we also inspect the water companies to make sure, on the ground, that they are giving effect to the conditions we put on their permits.

Q205 **Chair:** How many people do you have involved in inspecting water companies?

Sir James Bevan: That is the question I was afraid you were going to ask me, because the answer is quite complicated. We do not have very many people—it would be in the low hundreds, and I will see if I can get you a better number and write to you—who are dedicated, full time, to monitoring the water companies. What we have is a much larger number of people in the Environment Agency who spend some of their time on activity that is about oversight of the water companies or making sure they stick to the terms of their permits. We can get numbers, our estimates, of full-time employees, if you like, but the key point is that given the length of the river systems in this country, having only a few hundred people to oversee them is a pretty tall ask for the excellent staff that we have doing those jobs.

Q206 **Chair:** Do you know how many combined sewer overflows there are across the network in England?

Sir James Bevan: Yes, about 15,000.

Q207 **Chair:** And you make about 9,000 inspections, so you are inspecting just over half of the sites, once a year, on average.

Sir James Bevan: Not necessarily. As a regulator, we try to be risk-based and proportionate, and prioritise those areas or issues that we know are likely to cause the biggest harm to the environment. The first thing we have done, as you know, is work with the water companies to put event duration monitoring in place on those sewage overflows, 15,000. About 12,000, 80% or so, now have EDM monitoring, and we will have all of them covered by the end of 2023. That is the first intervention. That has given us and the water companies much better data about what is happening and when. It allows us to make targeted interventions with the water companies. We will also go and inspect, both randomly and where we think there is an issue, both what the water companies are doing at their sewage works and what may be happening at any of those sewage overflows, or at any other place in any of our river networks where there appears to be a problem.



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Q208 Chair: These data do not tell you anything about the quality of water when untreated sewage is released into the waterways, which is permitted under many of your licences, under exceptional circumstances. We have seen increasing evidence, not least from the EDM devices that you have mentioned, of large numbers of incidents of long duration. These incidents have become routine rather than exceptional, have they not?

Sir James Bevan: The short answer is that we think you are right, although we do not yet have definitive data. Over the last several decades, those combined sewage overflows—which are designed, as you know, to overflow when there is heavy rainfall and there is a risk of sewage backing up into people’s homes or into the sewage treatment works—are spilling more frequently and spilling larger volumes. We think that is likely to be happening because there has been more development and therefore more people and therefore more sewage, and because climate change is causing more violent weather and therefore more rain and heavier rainfall events. We are pretty sure that, when the data is in, we will see that over time there are, exactly as you said, greater volumes and greater frequency of spillage.

I am being slightly cautious because we are an evidence-based organisation, and at the moment we do not have a long enough period of data from the introduction of these event duration monitors to give us more of the certainty that we would like. In addition, as you said, the EDMs themselves do not measure volumes. They measure frequency. We know the frequency, and we will have a better picture of the frequency over the next few years, but for the volumes of what is spilling we need to have conversations with the water companies, which we are.

The short answer: what you described is probably happening; those overflows are probably spilling more frequently and in greater volume. We do not yet know that, but we suspect it is the case. What we are doing already is taking action with the water companies to tackle the problem.

Q209 Chair: I think one of the actions you have taken is to ask the water companies the location and the number of sewage overflow assets that they have. Has that question been asked recently?

Sir James Bevan: We already know what they have, because every one of those 15,000 combined sewage overflows needs a permit from the Environment Agency. Those permits are site-specific, and they set specific conditions under which those outflows can spill. So we know that.

What we have done recently is get in touch with the water companies to say that we want to make sure, first, that they know what is happening, and are monitoring very carefully what is happening on their CSOs, that they are taking action when they see CSOs triggered frequently, and that they are satisfied that they really are getting the data in the way they are required to do under their Environment Agency permit. We have told the water companies that they need to step up their game in terms of paying



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attention to what the monitoring is showing them. We are also making that discussion about EDMs and what the water companies are doing to monitor and address sewage overflows a part of the annual conversations that we have with the water company chief executives, which are happening right now, to assess their performance.

Q210 **Chair:** Some of these things are being addressed under the sewage management and treatment plans in the Environment Bill, and we will come on to the need for additional legislation in the course of the discussion.

I would like to turn to David Black initially, and then the same question to Nick Harris, and ask how you are factoring climate adaptation and biodiversity protection into the work of your organisation.

David Black: As part of our strategy we set out in 2019, we emphasised three things. One was to transform company performance. The second was to address long-term issues, including the pressing issues of climate change, working collaboratively with stakeholders. The third was to demonstrate and deliver greater public value. That gets to the points around looking at solutions that improve outcomes for customers but also improve outcomes for the environment. There are many things that companies do where there are win-win opportunities, so we are keen that companies exploit these to the maximum.

Chair: Thank you, and a similar, commendably concise answer from Nick, please, as to what Highways England is doing in relation to climate adaptation.

Nick Harris: Briefly on design and operation of our roads, Highways England looks after, operates, maintains and improves the strategic road network, so the motorways and A-roads. We have the design manual for roads, and since 2004 our design manuals have been taking climate change into account. In addition, we work closely with the Environment Agency on mitigating and preventing flooding.

The other area that is incredibly important to us, and is part of our ongoing strategy, is around the environment and biodiversity. In this five-year period, we are committed to no net loss in biodiversity, and that involves a whole range of activities that are related to climate change. We are now looking at how we may move in the next five-year period to net positive gain.

Q211 **Cherilyn Mackrory:** I want to ask a set of questions to drill down a little further into the monitoring that the Chair has already touched on. The EDMs show the frequency of sewage spills, but they sometimes fail to detect how long spills have gone on for and the volume. Could you expand a little further? We know it is not perfect at the moment. We know there are failings at the moment. Could you explain what you as an organisation would like to see and how practically they could be introduced?

Sir James Bevan: First, we are pleased there is now 80% coverage of those 15,000 combined sewage overflows. As I said, our short-term goal



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was to get it to 100%, which we will with the water companies by the end of 2023. That will give us a lot more understanding of what is happening in those outflows. We also do a lot of monitoring ourselves, and I would be happy to unpack that for you if you would like. That is part of the response, better monitoring, so that we all know what is going on.

Another part of the response is just shining a light on what is going on. Although it has been quite uncomfortable for me and the Environment Agency, I welcome the fact that there is a big public debate about whether we can swim in rivers. I think that is a good thing, and it is good that we are being challenged on that issue.

I think the long-term solutions that we might want to get into are going to be quite complicated and quite costly because, although part of the reason for pollution in our rivers is to do with what the water companies are doing, most of the pollution that is coming from water companies into our rivers is not coming out of sewage overflows; it is coming from other day-to-day operations by the water companies. As you will know, because I know you did an inquiry on this a few months ago, a very large amount of pollution in our waters is not coming from the water sector at all; it is coming from the farming sector, and some of it is coming from urban sources.

There is a complex cocktail of reasons why our waters are not in the state that they need to be. In terms of how we tackle sewage overflows, we need a combination of better data—there is a saying that sunshine is the best disinfectant, and better data is a good thing, and we publicise the data so that everybody knows what is going on—and better investment, and I am sure you will want to get on to that in a moment. There already has been quite significant investment by the water companies. We would like to see a lot more, but investment is part of the solution in the short to medium term. Even better performance by the water companies. As I was saying to the Chair, although the majority of water companies, most of the time, abide very strictly with the terms of the environmental permits, they do not always do that and performance needs to be better, including in relation to sewage overflows.

Then there is a longer-term debate about whether, and if so how, we want to remove the source of the problem, which is these, frankly, Victorian-era combined sewers, which combine sewage and rainwater. As long as we have that system, we are going to have overflow and there is a debate to be had about whether, and if so how, we want to replace those systems. We can do a lot in the short to medium term to get to a better place.

Q212 Cherilyn Mackrory: Some of the statistics we have heard are quite shocking. We were told that at the Thames Water Mogden treatment works there was a spill of 240 Olympic swimming pools' worth of sewage in a single day, and that was not picked up by the existing monitoring. Could you comment a bit further and reassure people, or just explain and be honest, about whether that might be happening elsewhere as well? It is quite shocking when the public hear something like that.



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Sir James Bevan: In a system of permits there will always be times when something happens that is outwith the permit, usually accidentally. If we see evidence that a combined sewer overflow has spilled outwith its permit, we will check that with the company. Last year we identified 50 or 60 cases where we think that happened. I suspect there are more that we do not know about, and maybe that the companies do not know about, which is why we are pressing them to make sure they are satisfied that they are getting their own information from those monitors.

We will pursue examples where we see them. There have been several media reports. The *Panorama* programme and *The Guardian* have both covered some of the work of Professor Hammond and other very helpful interventions. We follow those up. The *Panorama* programme made some very specific allegations about certain water companies, and we have followed those up with the water companies. If we find there was non-reporting in contravention of their permit or that they breached their permit, we will take appropriate action.

At the other end of the spectrum, we are working with the water companies to try to eradicate the problem itself. You mentioned Thames Water. The Thames Tideway is a massive engineering project that will divert sewage that is currently coming out of outflows into the Thames all the way down to the east of London for treatment. That is something on which we are working very closely with the Thames Tideway and Thames Water, and that will be a massive intervention that will do a huge amount for water quality in the whole of the River Thames and for London. We are tackling both ends.

Q213 **Cherilyn Mackrory:** You mentioned how many people you have on the job at the moment tackling the monitoring. Could I ask you how many were in that role six years ago? If the Government could wave a magic resource wand, how many do you think you need to be able to do this job properly?

Sir James Bevan: The answer to your first question is that we have a lot of very experienced and very committed people who really go the extra mile. While I think it is perfectly fair for people to have a go at me about water quality—that is what I am here for—I get angry when I hear criticism of them, because they work really hard within the resources and the powers they have, and they do a fantastic job. Most of them will have been with us for many years. I am fairly sure that most of the people who work full time or most of the time in the Environment Agency on water quality have been with us for a long time. They are extremely experienced, they are very professional and they are very dedicated.

How many more would I need? We can always do more with more, although I need to emphasise that our resources have gone down quite significantly in the last 10 years in terms of our ability to tackle water quality. If you want a figure, the grant that we got in 2010, which funded all the Environment Agency's environmental work, including much of what we do on water, was £120 million; last year it was £40 million. That is a two-thirds cut in the grant that funds much of the work we are



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talking about. Although we have, rightly, made efficiencies and innovation—which I do not think we should shy away from, as I think everyone should be challenged to do better with less—it has had an effect on our capacity to monitor, to enforce the rules and to help improve the environment where we think it needs doing.

Honestly, I would like to see that grant restored. I would like to get back to where we were 10 years ago, and I think it would make a massive difference, both in the numbers of people that we could have on this job but also in some of the hardware. We need to reinvest in better and more modern monitoring. We use quite a lot of the money that we have to support projects that improve water quality in rivers in various ways. I would like to do more of that as well, and I would like to do more surveillance of the water companies.

Q214 Cherilyn Mackrory: If I could change tack slightly, you mentioned the *Panorama* programme and the work that Professor Hammond has done. If I could talk about the combined sewer overflow permits, which are issued and should be used when we have excessive rainfall, one of the loopholes is that the amount of rainfall is not specified. Should the Environment Agency be specifying what constitutes exceptional rainfall?

Sir James Bevan: Yes, it is a very good question. You are absolutely right. The permits do not specify what exceptional rainfall means. There are technical reasons for that, which is that various people would argue what “exceptional” meant or even what “rainfall” meant. The permits are explicit that both rain and snowmelt are factors. They are explicit that there is a set limit that must be exceeded before those CSOs are allowed to spill. That is essentially the limit of the treatment that the particular sewage works can handle at any given moment. They are explicit that water companies need to have monitors on them and that they need to report the data from that monitoring to the Environment Agency.

My view is that the permits themselves are okay. They do the job. The big issue is investment by the water companies to make sure there are fewer spills and that the water companies pay more attention to what is happening in those overflows. I think there is a cultural issue in parts of the water sector. It is getting better, but it is not yet where I would like it. Frankly, some companies are more interested in serving the public and getting on with the day-to-day business than they are in protecting the environment, and I think that protecting the environment should be just as important to a water company as delivering good, clean drinking water to the public.

Cherilyn Mackrory: I could go on, but I will not. Thank you, Sir James.

Q215 Chair: Before I move on to Duncan Baker, I would like to pick you up, Sir James, on the point about permitting. You referred to rainfall and snowmelt being counted but, as I understand it, groundwater infiltration is not a reason that is accepted as part of the permitting to allow overflows. In the information that you released at the end of March, according to the figures that came to you from the water companies, 295



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of the overflows dumped untreated sewage for over 90 days in a row, which must have been an indicator of groundwater infiltration because we did not have 90 continuous days of rainfall or snowmelt during 2020. Surely this must have come from groundwater infiltration. Did you investigate the 295 occasions where that happened?

Sir James Bevan: We always try to have a targeted and proportionate approach to investigation. Where we have reason to believe that there has been a serious violation of a permit, or that non-compliance with a permit has had significant environmental effects, we will always pursue that. I cannot tell you exactly how many of those 295 we pursued, but I can tell you that those that were serious, either because we thought that the company was failing to comply with its permit or because it affected the environment, we will have followed up.

Q216 **Chair:** Could you write to the Committee to give us an overview of those specific incidents, because it does not seem to be in accordance with the permit?

Sir James Bevan: Of course.

Q217 **Duncan Baker:** This is a fairly short question to Sir James. First of all, I am very glad that the *Panorama* programme is being followed up, because I think anybody who watched it will recognise how serious and quite worrying it was.

I represent a very rural constituency, and there is a great deal of agriculture in it, so this is an area I am particularly interested in. We know that pollution is coming from urban areas as much as agricultural areas, as you have just said to Cherilyn. How much of a factor is it? The old adage is that if we cannot measure it, we cannot manage it. Therefore, are we able to measure it and are we able to tell quite what an issue it is? If we can, what are we doing about it?

Sir James Bevan: The first thing is to give you the figures that we have in terms of what kind of pollution is impacting on water bodies. The figures that we have are that farming and rural land management is impacting, in some way, about 45% of our water bodies—and that, as you rightly say, is mostly through diffuse pollution, which is very hard to trace and to deal with—and 44% of water bodies are being impacted by the water and sewage companies. That is mostly point source pollution, including treated sewage and the untreated sewage that sometimes comes out of overflows. Urban and transport pollution, which I am sure we will get on to in a minute, is impacting 18% of our waters. Statistically, the largest sector that is impacting our waters, in one way or another, is the farming sector.

That is not a criticism of farmers. Most of the farmers I have met work incredibly hard to protect the environment, and they regard it as part of their duty. But there are exceptions, and we know there is a lot of diffuse pollution coming into our waters as a result sometimes of accidental things that are happening on farms, sometimes lack of investment in things like slurry tanks, but it is still happening. We need to tackle that,



too, and in a way it is harder to tackle both the farming pollution and the urban pollution—because they are diffuse, coming from many sources, some of which are impossible to identify—than it is to tackle this pollution that tends to come from water companies, none of which means that we should not tackle all of them.

Q218 Duncan Baker: The problem will surely be that a lot of the practices were started tens of decades ago. The pipework that is laid beneath the ground, which helps to drain the land, is all flowing straight into a lot of our natural streams. I remember walking along delivering leaflets a while back and I was quite astounded—obviously we had had a very wet winter—by how much water was running into a stream where I was. I was talking to the farmer about the amount of pipework lying underneath the ground that helps to do that. Of course, these were put in 50-odd years ago. Roll forward to today and we recognise that what that is feeding into the watercourse is, as we have just said, probably not at all healthy. How we undo that is very difficult.

Sir James Bevan: Yes. The first thing to say is that I think farming is cleaning up its act. The statistics I quoted at the start in terms of fewer phosphates, less ammonia, fewer nitrates in the water, that is not just down to the water companies. A lot of that is down to farmers using better fertilisers and farming in more environmentally friendly ways. I want to recognise that.

Like you, I have visited a lot of farms. I have a lot of sympathy for farmers; it is a tough life. A lot of it is down to lack of investment. It is the fact that the farmer cannot afford to invest in a new slurry tank that increases the risk of that tank rusting and breaching and the slurry going into a watercourse. There may be solutions, because one of the exciting things about the fact we are outside the European Union now is the fact that we can have a new agricultural policy in this country that is better than the failed common agricultural policy. We strongly support the Government's new approach, which will be to pay public money to farmers to deliver public goods, including protecting the environment—that is a good thing—and potentially investing in new infrastructure on farms that will both benefit farm businesses and reduce the risk of environmental harm.

Q219 Caroline Lucas: Sir James, according to analysis by Professor Peter Hammond, there could be 10 times the number of permit breaches that the agency has identified and prosecuted. My first question is a very basic question about why the Environment Agency fails to take robust action against serious polluters.

Sir James Bevan: As I said earlier, I am sure there are spills from CSOs that neither we, the Environment Agency, nor, frankly, the water companies are always aware of. We are working with the water companies to ensure we have better monitoring. When we see evidence of such spills, we will always pursue them.



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We do take robust action. We have a range of weapons in our tool bag. We will always make a judgment about two things when we see that a water company has failed to abide by the terms of its permit. The first thing is intent. Was it an accident or was it deliberate? If it is deliberate, we will be much tougher in response. The second judgment is: has this done significant harm to the environment? If it has, we will also be tougher in our response.

To give you some numbers, over the last five years, between 2015 and 2020, we prosecuted the water companies 42 times and won. That got us fines of about £35 million. Although we would like to see higher fines, it is, nevertheless, a good start.

The other thing that we are doing increasingly as an alternative to prosecution is accepting what we call enforcement undertakings, which is where, instead of prosecuting a company, the company will volunteer to clean up the damage it has done by paying money, usually to a local NGO, to fix it. We use that because it gets a solution more quickly. It puts the money back into the environment rather than into the Treasury, which is what happens when you have fines. In the last five years, we have accepted 59 of those enforcement undertakings, but we will only accept them in less serious cases. For serious or deliberate pollution, we will always prosecute a company.

Q220 Caroline Lucas: I would still come back to a factor of 10 being no small amount. You prosecuted 174 breaches by water companies between 2010 and 2020 across more than 1,000 sewage treatment plants, which was a rate of about 17 a year. Yet Professor Hammond said there were over 2,000 potential breaches. To do 174 out of 2,000 is not very much. What concretely are you going to be doing? It is good to hear you say you are going to try to chase them down, but what concretely? Is there a role as well for real-time monitoring using technology? Would that help you?

Sir James Bevan: On the first issue, we work very closely with Professor Hammond. We respect his analysis and we use similar analysis, some of the same sorts of algorithms that he uses in his work, in some of our work. We have a regular and very fruitful dialogue with him. We take his evidence seriously.

However, we need to check out reports, and we will, as I said earlier, of serious violations or apparent violations of permits when we have good reason to believe those have happened. As I also said, if we find evidence of deliberate culpability or serious environmental harm, we will take the right enforcement action.

Q221 Caroline Lucas: What does it mean for the 1,800 that you are missing? Is that because they were not serious?

Sir James Bevan: Well, two things. First, we do not know that we are missing 1,800. We might be, which is why we—

Caroline Lucas: You just said that you have great respect for Professor Hammond's work, and that was his estimate.



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Sir James Bevan: They are mutually consistent statements. We do have great respect for Professor Hammond, but we also need to check, even when experts give us evidence.

Q222 **Caroline Lucas:** Did you check? Have you checked?

Sir James Bevan: Yes, we are working with Professor Hammond. As I was saying to the Chair, we have followed up some of the other reports that were not from Professor Hammond about those incidents. The first point is that we do need to check ourselves. That is not unreasonable for a regulator, particularly if we are going to take enforcement action.

Q223 **Caroline Lucas:** I am not convinced that you are doing it, though, Sir James. That is my problem. You have lots of very fine words, but that big discrepancy exists. There are plenty of other discrepancies. For example, there was a freedom of information request that showed that when the public were recording incidents that were a problem using the incident hotline, again only 3.6% of the complaints made by the public actually resulted in penalties. There is this big discrepancy between the number that are being reported and the number that you are prosecuting.

Sir James Bevan: That is true. What are the reasons for that? First, we need to check whether what is reported is actually true. Sometimes it will be; sometimes it won't be.

Q224 **Caroline Lucas:** Do you have the resources to do that?

Sir James Bevan: Well, I am just about to get to that, if I may. Secondly, we need to make a judgment, when we know that something has happened that is outwith a permit, about the severity of that event, whether it has severely affected the environment, whether it was deliberate or not. That will produce different reactions. In some cases, if it is a minor, accidental release that has done no environmental harm, then, of course, we will not be prosecuting. We will talk to the company and seek assurances that they are taking steps to prevent it happening again. If it is a very serious spill with culpability, we almost certainly will be prosecuting. So, there is a triage there.

Caroline Lucas: Are you following up—

Sir James Bevan: To answer your final question—well, yes, I just said so. We are following up—

Caroline Lucas: I want to know whether you have the resources to follow it up.

Sir James Bevan: I am just about to get to the resource question. You are absolutely right to ask it. Do we have enough resources to do all that we want to do? No. I quoted some figures earlier about the drop in our main environmental grant from the Government. That has to pay, among other things, for most of our monitoring or a lot of our monitoring. It is about whether we know what is going on. It has to pay for all of our enforcement work, including prosecution, and it has to pay for much of



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our reaction to environmental incidents, such as spills from CSOs. Resources are a factor. We are doing—

Q225 Caroline Lucas: Which of those are you not doing? Is it that you do not know what is going on, that you are not able to follow them up or that you are not prosecuting them when you do follow them up?

Sir James Bevan: I think it is probably a combination of all of those things. We will always do the best we can with the resources we have. Our people are incredibly committed and will always go the extra mile, but we do not have as much resource as we used to and that is having an effect on our ability to understand what is going on and to take action against those who are failing to abide by their permits and to work with others to remediate the damage.

Q226 Caroline Lucas: How often are water company sewage works and large farms visited and inspected by agency staff?

Sir James Bevan: That will depend. On farms there are particularly striking statistics. Again, because of the reduction in our grant and because most farming is not regulated and, therefore, we do not get income from the cost of regulating farms in those cases, we have been able to do fewer and fewer farm inspections over the last several years. Right now, at least last year, we had sufficient resource that would allow us, in theory, to visit every farm in Britain less than once every 200 years. That is not a great disincentive to a farmer to stay on the right side of the line, so there is an issue about resourcing and about the overall regulatory framework for farming.

On the water side, we have more resource there because quite a lot of the resource that we have for regulating water comes from the charges that we levy on the water companies for the permits that we give them. Those regulatory charges are not allowed, under Treasury rules, to be used for much of the activity that we need to do to monitor, enforce and react to environment incidents. The amount of money for that has gone down substantially over the last few years. Although we are trying to stretch it and there is lots of innovative work that we are using, it is having an effect on our ability to know what is going on and to react effectively to it.

Q227 Caroline Lucas: Do you have an idea that you could share with us about what you think is an appropriate level of inspections? Is it fair to say that you would say it is quite unacceptable that, in some areas, inspections have effectively been abandoned because of a lack of resources?

Sir James Bevan: I would not say that we have abandoned inspections, because we haven't. What we are doing, which I think all good regulators do because there would never be an infinite amount of resource, is targeting our inspections and our actions against those sites or companies that we know to be poor performers. We know who they are and in the environmental performance assessment that we issue every year, which I mentioned earlier and which will come out shortly, we name



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and identify the behaviour of the nine key water companies. Some of them are doing well; others are doing very poorly.

The first thing we do is focus more on the poor performers than on the good performers. That is a sensible thing to do. The second thing we do is focus our limited resources on those assets or those incidents where we believe there is the biggest risk of environmental harm. We have not abandoned inspections. We are targeting those inspections where they can do the most good within the resources that we have.

Q228 Caroline Lucas: How would you respond to the figure about court actions against polluters having fallen by 98% from 235 in 2002 to just three in 2020? I appreciate what you were saying earlier about there being other enforcement mechanisms but, none the less, court action against polluters falling 98% is pretty worrying.

Sir James Bevan: Yes. There are a bunch of reasons for that. One is resources. As I was saying, the grant that we get from the Government has to pay for our enforcement, including our prosecution activity, and as that has gone down we have been able to do fewer prosecutions. The choice of using enforcement undertakings as an alternative to prosecution is not a response to less money, it is what we think is a better way to deal with certain kinds of violation. Where a water company has done something accidentally, rather than deliberately, that has not done significant damage to the environment, confesses, apologises and is prepared to offer to make good the damage and persuade us that it has measures in place to avoid it being repeated, then an enforcement undertaking is a much better thing for the environment.

Q229 Caroline Lucas: I take that point, but can I put it to you that on the one hand we have court actions falling by 98%, and if you look at the use of enforcement undertakings, it is not the case that they have taken up that slack in any significant way. We had zero enforcement undertakings in 2011. They went up to only 31 in 2020, so there are still a huge number of cases here that are not being pursued by enforcement or by court cases. I put it to you that the system is broken, that you are being given a job that you simply do not have the resources to do, and that is what you are in the unfortunate position of having to defend.

Sir James Bevan: We will always do the best we can with the money that we have, and we are prosecuting. When we prosecute, we almost always win, and we will continue to do that.

There are a couple of other things to say about this, though, because it is really important. The first is that I suspect one of the reasons you are seeing significantly fewer prosecutions is not simply that the Environment Agency has less resource with which to prosecute but that, as I was saying at the start of this meeting, water company performance is generally improving. We have the numbers, and I quoted them at the start. There are significantly fewer serious pollution incidents caused by water companies than there were a few years ago. That is a good thing, and that will partly be the reason why you are seeing fewer prosecutions.



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The other thing I would say about prosecutions is the fines are not big enough. Even the biggest one, which we secured against Thames Water of about £20 million, is peanuts compared with the daily turnover of a company like Thames Water. We don't control the amount fined, which is a matter for the sentencing guidelines. It is good that courts have started to impose higher fines than they were a few years ago, but we would still like to see, frankly, eye-watering fines for water companies. Until they are big enough to concentrate the minds of boards, we will not have the effect that we want.

Q230 Dr Matthew Offord: Sir James, from your response to the last questions, I am not entirely convinced that it is all about resources holding you back in many ways. You said there have been 59 examples of where an organisation has committed a sin and has rectified it through apologies and remedial works, and that works better for you than fines that go straight to the Treasury. Is it just resources, or is there anything else that is holding back the EA?

Sir James Bevan: It is a good question. I do not think we are held back by a lack of commitment, because we have some amazing people who really do go the extra mile for the communities they serve. I do not think that, in relation to water, we are held back by the regulatory framework because there is a robust regulatory framework. We could argue about the margin but it is robust. I do think that resources are a factor, but I am not here to make excuses.

I also think that culture is a factor. We have talked a bit about the culture of water companies. Although I think it is improving, I would like to see every chair and every chief executive thinking that protecting the environment is as important as producing drinking water, and that is not yet the case.

I also think that we are, all of us—and this is not just the Environment Agency, it applies to everyone who is trying to deal with this issue—facing bigger challenges because the climate emergency is driving more extreme weather, which is damaging our waters, and because we live in a country where there is an immense amount of pressure on water from population, industry and farming. That pressure is only going to rise.

There is a whole cocktail of issues, and we are a key player in that but not the only one.

Q231 Dr Matthew Offord: You mentioned that resources are not an issue, but you are probably not aware that the Environment Agency is responsible, alongside Barnet Council, for a SSSI in my constituency, the Welsh Harp. I asked a written parliamentary question on that when the trash screens there were supposed to be cleared. That is the Priestley Way trash screen that sits on the River Brent and the Edgware auto-trash screen that sits on the River Silk Stream. The information came back that it was cleared once a week. I was there three weeks ago and it had not been cleaned for weeks and continues not to be.

While I do not expect you to have an answer to that specifically—I have



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put down more parliamentary questions—why is that kind of work and enforcement not occurring when the response given to me by the Minister, presumably supplied by the EA, was that this is cleared once a week? You said it is not resource and it is not a lack of commitment, but clearly you are not undertaking the works that you are supposed to do before you even look at the works of the water companies and others.

Sir James Bevan: I didn't say that resource was not an issue. I think resource is an issue, but I said it is not the whole issue. I do not know about the issue you are talking about, but I would be very happy to follow it up for you personally if your office wants to get in touch with mine.

As a general principle, we clear trash screens in rivers and we remove obstacles in rivers, particularly when we think there is a threat of flooding because our top priority is the protection of lives. We do that—I know because I go out and see it on a regular basis—whenever there is a flood risk, or as part of our routine maintenance we will be clearing trash screens and we will be making sure that obstacles in rivers are taken out. We have a commitment to do that on a regular basis, and we have the resources that allow us to do that on a regular basis. If we fail to do it on a particular occasion where we have committed to do it, I will apologise and see what we can do to remedy it.

Q232 **Dr Matthew Offord:** Okay, so resource is an issue. If I misunderstood you, I apologise. If resource is an issue, what level of funding would you like to go back to? You may not be able to give the exact figure, but what period in time? Was it five years ago that funding was adequate? Was it 10 years ago? Or was it never?

Sir James Bevan: You can always do more with more, and I am not here to complain about budgetary discipline because we all know how tough things are in the economy. Every organisation ought to be constantly trying to do better with less. The Environment Agency is trying to do that, and I accept that challenge. In many respects, because we have had to cope with diminishing budgets, we have had to be more innovative. There are good examples of where we have done that and are delivering well with less. That is a good thing to be doing.

In terms of the Environment Agency's environment work, the two main sources of income are the charges that we apply to those we regulate—if a water company wants a permit, it pays us to get that permit and for the cost of our administering and checking that it is doing the right things—and the grant that I mentioned from the Government. There is an issue about both of those, because the income that we receive from the companies that we regulate is supposed to pay the full economic cost of the regulation of those companies, and in practice it doesn't. There is a question about whether we should be able to charge greater fees on those we regulate. That is a matter for Ministers and a discussion that we are having with Ministers.



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Then there is a separate question about the grant that we receive from the Government. The number I quoted, the key environment grant that pays for a lot of the work that we do on water, was £120 million in 2010 and £40 million last year. Whatever the right number is, it is not enough and I would like to see us get back to something like where we were 10 years ago.

Q233 Dr Matthew Offord: Okay. I feel we should let Sir James have a slight rest because he has been speaking a lot and has been on the spot.

Mr Black, in 2019 Ofwat fined Southern Water £126 million because it deliberately misreported the performance of its waste water treatment works. Can you explain to the Committee why it fell to Ofwat rather than the Environment Agency not only to intervene in this case but to take the lead on it?

David Black: The Environment Agency has responsibility for enforcing individual permits, but under section 94 of the Water Industry Act companies have a general duty to provide a sewerage system, and that is enforceable by Ofwat and the Secretary of State. This duty includes obligations on companies to effectively deal with sewage, including a requirement to treat it, and the offences of misreporting we take very seriously because our regime depends on the information supplied partly by the companies themselves. Where companies are systematically failing to meet that duty, we take enforcement action. That was the case with Southern Water, so we pursued it with them and, as you note, secured penalties of around £126 million.

Sir James Bevan: Without wanting to be a glutton for punishment, I just wanted to add that this is a really important question. The fact is that in relation to that Southern Water case, which is extremely serious for the reasons Mr Black has identified, we worked in lockstep with Ofwat. It imposed the penalty package that you referred to in 2019 with our full support. We are separately pursuing, and have been pursuing for several years, a criminal investigation into that case. It is in court now and we expect to hear more quite soon. So the Environment Agency has also been active, but in parallel with and in support of Ofwat.

Q234 Dr Matthew Offord: I want to raise another example. Only yesterday I took part in a Westminster Hall debate and the right hon. Member for Romsey raised an issue in the valley of the River Test. There has been a pollution incident there. There seemed to be, certainly from what I took away from the debate, some confusion about who would intervene in an example like that. The Test is a chalk stream. It is one of the most prestigious rivers in the world. Let us take that as an example if there was a pollution incident. Out of your two organisations, who would take the lead?

Sir James Bevan: It would normally be the Environment Agency, certainly operationally. We respond to environmental incidents. We have a report of an environmental incident once every 40 minutes. We respond on the ground to the most serious ones. If we had a serious pollution incident in the River Test, we would be there. The first job would be to do



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what we could do to limit the damage and remediate what was going on. Job two would be to find out what had happened and who was responsible, and if there was culpability we would take enforcement action against that individual or that company.

David Black: It would only be where this was part of a systemic failure by the company to comply with its licence that we would get involved in enforcing that.

Dr Matthew Offord: That is very helpful, thank you.

Q235 **Helen Hayes:** I want to turn now to the serious issue of fatbergs. Mr Black, we heard a lot in our previous session that fats, oils and greases are going down drains, congealing with plastic and causing serious blockages. What steps is Ofwat taking to encourage companies to engage with their customers to prevent blockages? It seems reasonably clear that the attempts at communication with the public on this issue are not as effective as they need to be. What further action are you taking?

David Black: It is an excellent point, and it is a very serious issue. We think customer behaviour has an important role to play. There are probably three broad issues in terms of customer behaviour that I think are worth touching on.

The first is around the customer behaviour itself. You are absolutely right that water companies have a responsibility to work with their customers and to do so in whatever ways are effective. That often requires different approaches for different groups of customers. We see that happening in the sector, and that is a good thing. There are questions about product labelling and the products themselves, which are questions that the Government are considering.

In terms of what we do to encourage companies to address this, the way we regulate is on an outcomes basis. We regulate, for example, the level of sewer blockages. Where companies have a high level of blockages, they will incur penalties under our regime. If they succeed in driving them down, they can benefit from that. We do not specify a particular course of action in terms of how many customer campaigns they run or what type of customer campaigns, but we focus on the outcomes that matter to customers, which is that they bear down on blockages. I would also make the point that there is certainly a case for action here that is outside the companies.

Q236 **Helen Hayes:** How much are blockages costing customers? Is there a case for recouping some of that cost from manufacturers of the products that are the source of the pollution?

David Black: That is an interesting question to consider. It is certainly something that we would welcome the Government looking at. There is a question about product labelling. Can we make sure that a product that is labelled as flushable is, indeed, flushable? Can we put clear warnings on products that are not? There is a range of activities that need to be taking place. If that kind of regulation was in place, would we see the



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products made of different substances so that they are truly biodegradable?

Q237 Helen Hayes: Do you have active work in this area when you are looking at the extent of blockages that the industry is having to deal with, and when you are looking within your regulatory role at who is responsible for causing those problems? Do you take account of which companies are engaging proactively with the issue, doing their best to make things clear, doing their best to influence and communicate with their customers, or are you taking a more passive approach to that question of manufacturer behaviour?

David Black: We do not deal with the manufacturers themselves. Our focus is on the water companies and what they can do to address the issue. That is our focus as the regulator of the water sector in England and Wales. We are regulating the waterways for the companies themselves, so our focus is on what they can do.

As part of their business plans that they present to us, they will set out the steps they are taking and the campaigns they are engaging in. Then we try to encourage, for example, where we have companies that are making successful approaches, how they can engage with the communities, how they can attract interest, how they can work with customers on this basis. Can you do it at a community level? How do you affect different behaviours among the customers themselves? Our focus is on the companies and their customers rather than the third-party manufacturers.

Q238 Helen Hayes: As you are looking at the financial settlements for each of the water companies, for example, are you looking at the level of cost associated with blockages, the extent to which each of those companies is communicating with their customers, the extent to which each of those companies is communicating with manufacturers?

David Black: No, as I say, we have tended to focus on the outcomes that the companies are going to deliver. We look at things like sewer blockages and sewer flooding, and we set the regime to incentivise companies to improve their performance on that basis. Then it is up to the companies themselves to choose whether they are going to spend more time proactively cleaning sewers or whether they are going to engage more with customers. As part of their business plans, they may well propose additional steps that go above and beyond what they would do, and we might set incentives around that. It would be a bespoke arrangement with each water company.

Chair: We will shortly be getting some questions for Highways England from Claudia Webbe.

Q239 Claudia Webbe: Before we get there, I will just ask Sir James. We have heard that there is a chemical cocktail of pollution, with a risk of antimicrobial resistance developing in sewage pollution. We have heard that in our Committee deliberations so far. How concerned should we be about this issue?



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Sir James Bevan: "Very" would be my answer. We should be concerned about what the media call forever chemicals—that is the group of chemicals that stay in the environment essentially forever, PFAS, which do not break down and can have adverse effects on wildlife—and we should be concerned about pharmaceuticals getting into the environment, which are causing antimicrobial resistance. On both of those we are working with the water companies, first, to understand the extent of the problem and the impact on water quality, wildlife and human health. We will also then want to have a conversation with the water companies and with others about what our response should be.

Clearly, it is a difficult issue because those pharmaceuticals and those chemicals come from very diffuse sources. They are quite hard to stop, but it is important that we have measures to reduce and, as far as possible, remove the effect they are having on water and the wider environment.

Q240 **Claudia Webbe:** When you say "very", I want you to underline this because it is quite important. What I understand is that if anyone comes into contact with this and contracts a disease, there is no cure. Is that your understanding?

Sir James Bevan: I cannot comment on that. What I can say is that there is evidence that exposure to these forever chemicals, PFAS, which have been around since the 1940s and which do not break down, can lead to adverse human health effects as well as adverse effects on the environment and on wildlife. The extent of that effect is still to be determined, but on the precautionary principle, if there is reason to believe there is or can be adverse human health effects, we need to take it very seriously.

Q241 **Claudia Webbe:** Given that seriousness, do you think the agency is doing enough to understand the problem and take action?

Sir James Bevan: "Yes" would be the short answer. This is a relatively new issue, both the PFAS issue and the AMR issue. We are working with the water companies, with Defra and with others to understand it better. Obviously, human health is not our responsibility, that is a matter for Public Health England and the local authorities, but if there is evidence of threats to human health in relation to waters that we oversee, then we will work very closely with those responsible.

Q242 **Claudia Webbe:** I am more interested in the action you take to prevent the issue because there is no point us dealing with the aftereffects if your agency can do something to prevent it from happening in the first place.

Sir James Bevan: The problem is that they are already here. This bunch of forever chemicals, these PFAS chemicals that have been around since the 1940s, are already out there in the environment, including in our waters. In a way, that horse has already bolted. We have a problem. The same is true in relation to antimicrobial resistance of pharmaceuticals getting into the environment, which has happened through sewage



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discharges and through veterinary medicines in livestock being turned into manure. That, too, is already out there.

You are right that, in looking to the future, you would want to make sure that future chemicals, future pharmaceuticals and future plastics, for example, which are also a problem in water, are all designed in ways that do not cause environmental damage. Right now we have evidence that what already exists may be causing that damage, and that is what we are focused on at the moment.

Q243 Claudia Webbe: Okay. I just wish you would have been able to outline the concrete actions to address the problem, beyond just being aware of it and discussing it with colleagues and other agencies.

Sir James Bevan: To give you a bit of reassurance, we do need to understand it and, as I say, we are not the lead agency in health, but we will work with those who are. We already do things to avoid further harm. As a small example, we work very closely with the fire and rescue services. We usually attend, along with them, large fires. When they put out fires, as you may know, they use this thing called firewater, which is water that has special chemicals in it that douses fires more effectively. Some of those chemicals are potentially harmful, so what we do if they get into the environment is work alongside the fire service when they are fighting fires to make sure that the firewater runoff does not get into a local watercourse.

We are taking action to avoid the problem getting worse, but we need to understand the source of the problem if we are going to tackle it successfully. We need to do that with the other agencies.

Q244 Claudia Webbe: I will move on to ask a couple of questions to Nick Harris. Highways England has recently commissioned research on microplastic pollution from road runoffs. What did it find?

Nick Harris: Thank you for the question. To perhaps give a bit of context before I get to the question, we have two kinds of discharge or runoff from roads. If there are incidents on the roads, we have critical pollution events that we deal with as incidents. I think what you are referring to is the intermittent discharge when there is rainfall that is washing off material that is on the roads into watercourses or soakaways.

I referred earlier to the design of roads being based on our design manual for roads and bridges. We did a lot of work, particularly in the period between 2000 and 2010, on understanding the pollutants that come from roads and the impact on receiving waters. At that time, microplastics was not an issue, so our approach is based on modelling the road, understanding the impact on the receiving watercourse and then putting in place measures to mitigate, so sustainable drainage, filter drains, vortex separators, reed beds and so on.

Of course, microplastics, as you said, have become an issue. We have been doing a lot of work to understand both their generation and their impact on watercourses. We have found a couple of things. One is that



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the existing measures we have in place are very effective at removing them: the vortex separators, the filter drains. Some of the other measures that we have put in place to mitigate against pollution from runoff from the roads are very effective at removing them. Of course, they are gathering, then, in the filter drains and that perhaps gives us another issue, but what we have in place at the moment does remove a high percentage of them.

Q245 Claudia Webbe: Would you say that those are your prevention mechanisms? What steps is Highways England taking to prevent microplastic pollution entering rivers from the strategic road network?

Nick Harris: To expand on that, what I am talking about is understanding how effective the measures are that we have already put in place and continue to put in place as we design improvements to the roads that prevent microplastics getting from the highway into watercourses. That is where we are doing a lot of research work with others, motor manufactures and so on, on how we can prevent microplastics from being generated in the first place. They are being generated from tyres and brake pads, and a certain amount is coming out in exhaust emissions.

We are looking at how we can prevent at source, together with manufacturers and others. I think that is absolutely the way to go. In the meantime, as I said, we have been looking at the effectiveness of the measures that we already put in place to mitigate against pollution. This is a newer phenomenon that we have been understanding, and what we are putting in place we have found is effective at removing them, so they are not getting into watercourses.

Q246 Claudia Webbe: Just to be clear, is that study complete?

Nick Harris: We have done an amount of research, and we are continuing to do research into this. Some of it is complete, but we are continuing to investigate and work at this.

I should also add that there is perhaps a wider consideration. I am talking about the measures that we have put in place since 2009 on road drainage. The designs that we have built when doing either improvements or new construction since 2009 are quite effective in dealing with this issue. We still have a legacy issue to deal with, and we are continuing to work on improving the highways that were built over the last decades and we have a large number of discharges that still need improvement to improve or to prevent pollution of watercourses.

Q247 Claudia Webbe: There is a great deal of interest in this study, could you let us have a copy of it as soon as it is complete, as so far we only have a literature review.

Nick Harris: Yes, I am happy to share with the Committee what we have after the meeting.

Q248 Claudia Webbe: Could you tell us why there were no key performance indicators to improve water quality in the Highways Agency's latest



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business strategy?

Nick Harris: Water quality is a matter for the Environment Agency. We care very much about it. As one of England's largest landowners, we care hugely about both the environment and watercourses. We have a range of measures that we monitor. I will try to describe most of them.

We know all the outfalls we have, and all the outfalls are assessed as to whether they are effectively mitigating the effect they are having on watercourses where they are discharging. We have, out of the 26,000 or so soakaways or outfalls from our roads, about 1,100 that are categorised as high risk. We monitor those on a monthly basis to understand the mitigation at those points.

In addition, we have a fund for this five-year period—we also had a similar fund for the last five-year period—called designated funds. It is aimed at making environmental improvements, and that includes discharges to the environment. The way we measure and monitor that, and we have a very clear set of targets in our business plan for these five years, is on the linear kilometres of watercourse that we improve. We also monitor the number of outfalls that are improved or pollution mitigated.

Q249 **Claudia Webbe:** You do not have any performance indicators.

Nick Harris: We have a target, an indicator, if you like, for the number of kilometres of watercourse improved.

Q250 **Claudia Webbe:** Again, I think there is a gap in your business strategy. I am sure this Committee would want to see those performance indicators. We need to know what you are assessing your standards against.

Nick Harris: They are published in the public domain, and we report against those each year. In fact, at the moment I have just been going through our annual report and accounts and we will be reporting all of this information against those targets and those reports, as we did last year.

Q251 **Claudia Webbe:** We are going to see it in the next business strategy, are you saying? The latest one did not have any performance indicators to improve water quality—

Nick Harris: I am talking about the performance indicators for this five-year period.

Q252 **Claudia Webbe:** To improve water quality?

Nick Harris: Yes. We have just finished the first year of this five-year period, so the annual report for the first year, which will be available after July, will report against the indicator I am describing, which is the linear kilometres of watercourse improved. That is reported. The target is, from memory, 17.5 linear kilometres per year, and we would be reporting on our performance against that target or indicator last year in our annual report.



Q253 Claudia Webbe: We may get stuck on what you are calling outcomes, outcomes achieved, as opposed to the process, the measures and the performance that you take to improve water quality. How effective are Highways Agency officers at assessing whether a highways outfall will pose a pollution risk to nearby rivers?

Nick Harris: I should point out that we are now Highways England, since 2015. Highways Agency, of course, was the organisation before.

Claudia Webbe: My apologies, Highways England officers then.

Nick Harris: Again, the approach that we have is a very detailed and comprehensive approach. When we are improving, building or constructing a new discharge—and this has been our process since 2009—we model the stretch of road to understand the impact of rainfall on it, the discharge it is going to cause, the type of pollutants that will exist there, which will range from metals, like soluble copper and zinc, perhaps other heavy metals, hydrocarbons and—as we talked about earlier—microplastics. So we will understand the impact that rainfall will have on that stretch of road, the type of pollutants and concentrations that exist there because they vary depending on usage rates of the road. We will then look at the watercourse that will be receiving the discharge to understand the volumes, flow and water quality, and we will then design and put in place mitigation measures to ensure that we don't exceed the published environmental quality standards in the receiving body of water.

There are a large range of different measures that we put in place, ranging all the way from reed beds or attenuation ponds through filter drains, separators, interceptors or a combination of all of those to get the effect that we want. We design something that will achieve the right water quality outcome, and then we evaluate the performance afterwards. That is the approach we take. There is then a maintenance regime that follows to ensure that the asset continues to perform in line with the way we have designed it.

Q254 Claudia Webbe: Just so we are clear on numbers. This Committee understands that Highways England has identified at least 2,500 outfalls as posing a high risk to watercourses. On how many are you planning to install pollution interceptors and over what timeframe?

Nick Harris: There are just over 18,000 outfalls and nearly 8,000 soakaways in total, and out of all of those we have identified just over 11,000—sorry, 1,100—that are high risk. We monitor them.

There are two ways in which we are improving the situation. First, we have the designated funds that I referred to earlier. That is money that we have either to spend ourselves directly or together with other partners. We often work with the Environment Agency to improve watercourses. We spend that money each year to put in place new mitigations. A good example of that would be at Oldbury on the M5, where we are renewing the decking and the drainage systems on that elevated section of the M5. At the same time we also cleared something



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like 20,000 tonnes of silt from a series of ponds nearby and put in place new separators, and we will now improve pollution performance. We have also improved the water quality and the environment in general. That has had a great impact and improvement on biodiversity.

The other way that we address the issue is whenever we are doing capital maintenance. Just to give you some numbers, in this five-year period we will be spending over £10 billion on maintenance and capital maintenance of our roads. We are also spending £14 billion on enhancements, that is improvements to the network. When we do all of that work, we either rebuild or, when we are building new outfalls, we build them to our latest standards, which include mitigation measures.

Q255 **Claudia Webbe:** That is at least 11,000 that you are admitting to—

Nick Harris: Sorry, I have to correct you there, it was my error, it is actually 1,194 that are considered high risk. I got my zeros in the wrong place, so apologies.

Q256 **Claudia Webbe:** That is good, so 1,194 outfalls that are deemed to be high risk. So we are clear, at how many of those are you planning to install interceptors and over what timeframe?

Nick Harris: I can't answer that question at the moment. I know that, through the designated funds last year, we installed mitigation measures on 32 or 33 of them. The number I do not have to hand is how many we did through our capital maintenance improvement enhancement schemes. I can see if I can provide that information.

We had considerably more money in the road period 1, so that is the last five-year period, to address this issue. This five-year period that started a year ago, I have something like 40% more money to address this and I will be asking for more again for road period 3, which will start in four years' time.

Q257 **Claudia Webbe:** Could I ask again that you send the Committee a more detailed response to that question, so that we understand when these pollution interceptors will be installed for those 1,194 outfalls that are high risk and over what timeframe? I know you do not have the answers today but please send it on to the Committee.

Nick Harris: To make two points of clarification. When we call them high-risk outfalls, it does not mean they are polluting; it means we are concerned about them and we monitor them. They do not have in place all of the mitigation measures that we would put in place for newer schemes since 2009. It doesn't mean they are polluting; it means we are monitoring them carefully.

I am happy to provide the information that we have, whether we can give an accurate view of when all of them will be addressed may be difficult.

Q258 **Claudia Webbe:** I understand that. Our estimation was 2,500, and you said that there is 1,800 of which 1,194 are high risk, but if you send a note to the Committee we can have that information, which will be very



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useful for us.

Finally, it has been reported that the Highways Agency is tackling outfalls at a rate of 10 per year. Is that an acceptable rate?

Nick Harris: As I just said, we did 32 or 33 outfalls through designated funds last year. Where the number you have quoted has come from is the number that have been done over the last few years, each year, using designated funds. What you have not had is the number that we are addressing through our capital maintenance programme or the newer enhancement schemes.

We have not been focused on counting them in the way that the Committee is looking at this issue, so I can ask my team to have a look at the information we have and see if we can provide a number that is more useful to you.

Q259 **Claudia Webbe:** That will be gratefully received, I am sure. You can imagine our quick calculations. At a rate of 10 per year, or even if we take your 32 per year, it will be a very long time before we get all those 1,194 outfalls, which are reasonably high risk, resolved.

Is the performance we are talking about because you know that the Environment Agency will not take enforcement action against you?

Nick Harris: No, not at all. I can see where you are going with the calculation. I was just trying to think of a good example to give you. Perhaps one of the largest schemes we have done in recent times is the upgrade on the A14. On the A14 we will have replaced tens of outfalls along the length of it. None of those numbers would have been counted in the information you have seen so far. It is a much higher number.

If you are trying to do the calculation of how many get done a year and when we will get to the point that they have all been mitigated, that is a different set of information, which I think we can provide or try to provide you with.

I would like to stress that we are focused on doing this. It is something we believe in strongly and I am driving very much. It is not about a lack of enforcement.

Q260 **Claudia Webbe:** Anything you can do to send us information, because we are all calculating in our heads now. I calculate that you could not do in better than 100 years so far.

Nick Harris: I will repeat again, the number is not 10 a year. That is not the right number. Let me send you the right—

Claudia Webbe: Maybe 50 years if we were generous. That still seems a lengthy time.

Sir James Bevan: I think you made a very important point about key performance indicators, because you are right that what gets measured gets done. I reassure you that one of the Environment Agency's major key performance indicators is about improvement to the water



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environment. The way we measure that is in the number of kilometres of rivers and lakes that are improved by the agency and our partners in one year. That means things like reducing pollution, reducing water abstraction, tackling invasive species or taking away obstacles to fish or eel passage.

To give you some numbers, and we publish all this data, last year our target was that we would enhance 3,900 kilometres of water environment in England and we beat that. We enhanced 4,551 kilometres. That means that since 2015 we have enhanced over 11,000 kilometres.

You were also right to challenge us on outcomes rather than numbers. Just to give you a bit of detail on the outcomes. Those enhancements last year include things like installing an eel pass on floodgates in Eastbourne, in Sussex, which has opened up nearly 10 kilometres of river to eels. Fifty-five kilometres of enhanced watercourse through working with farmers in Devon to reduce the diffuse pollution that we have been talking about, and improvements at sewage treatment works and pumping stations in Lincolnshire, West Midlands and Yorkshire, which have also collectively enhanced a further 10.5 kilometres of watercourse.

We take those things very seriously, we measure them and we publish the results.

Q261 Claudia Webbe: Do you think there will be a performance measure on these outfalls, 1,194 that have been spoken of, at least today?

Sir James Bevan: Performance measures are matters for each organisation, but what I can say is that, as Nick Harris was saying, we work very closely with Highways England. We do work with them in particular on any potentially problematic outfalls. Our approach is to go to where there may be a problem. We have very good collaborative working with Highways England to tackle those that may pose a problem.

Q262 Chair: To follow up that line of questioning very briefly, if I may. A couple of years ago our predecessor Committee did an investigation into hand carwashes and we identified effluent being flushed down the highways drains from these businesses, and very little being done by way of enforcement action to prevent it. Sir James, has the Environment Agency taken any action since we reported in 2018-19?

Sir James Bevan: We certainly advise against putting anything down the drains that should not go down the drains, including the kind of effluent that you are describing. I can't tell you whether we have taken any particular enforcement action. I would need to check the position on that. There are different bodies who are responsible for different aspects of regulating those kinds of activities. I would be very happy to check and write to you and the Committee.

Chair: I appreciate that, thank you.

Q263 Duncan Baker: You have touched a little on what I was going to ask. Almost doubling back to what was said to Sir James earlier this afternoon, we discussed that 18% of the pollution was driven by the



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transport sector and highways. We know from what Claudia was saying how bad this is, but building on what the Chair said, why is the EA not doing enough about it? Why are we not using the Environmental Permitting Regulations to prevent it?

Sir James Bevan: A very important issue. A big source of highways and urban pollution, 18% of rivers are failing water quality because of that. It is quite a wicked problem. It is getting worse because population growth and climate change is driving more surface water runoff in urban areas, we have more concrete, more intense rainfall.

It is also particularly difficult to get a handle on because most of that pollution, as you rightly say, is local diffuse pollution from literally hundreds of sources, many of them hard or impossible to identify, which makes finding solutions that we are both interested in extremely challenging. We are interested in solutions. We think the best way to tackle that urban and highways pollution is, as we have been saying, to focus on the points where there is a particular problem and to work, as we do, with Highways England, local authorities and others to find local solutions rather than use our formal regulatory powers.

We do have successes. To give you one example. Teignmouth had a problem with its bathing water quality, which we were discussing earlier, because runoff from the road that goes along the seafront was part of the problem. We worked very closely with Teignmouth local authority, with the local road authority to identify the sources of that pollution. There were many, pigeons, runoff coming from the town, car pollution. We have managed to reduce or eliminate those sources, working with the other agencies, to such extent that the beach at Teignmouth, which failed bathing water quality a few years ago, is now graded excellent. We are doing things about it where we have the evidence and where we have the levers with our partners.

Q264 **Duncan Baker:** You cannot possibly work on that basis for the entire country, Sir James. Yes, it is all very admirable to be working hand in hand with people, but if you have the legislative powers there has to be a way that you can use them because we all know the EA is stretched as it is, as all agencies are. Surely if you have the powers at hand, it would be better to use them.

Don't get me wrong, I am not suggesting that you go in all heavy-handed but use the powers that you have because you can't possibly keep up with working in that manner with all the authorities around the country.

Sir James Bevan: It is a fair point. We do use the powers, although in very limited ways. We have powers under the Environmental Permitting Regulations to control discharges from the highways drainage outfalls that Ms Webbe was talking about.

The last time I checked, we had permits on only five of about 18,000 outfalls. That will be because we think those are the ones that are most likely to cause a problem, and we think in those cases a permitting regime is the most effective way of dealing with it.



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Most of those 18,000 are not going to be a particular problem, so it would not be sensible to permit all 18,000. What we need to do is to go to where the local problem is, and I think that is a more effective solution than reaching for the regulatory stick.

Q265 Duncan Baker: It goes back to what we said earlier. You have just said that you think this is the most likely problem. If we are not able to measure it, we cannot necessarily manage it. The cumulative impact of all this happening, where we are not using the legislative powers we have, must be enormous. Do you have any analysis on what the cumulative impact of the runoff is? Certainly from information that we have been provided, the actual monitoring and effectiveness of it is not all being taken care of.

Sir James Bevan: Cumulative analysis, yes. The figure I have given you of 18% of rivers failing good water quality because of urban and highway pollution is evidence-based on what we know from our own monitoring. We have a decent sense of the overall national picture. Where there is an issue, we can and will, working with our partners, adduce pretty good evidence about what is causing the problem.

Back to Teignmouth, that took a while, and we do this all over the country. Monitoring, inspection, identifying the potential and then the actual source of pollution can be done if you are prepared to put the time and resources into it. We have done that in Teignmouth with the results I have described, and we have done it in other parts of the country.

Q266 Mr Robert Goodwill: I might add that I was Roads Minister for three years, and I never recall the issue of runoff from highways being a real issue, but that was in the era of the Highways Agency, over which there was less ministerial control and oversight than there is now with Highways England.

I will move on to the issue of designating rivers as bathing water. I know in my own constituency a lot of work has been done, a lot of investment put in, to improve seawater for bathing. It seems there is only the one case we have seen in Ilkley where we have seen a group of people pressing the water companies and the Environment Agency to do something about it. What is the process for further areas being designated? Is there any co-ordination that needs to be done to ensure that we go for the low-hanging fruit where swimming can be facilitated at reasonable cost?

Sir James Bevan: Thank you, Mr Goodwill, and good to see you again. You are absolutely right that the only currently designated inland bathing water in the country, one that is on a river and not on a coastline, is at Ilkley. You are also right that it is a recent designation and that it came from a lot of activity and pressure from the local community, which we frankly welcome because it is a good challenge to us and the water companies.

There are several other potential designations in the pipeline, including maybe even one of which I have read in the Chair's constituency. The



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way it works is that anyone can apply for a beach or an inland water to be officially designated as a bathing water. It is usually the local authority. The decision is for Defra Ministers after public consultation, and they are advised by the Environment Agency.

The main test is how many people are using that site. Water quality is not part of the test. The point is that, if the site is designated, the Environment Agency is obliged, and will, put plans in place both to monitor that water and report on the state of the water and assess it, and to protect and, as far as possible, enhance it. When these things happen, they have a consequence, not just in terms of focusing the minds of the water companies and the Environment Agency but in terms of what we do to monitor and, as far as possible, enhance bathing water.

It is not a magic bullet, because river water quality in England is not managed at the moment for people to swim in our waters. Our water quality standards, at the moment, are there to protect wildlife, not public health. If you want to control the levels of faecal material in rivers to the level set by the bathing water regulations, in order for a designated bathing water to qualify as swimmable, that will almost always require very significant investment. It will require work not just from the Environment Agency or the water companies, but quite probably work from farmers and others nearby. None of which means it is not worth doing, but it is not a magic bullet.

Q267 Mr Robert Goodwill: From that I can deduce that you are resigned to the fact there will be faecal contamination of rivers. If you were looking at an area for swimming, you would not be consulted on, for example, where there might be a sewage outfall. If you were upstream of that, it would be better. You are basically not involved in the process of deciding where it might be.

Sir James Bevan: We advise on water quality. If a bathing water is designated, we have the responsibilities I have described. Although we are not responsible for public health, I care very much that rivers should be safe for people to swim in and that people should not take undue risks. For the reasons I have described, there may be additional health risks from swimming in rivers that would not apply if you were swimming in a designated bit of bathing water at the coast.

Although we do not have a duty to protect the health of bathers, we do quite a lot to help. First, we use our regulatory powers to control pollution to protect water quality in those rivers. We also provide a lot of information so that bathers can make informed choices. If you go to our Swimfo website, which is on gov.uk, there is detailed information about individual designated bathing waters that tells you the classification of the water; is it excellent, good, sufficient, poor. It gives you pollution risk forecast for the site. It gives you the data that the EA has recently picked up in terms of its own water quality monitoring, so levels of E. coli in the water, allowing a prospective bather to make their own informed decision about whether they want to swim at that place. We also publish a "Swim Healthy" leaflet, which is also online. We developed it with Public Health



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England, and it gives further information and guidance for anybody who does want to swim.

Q268 Mr Robert Goodwill: I guess the risk of death from swimming is far greater from drowning; 400 people each year die from drowning accidentally in our country. I know in my constituency there is a place called Thomason Foss where lots of young people swim but they engage in tombstoning, and maybe if they apply for this status there would be a process whereby maybe health and safety issues could be taken into account, or maybe the provision of lifeguards. I know it is not your area, but there are other issues to do with safety as well as just the quality of the water.

Sir James Bevan: Absolutely.

Q269 Mr Robert Goodwill: Can I turn to Mr Black? Obviously if a water company has to invest in its infrastructure to improve the quality of a river for bathing, they presumably would need to come to you to ask to take account of that in the bills they charge. Will you allow water companies to recover the cost of improving the effluent quality of water in this situation if more sites are designated?

David Black: The simple answer is yes. We are at the moment consulting on the Green Recovery package, and as part of that you may be aware that there are a couple of bathing water sites being brought forward on the River Avon, the Leam and in the Teme.

We are doing this for two reasons. One is obviously to improve the quality of these rivers, but the other is as a learning exercise. These are large-scale pilots. Their estimated cost is around £150 million. That will go to activities to work on storm overflow, so 25 storm overflows, but also additional treatment at the six wastewater treatment works sites. But, as Sir James noted, also working with farmers to reduce the bacterial pollutants from farms in the catchment. That will give us a very helpful set of information in terms of costs and the opportunities here.

But as far as the process goes, we work closely with the Environment Agency. Where, for example, bathing waters were to feature in the water industry national environment programme, they would flow through into the company business plans and then they would be funded as part of that. But you are right to identify that there will be cost implications and that these would ultimately be borne by the customers of these companies.

Q270 Mr Robert Goodwill: At what level of granularity would you engage in this? Would you be looking at a site-by-site basis, or just a budget that they would use? For example, if you did a cost-benefit analysis where there was one site where 50 people would swim 30 times a year and it was going to cost £10 million, or another site where for a fairly modest cost you could do that, would you get engaged at that level? From what I hear it is not part of the process. It is basically if people want to swim in a bit of river, no matter how much it could cost to clean it up, it then gets an application for designation. You then work to try to recover the cost.



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David Black: As Sir James noted, it is Defra that designates the site as a bathing water. What we are learning from the process at Ilkley is that there are some adjustments that need to be made to make this work on rivers as opposed to beaches, where they have more traditionally been at. Once a site is designated, there will be some costs and consequences that follow from that. Obviously doing that most efficiently and effectively is what we are interested in. But the primary costs we can see will be around additional treatment at wastewater works and also addressing issues with storm overflows.

Q271 **Mr Robert Goodwill:** Maybe back to Sir James now, who I very much enjoyed working with when I was a Defra Minister. Obviously some of these high levels of pollution are associated with heavy rainfall or particular incidents. Possibly one way forward would be to provide some real-time information to swimmers so that they can decide if and when to go in the water. Have you any plans to try to monitor in real time and make that information available publicly?

Sir James Bevan: Yes, it is a good point. We publish the various datasets. We publish annually the datasets from the event-duration monitors that now sit on most of the sewage overflow outfalls in England. That is one dataset that people can look at. We publish, pretty much on a weekly basis, information on the latest test results that the Environment Agency has done in each of the designated bathing waters, so all of the ones on the coast and, in due course, the Ilkley bathing water. That shows recorded levels of E. coli and other things that bathers will want to have regard to.

Although we do not do it ourselves, we are working very closely with Surfers Against Sewage—a great NGO—who have developed this great app, which is available online and on your mobile, that gives you what you are talking about. Almost real time or at least the latest up-to-date information on pollution incidents that may have occurred at a particular location. That information is out there and is getting better every month.

Q272 **Chair:** I invite Mr Black to focus a little on the role of Ofwat here, because we have heard a great deal from the Environment Agency and a little bit less from Ofwat. You, as the regulator of the water companies, set a pricing review mechanism to cover a period for five years of approved capital investment. Do you think this process strikes the right balance between ensuring low bills for consumers, maintaining adequate supply of potable drinking water across the country to consumers where they live, and to all the other water users, with the necessary investment in the sewerage system to deal with the treatment of the effluent we are creating?

David Black: Yes, there is a lot that is demanded of the price review process. You are right, every five years we ask that they set out their business plans and then we make our determinations not just for the cost that we are allowing companies, so both operating and capital costs, but also performance in terms of the use of that funding.



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In terms of the bill levels themselves, we do not target a particular level of bill in a price review. Some bills will go up and some will go down. That will be a function of both the size of the investment programme but also the level of the efficiency challenge and the allowed returns to the investors.

We think it is important that customer views are taken into account, so as part of preparing their business plans we ask companies to engage with their customers on the affordability and acceptability of their plans. We are also conscious that companies do not face any threat of competition, so customers depend on us to set a level of efficiency challenge, which obviously provides headroom to make further improvements in service.

One further point I would make is about the role of innovation and driving best performance. Sir James touched on this. When we set stretching goals for companies, we see them respond, particularly where we attach financial incentives to the achievement of these goals. We think we have a real role in terms of driving better performance and better value from companies.

When we look back at the achievements over the last 30 years, we have seen over £160 billion invested and, as Sir James said, there have been some quite substantial improvements in both the level of treatment of wastewater, as well as improvements of service to customers. We are also acutely conscious that we have a duty to future customers, so that when we set cost maintenance allowances and service requirements we pay very careful attention to the level of service of assets, and require companies to maintain stable and improving serviceability of their assets.

The price review, as a package, needs to address both doing the day job in terms of maintaining a vast network of underground assets but also driving improved service and then making improvements to the environment.

Just in terms of the environmental programme itself, that is where we work very closely with the Environment Agency. In fact, the water industry national environment programme in England set out the most recent price review—the 2019 price review—and set out a programme of close to £5 billion across England and Wales of environmental improvements. Those environmental improvements are specified by the Environment Agency, and it is our role to challenge their cost efficiency as proposals, but we do not challenge the need for those proposals.

Q273 Chair: You referred to the vast network of sewerage and drainage assets underground, and we have heard a lot of evidence that the replacement and modernisation of those assets is going at a snail's pace. The last estimate is that it would take 800 years to upgrade to a modern standard the entire network of sewerage assets that we have underground. Do you think Ofwat is able to prioritise the upgrading of treatment assets sufficiently, and is it your decision to decide what should be allocated towards the supply side of the water company's business versus the



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treatment side? Can you explain to us how that process works and the price review?

David Black: The first bit is that the companies set out their business plans to us. They have a responsibility to maintain their networks, those licence obligations that we referred to earlier. If they do not fulfil those obligations, we will take enforcement action against the companies.

The companies present us with a business plan. That will have the proposal of maintenance as well as their proposed enhancements, so where they are making service improvements.

We look at the efficiency of their plans, we make great use of what we call comparative benchmarking, so by comparing companies' performance—both the cost and the performance—we can identify the efficient level of costs and that is what we seek to allow the water companies. That protects their customers against paying for inefficient levels of costs or paying too much for poor levels of service.

In terms of the replacement of assets, that is an interesting question. Since privatisation we are very much focused on the serviceability of assets. On privatisation, networks were in poor condition and there was a great deal of work done over that first 15 years to bring assets into stable serviceability. We monitored and checked companies over repeated price review periods. We increased cost allowances for them to meet those standards. By the end of that period, most companies had made that level of improvement. Since then we have set our performance targets in terms of the asset health, and we monitor their delivery against those standards. Where companies fall short, we will impose financial penalties on those companies.

Q274 **Chair:** The starting point, you are saying, is the water company's own business plan. You are not setting a framework for them to say, "We think you should be investing this proportion of your capital expenditure on supply and that proportion on treatment." Do you not have an influence to bring to bear? You mentioned that you respond to public opinion. Public opinion is becoming utterly outraged by the amount of untreated sewage that is being spilled into our rivers by water companies. Is that going to have an impact on the way in which you approach the next pricing review period, do you think?

David Black: Yes, obviously there is an issue about storm overflows and, as Sir James mentioned at the start, we very much share the view that while there has been substantial progress in the sector in terms of improving performance, particularly at sewage treatment works, the issue of storm overflows has not had nearly the same focus, if you look back over the past 30 years. It is not to say it has no focus. There have been improvements made to storm overflows; work at around 50% of those overflows over that period. But, none the less, without data it was not an area. We have talked about what is measured being what matters. We are going to be in a much better position when we look at the data on



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that. It is absolutely right to say that storm overflows will get more attention.

It is also true to say that, based on the Environment Agency analysis, they account for around 4% to 7% of the reason why rivers do not have good ecological status. While it is important that action is taken in this space, action needs to be taken across the piece, and that is what we will be pursuing. That is where we will work closely with the Environment Agency. They have the ability to specify in the water industry national environment programme the improvements that need to be made to address these issues. I am pleased that we are working very collaboratively with the Environment Agency on how we design that programme to have more of an effect at future price reviews.

It is an issue that we are concerned about. We think the information that will come to light from the monitoring means that more needs to be done. I have also recently written to water companies to remind them of their obligations in terms of making sure that they are complying and that they know they are complying with the requirements they have under the current legislative framework.

Q275 Chair: It is difficult to get an overall assessment of what proportion of capital expenditure by water companies is going into maintaining the supply versus maintaining the treatment of the assets. Are you able to write to the Committee with an overview, perhaps over the last 10 years, of how those flows of capital have changed, to try to help address the public challenge that water companies, since privatisation, have been funnelling funds to their shareholders rather than investing in their capital assets?

David Black: I can address that question head on. I want to go back, and you asked whether we set a framework. We certainly do when we see the company's business plans. First, we set out a price review methodology, which sets out our requirements. In terms of the split between treatment works and pipes—I think that is what you are getting at—we have more recently split out the price control so that, at the most recent price review, we made a split between what the network part of the business and the resources part of business.

In terms of your basic point about whether they have spent the cost that they have been allowed, the answer is mainly yes. Every price review we look at both the amount that we have allowed companies and the amount that they have spent. The most recent price review period was five years from 2015 to 2020. The companies spent slightly more than they were allowed, so they incur some of those costs at shareholders' expense and some of those costs are passed on to customers.

Over the six price reviews since privatisation, at four price reviews they have spent slightly less and at two they have spent slightly more. But there is no case for saying that the money that was allowed in terms of expenditure has somehow or other gone to other causes. That is



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something that we monitor and measure, and we have records, so we can point those to you.

Q276 Chair: It would be very helpful if you could give us some evidence on that. The Government have just commissioned and published its response to Professor Dasgupta's report into nature. Clearly the waterways are a vital part of the natural capital of this country, and they are not in the state that we would all like to see. Will Ofwat now be taking into account increasingly nature-based solutions in looking at the capital spending plans of the water companies and how they propose nature-based alternatives to their mechanical and chemical sewage treatment?

David Black: I would certainly welcome the use of nature-based solutions and, as a regulator, we reformed our approaches. Going back to the 2015 price review, we made major changes to our methodology to rid the sector of what we call the CapEx bias, which was a bias towards using end-of-pipe solutions. We very much welcome the use of catchment-based, nature-based solutions. We are committed to promoting their use. We are working with the Environment Agency to look across the regulations, both the Environment Agency, Ofwat and the Drinking Water Inspectorate, to make sure there are no barriers to nature-based solutions.

I was pleased at the most recent 2019 price review that we had 1,200 nature-based solutions go forward, but I would like to see much more done in this space. You are absolutely right about the importance of addressing biodiversity, and while companies have a number of performance commitments to improve biodiversity, this is an area that I identified at the start of this hearing in addressing the role of companies to provide greater public value. There are some exciting opportunities in this space, and we are going to see lots more done here.

Q277 Chair: Both you and Sir James referenced, under Robert Goodwill's questions, bathing water quality and the opportunity to secure bathing water quality status for part of the River Teme, which runs through my constituency; a part that I am very pleased about, so thank you for that. I hope that was not coincidental with your appearance before this Committee and it was in their plans anyway. That is perhaps more a matter for me to take up with Severn Trent, with whom I am working closely on this subject, so that should be on the record.

Do you intend, Mr Black, to factor water quality into the environmental performance commitments of companies specifically, and do you think they have enough information to be able to do that based on the monitoring that they are doing at the moment of their works and their CSOs?

David Black: There already are a number of performance commitments relating to river quality. Sir James can speak to some of those. For example, the kilometres of river improved as part of the water industry national environment programme, so there is a measure there. What you are touching on is: can we come up with better measures, particularly



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outcomes-based measures? For example, we talked about the limited number of rivers with good ecological status. Could that itself be a performance commitment? This is an area we are exploring with the Environment Agency in terms of work on the design of the water industry national environment programme for future price reviews.

There are obviously complications. For example, good ecological status will depend on the agricultural and urban drainage runoff, but how do we get water companies to take ownership in this space and to do more? That is an area of great potential.

Q278 Chair: Do you expect penalties for breaching environmental commitments? Should they be set at a level to reduce pollution incidents completely? Do you think that is feasible?

David Black: Sir James referenced the serious pollution incidents, each one being one too many and that is absolutely right. The most recent price review saw a target of a 30% reduction in pollution incidents. We would like to drive companies to go further on this. We also set a financial incentive so that, where they go beyond that 30%, they can earn additional revenue from doing so. We are trying to drive innovation and incentives in this space. We are certainly open to going further and faster in this space. It is a responsibility for water companies to address these issues, and we look forward to working with the Environment Agency on what is the right level to get to here.

Q279 Chair: Do you think the existing pricing review mechanism will enable sufficient investment in wastewater assets to deliver a sewerage system fit for the 21st century without water bills becoming unaffordable? Do we need to impose a windfall charge on the water companies, for example, to get a significant upscale of investment?

David Black: There will be significant investment required. I can point to records, since privatisation, of £160 billion invested, so this current model is very effective at eliciting further investment. There is a risk that talk of a windfall tax would deter investors from coming into the sector, and so may be counterproductive. It is about coming up with a reasonable settlement so that companies can be more efficient in order to secure the investment.

It is probably worth noting that our decisions can be appealed to the Competition and Markets Authority, and four companies appealed the most recent price review. The Competition and Markets Authority has allowed those companies a slightly higher level than we set. There are checks and balances in the system on that side of it.

We are very willing to work in terms of the total investment envelope. The important thing to be aware of is the sector is facing a number of challenges, so there is the need to improve drought resilience, which is going to be an area of expenditure as well. There are things like replacing lead pipes, which also require attention.



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Our future price reviews very much need to take that long-term plan. There are a number of long-term planning approaches across the sector in terms of water resource planning and drainage management planning. We need to see lots more innovation. We need to see performance improvement within the current funding baselines, and then we can point to measurable improvements.

Over the last 30 years, I am confident we can see much more in the way of improvement if we can get the level of investment set to market performance commitments and see enterprise and innovation from companies responding to that.

Q280 Chair: You touched earlier on the green recovery challenge fund and the awards that you are currently in the process of finalising, which would allow for a significant, around £850 million, investment by water companies over and above the capital expenditure approved for the WINEP, for the current pricing review period. Does this indicate a change in heart by Ofwat to encourage investment in water treatment to improve the environment? Is this a pointer for the future, or is it merely a response to Covid?

David Black: The package was put together in response to both the economics and the crisis, and we worked closely with the Environment Agency and partners. I point to two things: one is that we are putting the environment very central to what we do, so the strategy that we put out in 2019 made it very clear that we see water companies play a central role in the environment, they abstract water from the environment, they return water to the environment, and they succeed if the environment is going to be in good shape for the future. Our customers ultimately depend on that. We think they have a strong role to play in the environment. Our strategy makes it very clear. This is very much in line with our strategy.

The Green Recovery package itself was something of a one-off. The point was that we hoped to learn from it for future price reviews. What I think is exciting is not just the amount of money involved here but the kinds of things that companies are proposing to do. We are seeing nature-based solutions, catchment management, low-carbon water coming forth for the first time. This is going to open up new opportunities. You are absolutely right. If we go at this as end-of-pipe solutions, if we try to build our way out of the storm overflow issue, it will fail. We need to come up with new approaches. You have talked about the ingress of water into sewers. That is a serious issue, but it is an area in which we can achieve great outcomes through working with community groups. It is about new kinds of thinking, new approaches. The transition to net zero also requires a fresh approach from the sector; innovation as well as investment are required to face the challenge.

Q281 Chair: The next pricing review strategic guidance to Ofwat is due to be published by the Secretary of State for Defra this year. What would you like to see in that guidance to help improve water quality measures?



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David Black: The strategic policy statements from both the UK Government and the Welsh Government are great opportunities for them to give us a steer about what they think is important. The UK Government's current strategic policy statement sets out the importance of resilience and affordability. It is obviously for the Government to set out what they would like to see in this sphere, but clearly we will look at it with interest and I imagine that it will talk about these issues in terms of the role of the environment. There is clearly an increased focus on net zero. I am expecting that the environment will be an important part of it, but clearly that is a matter for the Minister.

Q282 **Chair:** Mr Harris, we talked about the number of outfalls from your network, over 26,000 outfalls, being enabled to capture microplastics. Given the increasing focus and significance for public health of particulate matter, what is Highways England doing to focus on the issue? Can we assume that we will see greater emphasis on treatment plant runoff before it gets into the sewerage systems, the water networks and our rivers?

Nick Harris: Just to go over the numbers again, it is 18,000 outfalls, 8,000 soakaways, out of the 26,000. The soakaways, of course, are not going into watercourses. Yes, we are looking at the performance of our existing treatment measures against microplastics, and we are continuing to research the effectiveness of that and how we can control them at source, together with vehicle manufacturers and others.

Q283 **Chair:** Sir James, to conclude with you, we are holding this hearing—not just with you, this inquiry—as a result of public outrage, the growing awareness of the way in which we are handling human effluent in this country. It is not adequate. Your agency released the CSO data for 2020 for the first time in March this year, which you should be commended for, but the information was clearly very shocking. On 400,000 occasions, untreated sewage spilled into our rivers for over 3 million hours from 12,000 CSOs providing data. You have already said that there are 15,000 CSOs, so that is about three quarters of the total. That figure is bound to go up for 2021, more or less inevitably because of the maths. This is causing all of us, as representatives of our constituents, a great deal of outrage. Do you think the chief executive of the water company that is the worst culprit in terms of the number of incidents, United Utilities, should appear before our Committee, having been invited to do so?

Sir James Bevan: I think it is important to remember that the people responsible for the pollution in our rivers are the people who pollute them, and they are primarily water companies and farmers. I know you are planning to invite water companies to give evidence, and frankly I hope you will insist on the chief executives of whoever you want coming before you, as we all have today. I have heard that some of them may be less than keen. I think that is interesting, and I think it is all the more reason to hope that you will insist on having them in front of you. Until the leaders of the water companies take this issue as seriously as they take other issues, we will not get to the solution we all want.



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Q284 **Chair:** Thank you. I very much hope he or his colleagues are listening. We will certainly invite him again. We have heard that the Environment Agency does not publish data on the impact on water quality in the receiving waterways. It may collect that data, but it is not made public. The public demands better information, and it is only through the spotlight of transparency, as you have already admitted and everybody understands, that we are going to get pressure on the polluters to clean up their act. The Environment Agency has a national water quality instrumentation service, which I understand has monitoring devices, I think 180, within the waterways. Can you commit that you will publish the information that they reveal? Can you also indicate whether you would support—and perhaps Mr Black might confirm whether Ofwat would support—increased investment by water companies in real-time monitoring equipment, which technology is making more readily available every year, to analyse increasing characteristics, including biological characteristics, so that you are not so reliant on the 9,000 individual inspections by your hard-pressed staff?

Sir James Bevan: The short answer is yes. The slightly longer answer is that I think sunshine is the best disinfectant. That is one of the main reasons the Environment Agency pressed quite hard for the water companies to put the event duration monitors on and why we will ensure they go on all the CSOs. The Environment Agency already publishes a large amount of data on what we know about the safety of our waters. I am very happy to commit to take a look at what more we could do. The only constraint for me would be if there was either a legal implication, and there might be if we were considering a prosecution, or if there was a significant resource cost, but a commitment to maximum transparency, absolutely. Do I think that water companies should invest more in real-time monitoring? Absolutely. The polluters should pay and they should know, and we should know, what is going on.

Q285 **Chair:** David, will you comment on whether Ofwat would sanction them to invest in this equipment?

David Black: We are certainly willing to support greater monitoring and measurement. The cost of monitoring devices is falling exponentially. There is a great deal of scope. We have seen companies use drones to monitor leakage from water pipes. There is enormous scope to use, for instance, artificial intelligence to understand the patterns of what is going on and improve network performance. The final element is that we are promoting open data across the sector. If we can get more data from more monitoring and that is made more available, we can see more citizen science in action and reap some of the benefits. Like Sir James, I think sunshine is great for transparency. There are enormous opportunities for improvement.

Chair: Thank you all very much indeed. I would like to conclude by apologising to our witnesses for running over on time, but you have all given us a lot of food for thought. Thank you to Sir James Bevan from the Environment Agency, David Black from Ofwat and Nick Harris from Highways England. Thank you to members of the Committee for your



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excellent questions, and to Nick Davies and Laura Grant, and our specialist adviser from the committee staff, Ian Barker, for all your help in preparing the brief.