HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: Biodiversity and Ecosystems, HC 636

Thursday 22 October 2020

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Watch the meeting

Members present: Philip Dunne (Chair); Barry Gardiner; Ian Levy; Caroline Lucas; Cherilyn Mackrory; Jerome Mayhew; John McNally; Dr Matthew Offord; Alex Sobel; Claudia Webbe.

Questions 1 - 46

Witnesses

I: Professor Andy Purvis, Research Leader in Life Sciences, Natural History Museum; Dr Anne Larigauderie, Executive Secretary, IPBES; Tony Juniper, Chair, Natural England; and Dr Doug Allan, Filmmaker, Planet Earth and Blue Planet.

II: Dr Braulio Ferreira de Souza Dias, Former Executive Secretary, UN Convention on Biological Diversity; Professor Elisa Morgera, Professor of Global Environmental Law, University of Strathclyde; and Kate Norgrove, Executive Director for Campaigns and Advocacy, WWF.

Examination of witnesses

Witnesses: Professor Andy Purvis, Dr Anne Larigauderie, Tony Juniper and Dr Doug Allan.

Q1 **Chair:** Welcome to the first session of the Environmental Audit Committee's inquiry into biodiversity and ecosystems. We are very pleased to have two very distinguished panels with us today to talk through the purpose of our inquiry and the opportunities that we need to recommend to Government ahead of the critical COP15 global conference on biodiversity being held in China next year.

For our first panel I am pleased to welcome four individuals. I would be grateful if you could briefly, for the cameras, identify what your role is in the organisation that you are representing.

Professor Purvis: I am a research leader at the Natural History Museum, but I am here representing IPBES, having been a co-ordinating lead author in the "Global Assessment Report on Biodiversity and Ecosystem Services".

Dr Larigauderie: Good afternoon. I am the Executive Secretary of IPBES, the Intergovernmental Platform on Biodiversity and Ecosystem Services, which produced last year a major report, the "Global Assessment Report on Biodiversity and Ecosystem Services".

Chair: Thank you, Anne. You are joining us from Germany and we are very grateful to you for dialling in today. We know that later on today you will be going remotely, by Zoom or another virtual meeting platform, to accept the 2020 WIN WIN Gothenburg Sustainability Award for the work you have undertaken. We are very pleased you are able to join us today.

Tony Juniper: Good afternoon, everybody. My name is Tony Juniper. I am the Chairman of Natural England, which is the British Government's conservation agency in England. We discharge a wide range of functions for Government. We are an official adviser and a body that delivers policies determined by Government. We are a regulator and uphold rules agreed by Parliament and we are also a convenor, bringing together partnerships to pursue our aim of nature conservation and nature recovery.

Chair: Thank you, Tony. Douglas Allan joins us fresh from working with Sir David Attenborough for most of his career.

Dr Allan: It is a pleasure to meet you all. My name is Doug Allan. I am a freelance wildlife documentary cameraman and I have been involved with the natural world for the last 40 to 50 years. I began in the Antarctic as a biologist and then moved to wildlife filmmaking. I am not sure who I represent. I probably best represent anyone who has a love and interest in nature.

Q2 **Chair:** Thank you very much. We look forward to what you all have to say. I am going to kick off with the first set of questions. It would be

helpful in setting the scene if Anne and Andy could respond. The Intergovernmental Platform on Biodiversity and Ecosystem Services last year published a report on the state of global biodiversity. Could you begin by setting out how IPBES works and give us an overview of the principal findings of the report?

Dr Larigauderie: Thank you very much. It is always useful when thinking about IPBES to think about IPCC, the Intergovernmental Panel on Climate Change, since IPBES was strong inspired by IPCC. IPBES was established in 2012 and its main function is to synthesise and assess available knowledge about biodiversity and ecosystem services. Those reports are produced by scientists around the world, like Professor Purvis here on the panel.

IPBES is an independent mechanism. Its members are governments. The UK is one of the 137 government members. It has a secretariat, where I work, which is hosted by the United Nations Environment Programme. It sits at the interface between science and policy and it produces reports. We have produced eight of these reports. It started with a report on pollination and food production, and last year we produced this large global assessment of biodiversity and ecosystem services. We are now working in particular on a report that looks at linkages between biodiversity and climate change, together with IPCC. It is important symbolically because we want to bring the two topics together, for COP15 but also for COP26 of the Climate Change Convention, which has the UK presidency. That workshop with IPCC is hosted by the UK.

Professor Purvis: When we reported in spring last year, we assembled and presented evidence that biodiversity globally is declining faster than at any point in human history. We already have a rate of species extinction that is at least tens to hundreds of times the normal background rate. We have about 1 million species of animal and plant currently threatened with extinction. Population sizes of wild species are falling around the world, and natural ecosystems are in decline and becoming more and more degraded around the world as well. Invasive species are becoming more of a problem than ever before.

Biodiversity is in trouble in its own right. That is problematic for people because as well as it being a tragedy in itself, we depend critically on ecosystem services, or nature's contributions to people—things that we get from nature—such as food. These declines in the state of nature mean that nature is less able to contribute to human wellbeing. IPBES categorised these contributions into 18 classes and showed that over the last 50 years 14 of those classes have seen a decline. The exceptions are basically only material goods that can relatively easily be priced in markets and even some of those have declined.

I would like to mention a finding that is new since the global assessment and is relevant given the pandemic this year. That is that human-dominated ecosystems, where there has been a lot of damage to the natural fabric of the ecosystem, have a greater diversity and a greater

abundance of wild hosts of zoonotic diseases, so our use of the landscape is making future zoonoses more likely than if we use land more sensitively.

If you look at the direct drivers, the last step in the causal chain, the main one is land use change and sea use change. That is the main one globally overall in terrestrial and freshwater ecosystems. In the oceans it is direct exploitation of organisms. Climate change is only third or fourth in the league tables overall and in each of these realms. It is obviously becoming more and more important and it might well become as important as land use change by the latter half of this century, but we already have a set of really important drivers to deal with in addition to climate change becoming more and more important.

However, scenario work suggests that it is not an irreversible decline. There is a range of options available that would see us head towards a more sustainable future where biodiversity is able to thrive, climate change is controlled and people's wellbeing is secured.

Q3 **Chair:** Andy, for context, when you talk about land use, I assume you are talking about land use by human beings. The human population has doubled in the last 50 years and is on track to continue growing at a similar rate for much of the next 50 years. It plateaus before the end of this current century, under the models. You mentioned 1 million species being at risk of extinction. How many species are there? It is 1 million out of how many, just for context?

Professor Purvis: That is 1 million out of an estimated 8 million animal and plant species. I do not know whether you think that is a small or a large fraction, but it is a terrifyingly large number compared to the number that would have been threatened 50 years ago.

Chair: It seems pretty large to me.

Professor Purvis: You are right that feeding the growing population is a big, indirect driver—the need for agricultural expansion and intensification. Although the human population has this baked-in growth, we are already producing enough food to feed that expanded population if we are smarter about distributing it.

Q4 **Chair:** Were any of the Aichi recommendations related to trying to slow the growth of human population?

Professor Purvis: I do not think so. I admit I do not know all of the Aichi targets. I was focused on the ones closest to my own domain.

Q5 **Chair:** Turning to you, Anne, and the Aichi targets, do you have any comment to make about the issue of human population growth? The UN said that none of the targets was achieved. What went wrong and what can we do when looking at setting the next set of targets that are due through this conference next year?

Dr Larigauderie: Exactly. The IPBES global assessment report concluded, based on scientific evidence, that none of the 20 targets would be reached at the global level. There are two sets of reasons to explain that and also to give a possibility to see options for action. The first one is the failure to act on the drivers that Andy just pointed out. Of course, conservation and more protected areas is very important, but that is not going to be the only solution when it comes to biodiversity. We need to do better in other areas as well.

This land use change that we talk about, which is the main driver of biodiversity loss, means the destruction or the modification of natural habitats. That means urban sprawl. When cities grow to build parking lots and shopping malls, that is at the expense of the natural habitats for species, or deforestation, particularly in Latin America. All of that is increasing land use change and of course that needs to be reverted, and the same for the over-exploitation of natural resources. Over-fishing is a big one that needs to be reverted. We will not really progress enough on biodiversity loss if we cannot simultaneously solve climate change.

Pollution is a big one, particularly when it comes to our agriculture, with the overuse of pesticides and fertilisers, and that also needs to be thought about. In 2020 when we talk about agriculture, we need to place biodiversity at the very centre of agricultural policy.

Something that is important is that there are underlying causes to these direct causes and they have to do with all of the decisions relating to economy. An important one to think about is harmful subsidies. We dedicate a lot of resources to conservation but we dedicate almost an order of magnitude more to subsidies that cause harm because they subsidise over-fishing, the use of fossil fuels or the use of pesticides. Our entire model and all these drivers need to be thought about.

Q6 **Chair:** Thank you. Andy touched on the zoonotic disease challenge growing because of the interaction between the human population and wildlife. Do you think the global shock from the pandemic will lead to some measures coming into the next set of targets covering the risk from zoonotic disease, in particular?

Dr Larigauderie: There are good reasons to think so. Currently, particularly in "Global Biodiversity Outlook 5", which is the main report that was just produced by the secretariat on biological diversity, there is a transition towards a one-health approach. This one-health approach is thinking about diseases not only in medical terms, but also in ecological terms. It is trying to understand where they originate from and better understand not only how to cure the disease when it has emerged from nature, but also how to control it ahead of that emergence by better understanding how these microbes originate and come out of the environment—normally through a host, an animal—and into contact with people. Yes, I believe that there will be a goal related to that in the post-2020 biodiversity outlook.

Q7 **Chair:** Thank you. Tony, we are going to come to you in a second with questions about the impact of biodiversity loss on the UK, but before we do, Doug, could you give us a quick overview of your longstanding experience of filming in the most exotic parts of the world and the biodiversity loss that you have witnessed yourself?

Dr Allan: Yes, everywhere you go there is almost a biodiversity loss, or certainly nature is under threat. I would like to just say one thing. I know that not everyone is a biologist but it is important when you are thinking about biodiversity to remember that most people have this idea that it is a chain—animal A eats animal B eats animal C and so on—but it is much more instructive to think of a food web or an ecological web where so many things are connected to each other. If you take away any one part of the web, it may not be apparently the most important part but if you lose that the whole thing is thrown out of balance. Although we have a resilient natural world in many respects, it can sometimes be balanced on the edge of various effects and if those things change, other things can change.

Probably my saddest example comes from the UK, from Orkney. One of the first films I did was for the RSPB in Orkney in 1988. That was a very simple film, a half-hour film, with four habitats. One of the habitats was the sea cliffs. I got lovely shots of these seabird cities—the razorbills, the guillemots, the kittiwakes, the fulmars—all there stacked up on the ledges. You could not make that film now, or at least you could not get the same feeling of a seabird city, because the number of guillemots and kittiwakes, in particular, has absolutely dived in that period since 1988. The numbers have probably dived because of lack of food. It could be that they are foraging on sand eels. It might have been that when I did the film, the sand eels were somewhere that the birds could fly backwards and forwards to and bring plenty of food back to their chicks. You only need a little change in the ocean current or an over-fishing of the sand eels, and suddenly those sand eels just are not quite close enough to fly out to and bring back enough food. It is very sad.

The other one that I filmed in that series was when we did something about the grasslands just inshore. That is a great place for curlews, and curlews, again, are taking a terrible nosedive. The Orcadian RSPB has entered into agreements with the farmers whereby the farmers bring on the appropriate cows or sheep, or what have you, which graze the grasslands back down to make it more suitable for curlews. But at the same time, the curlew numbers have dropped. We are not exactly sure why, but we are trying to bring them back with habitat loss.

Those are two examples within the UK. If we go further afield to the Antarctic, for example, there are huge changes in the penguin population down the west side of the Antarctic peninsula. Wherever you go and whoever you talk to, they almost always say, "If you think this is good, you should have seen it 30 years ago". That is one of the problems with these shifting baselines. When people come in, all they have to go on is

how things are at the moment, whereas what we need are long-term witnesses, let's say, who can tell you what it was like.

Chair: Thank you very much indeed. Now we are going to move on to some questions about the UK.

Q8 **Alex Sobel:** Hello. I am on the train, so hopefully the connection will hold. I am going to be fairly quick because of that. Both of my questions are for Tony. As Philip said, they are about biodiversity targets in the UK. Can you give us an overview of the state of biodiversity in England and the rest of the UK? The JNCC and the RSPB have done analysis that says the UK will not meet its 2020 Aichi targets. How could this have been avoided, and what improvements need to be made to meet targets next time we have the Aichi targets reviewed?

Tony Juniper: The state of biodiversity in the UK is a microcosm of the global picture that has already been described, in the sense that there are now remnants left of what was once here. The extent to which this country is now one of the most nature-depleted on earth is probably a reflection of the longevity of the pressures on habitats and ecosystems and biodiversity. We were the first country to industrialise back in the second half of the 18th century, and we were one of the first countries to adopt what looked, back then, like modern forms of agriculture with different ways of intensifying farming to produce more food. Those two trends have now gone global, leading to the kinds of statistics and assessments that we have just heard from Andy and Anne.

We are a nature-depleted nation, and what we have left are remnants of what was once here. Some of the statistics we have are quite troubling regarding the continuing decline of farmland birds, for example. We have only a tiny percentage left of some of the very biodiverse herb-rich meadows that we had in the middle of the last century. Our native woodlands are down to just a few percent of the country and continue to be under pressure, so we can paint a pretty gloomy picture of where we have reached.

However, there is a great deal of optimism to be attached to what we could do next in bringing it back. For me, with the biodiversity subject, we are now at an inflection point in this country. We can see that we need to move beyond what we have been doing for the last 70 years of official Government effort on this subject, which has been about trying to hang on to little fragments of what is left, and to now begin a period of recovery and restoration. Happily, Government policy wants to do exactly that.

As you point out, Alex, we did not do brilliantly on the Aichi targets in this country over the last 10 years, and I believe we need to learn from that. Some of the things that I would say we need to better grapple with—Anne mentioned getting a handle on the drivers of biodiversity loss, and this is essential. In this country, given that most of the land is under different forms of agriculture, aligning food production with nature

recovery is essential. Happily, we have policies and targets that will take us in that direction over the coming years. We can also look at ways in which we can align biodiversity recovery with the planning system, and there are planning reforms coming forward. We would say at Natural England that those planning reforms need to be about not only planning more houses, but at the same time planning in nature's recovery through blending a nature recovery network into how we look at land use into the future. There are things there about mainstreaming biodiversity to get a grip on the drivers in joining up different areas of policy, which have historically been rather separate apart from protecting the bits that were left.

The other thing we need to do better on those kinds of targets over the next 10 years is to see that this is not a cost that is unaffordable for the country in the nature recovery agenda; it is an investment that brings massive tangible returns. Those returns are seen in more secure, cleaner water, and a healthier and stronger population in our mental health and wellbeing. We are finding that during the Covid period as people turn to nature for their wellbeing and health. Obviously, our food security in the end is underpinned by healthy ecosystems. We can also catch a great deal of carbon from the atmosphere by investing in nature recovery, and we can protect ourselves from some of the extreme weather that will come with climate change.

It is about a shift in mindset, getting a grip of those drivers and seeing nature recovery as an investment. If we can do that and put political priority behind this over the next 10 years, I hope that by 2030 nature will be in recovery, and that when we look back at the targets adopted next year, we will have done rather better.

Alex Sobel: That is my questions done.

Chair: Thank you very much, Alex. We can see some flashes of the natural world going past your window at great speed. Now we are going to go to Matthew Offord, who has some questions about the UK's influence internationally.

Q9 **Dr Matthew Offord:** Thank you. Tony, you mentioned biodiversity across the world. You know that 90% of the biodiversity that the UK is responsible for is in our Overseas Territories. What balance do you think the British Government should take to prioritise biodiversity in the Overseas Territories, where more exists, and also to prioritise the biodiversity contained on these islands?

Tony Juniper: We need to do both, and we need to find the means to be able to advance an ambitious conservation agenda, here on the home islands and also in those places across the world where the UK still controls many of the outcomes. I would put this in a slightly wider context in the extent to which the UK, whether at home or in its Overseas Territories, needs to be stepping up and showing leadership. In the end, those global trends that have been described will only be bent back

through individual countries taking action and hopefully taking actions together through a global framework that will be agreed next year.

However, as is the case on climate change, it needs countries to step up and say that they are going to act and that they are going to put in place credible plans to do that. I would draw a parallel with climate change at this point and highlight the extent that Britain led in 2008, with a legally binding framework adopted domestically to cut greenhouse gas emissions. It had a huge impact on the global stage. At Paris in 2015, when I was there listening to the debates going on, some countries said, "What can we do to adopt a national framework?" Britain was able to say, "We've already got one, the Climate Change Act".

Looking to the future and the wider global picture, if Britain really can put in place the steps towards nature recovery at home and in our Overseas Territories, it would be proof that we can bend this curve back. As I say, we were one of the first countries to embark on this decline of nature more than two centuries ago. If we can be one of the first to start putting nature back and show that it is good for people, it is good for the economy, it is good for public health and it secures returns on public investment, I think other countries will follow.

The opportunity for leadership is absolutely huge. I am very excited from the perspective of Natural England to see all of the policies and targets that are now being adopted in the 25-year plan to leave nature better than we found it, to align agriculture and nature recovery through the new farming policy, to do better with our planning system and to build nature recovery into that, and then the Prime Minister's announcement last month at the United Nations to have 30% of the country in conservation management by 2030. If you put all that together with net zero and look at the ways in which we can do that, we can do an amazing job—I am convinced of that—if only we can line up the resources and align those different policies over the coming period. In the greater scheme of things, it would not be expensive but it might just help to save the world, literally.

Professor Purvis: I agree completely with everything Tony Juniper has said, but I would like to add that when it comes to the UK, targets and showing global leadership, we have to consider how our actions affect global biodiversity through importing produce from elsewhere in the world and exporting biodiversity damage to the often high-biodiversity regions. As we move towards no net loss for biodiversity, that needs to include the embedded biodiversity costs of our actions here. It is not only about improving the status of the UK's biodiversity, but about improving the UK's footprint on global biodiversity.

Dr Allan: There has been a very successful project in one of the Overseas Territories, South Georgia. There was a really successful rat-eradication programme on South Georgia. It took about a decade and cost about £13 million, which was fairly cheap. Having been on South

Georgia before the rat-eradication programme, that was brought in just in time, because they recognised that with climate change in South Georgia, the glaciers were retreating so the rats were no longer confined to the areas of South Georgia where they had been before. They were able to move out further, and they were decimating the ground-nesting bird population. It is very good that the powers that be brought in that rat-eradication programme, and it seems to have been 100% effective. It is the biggest island anywhere to have got rid of its rats.

Q10 **Dr Matthew Offord:** I also wanted to ask about this expansion of biodiversity practices across the globe. The UK is very keen on the 30x30 initiatives to protect 30% of the ocean by 2030, but we already have quite a few marine protected areas. Professor Purvis and Tony Juniper, do you feel that the United Kingdom is doing enough to enforce the existing MPAs before looking to expand further?

Professor Purvis: Tony will be better placed to answer questions about the UK's protected areas than I am.

Tony Juniper: Shall I say something about the UK's marine protected areas? The very rapid and large-scale expansion of marine protected areas around British territorial waters is one of the big wins in this country since the Aichi targets were adopted. We now have a very large estate of areas designated for conservation in the sea. Now we have to move towards the effective management of those areas. The piece of work we have done so far is to identify those places with high conservation value. Now we need to be investing in a programme to agree the management practices, including in relation to fishing, that will be compatible with those areas, conserving their wildlife and hopefully also recovering.

We are also pleased to see recommendations for highly protected marine areas coming through, and we are looking forward to working with DEFRA on the elaboration of those proposals in the near future. This will enable us to have a subset of those marine protected areas that are heading towards a pristine condition. Such is the state of the marine environment around Britain, following many decades and indeed centuries of human exploitation and impact, that we do not have many places left that give us an idea of what natural seas look like. Investing in the designation and conservation of those, too, will be an important part of the forward plan. I would say that this is work in progress. We have the lines on the maps, and now inside those lines on the maps we have to invest in management practices to conserve nature.

Dr Allan: This is maybe where it is an advantage not having anything to do with any official body. I can say that as far as marine reserves are concerned, yes, Tony, they are there on paper but they are very much unenforced and we need to get serious with how we are looking after them. There are critically endangered animals, like common skates, for example—what they are receiving is totally inadequate for the needs of the species. There are still too few MPAs, particularly in Scotland.

Within the UK there are areas like Dogger Bank, which is out in the North Sea. They receive far too little protection and enforcement. We have the means to identify the boats that are in those areas. All the fishing boats carry AIS, or automatic identification systems. We can sit and look at them and we can tell from how those boats are behaving what they are doing. We really could do much more to protect the MPAs because they support biodiversity. When they go dredging across these areas, it decimates the whole environment.

The small fisheries on the east coast of the UK, for example, are very much in favour of supporting MPAs to protect their stocks. I know that fisheries are a big thing with Brexit, but one of the important elements is to think that if we are protecting our fisheries at Brexit, part of that is protecting the MPAs.

Q11 **Dr Matthew Offord:** It is interesting you mentioned the use of the AIS. Some skippers take the opportunity to turn their AIS off, and I recently asked the Government what they are doing to prevent that. I am very grateful for that answer; thank you.

Dr Larigauderie: I want to emphasise the point that was just made by Dr Allan about protected areas. Quite often, people just decree that so many percent are under protection but there are often not enough resources around the world to enforce that protection. The Aichi target of 17% of terrestrial area under protection was reached, but the reason why it was seen as not fully reached, and therefore not achieved, was that it is by and large not enforced around the world. Also, quite often the areas under protection are not ecologically representative. There are some drawbacks with protected areas that need to be kept in mind when thinking about protection.

Professor Purvis: A couple of quick points. First,a recent report by Global Fishing Watch said that 71 of the 73 MPAs around the UK have had bottom trawling and dredging—the most destructive form of fishing. Tony is definitely right that the management has to now come along.

I would like to expand on Anne's point about protected areas, in a couple of ways. First, we have to take care that the damage is not just displaced from protected areas to somewhere else. We need to work to reduce the demands that we are putting on the planet. Secondly, spatial planning makes an enormous difference to the cost-effectiveness of protecting nature through setting land aside. There has recently been an analysis in *Nature* showing that if you conserve 5% of the world's land surface, the amount of reduction you can make in the extinction rate of vertebrates could be as low as 7% or as high as 43%, depending on where you choose to do it. The cost-effectiveness ranges by more than an order of magnitude, so spatial planning needs to be part of the picture as well.

Q12 **Dr Matthew Offord:** Following on the point that was made by Anne, how can the UK address some of the impacts of its activities upon international biodiversity?

Dr Larigauderie: Perhaps I can talk more generally about monitoring, and then Andy or Tony can talk about the UK situation. Something that is important to implement to reach the next set of targets is to massively invest in monitoring. That is something that has been missing, and it has been a major gap for the 2020 biodiversity targets. What is needed is a biodiversity observing system that would be based on national observing systems. Some countries, particularly developed countries, have observing systems in place but many do not. They all use different protocols. There are not common databases.

One model to have in mind is the climate change community. It has had since 1992—already 20 years—a global climate observing system called GCOS, and it has done just that. It has focused the efforts of the governments around one single system where everyone invests into common protocols, in situ observing stations and common satellites. They have common databases and also a set of core essential climate variables that everyone measures. Then you can inform your models and do all sorts of things with that.

Chair: Anne, I am sorry to interrupt, but our next question is on the subject of monitoring, so perhaps we can move along and come back to that in a second.

Dr Larigauderie: I thought we were talking about monitoring; sorry.

Q13 **Dr Matthew Offord:** Both the press and the public take an interest when they can particularly identify with an issue as part of our inquiry. Dr Allan has already mentioned about rats being eradicated on islands, and that has protected the bird population. I am aware of the work of Freddie Burton in the Cayman Islands with the blue iguana. Is the panel aware of any other iconic threatened species that conservation work has been able to save? If we can identify something like that, we get the interest of the public and the media when they start to realise that these iconic species are threatened and what we can do to help them.

Tony Juniper: That is a very good question, Matthew. One of the things that is striking about conservation in the UK is the way in which interest often can be coalesced around the plight of an individual species, particularly those that are charismatic. At the moment I notice a great deal of interest around the recovery of the curlew. If we managed to enable that species to start recovering, a whole load of conservation benefits would come with it.

It might be that there would be some positive scope to identify a suite of species here in England that we could focus on that would bring wider ecosystem benefits if we achieved their recovery. We have had some great successes during recent times, such as the red kite. We marked the 30th anniversary this year of that bird being reintroduced into England. There is a very active discussion going on around the reintroduction of beaver and various other species that are once more being seen in England. The white-tailed eagle is one where there is work in progress. If

those animals, and some plants as well, could be reintroduced, it would be a way of restoring wider ecosystem health but in a way that would communicate with the public.

Dr Allan: Tony took the beaver right out of my mouth, so to speak. Sometimes it is not just a matter of finding something that is already there, but looking to something that was there and then bringing it back in again. That had me thinking about what a large part the media could play in this. You bring them in, but if you had a film that was following the introduction of these animals and then making them characters and all that sort of stuff, that undoubtedly resonates with the public.

Chair: Thank you very much. Doug, we may hear from you a little bit more shortly, because John McNally has some questions on biodiversity monitoring.

Q14 **John McNally:** Yes, I would like to pursue the excellent answers that have just been given on biodiversity monitoring in the UK. My first two questions are to you, Tony, my third one to Anne and my last question to Douglas.

As you probably know, the Government are currently consulting on their proposed updated monitoring programmes for the UK on marine strategy, just what you have been speaking about. The proposals seek to address gaps in understanding of seabird distribution and abundance over the UK seas. The Government also state they are developing an ambitious target on the condition of marine protected areas through the Environment Bill, with a monitoring strategy to assess progress. The JNCC states that there are significant gaps in monitoring coverage for marine biodiversity. Many other environment groups say that the Government spending on biodiversity has been drastically cut over recent years, leading to a scale-back in monitoring so that the UK now has an alarming lack of knowledge about the current state of sites and the most vulnerable species. Tony, how significant, in your opinion, are the gaps in the UK biodiversity monitoring?

Tony Juniper: We have seen quite a significant reduction in the capacity that we have had in Natural England for monitoring of the Sites of Special Scientific Interest. Those areas cover around 8% of England—about 1 million hectares—and they are the very backbone of our conservation effort. Between 2010 and 2017, the budget available for that monitoring work was effectively cut in half, from about £1.5 million to £700,000. This has led to longer intervals between the visits that we have been doing, thereby leading to less confidence about our up-to-date knowledge of the state of those habitats. This obviously is a cause for some concern as we look towards the process of nature recovery and knowing how we are doing.

Another area where there is a significant gap is the monitoring of priority habitats outside the protected area network. Understanding what is going

on in semi-natural ecosystems is of good quality, but not Sites of Special Scientific Interest.

There remain some areas where we need to do more with various species and groups. We have some good data on farmland birds. The British Trust for Ornithology, for example, has been a fantastic source of up-to-date, good information for decades. We have less monitoring going on for some groups of invertebrates and fewer observers able to tell us what is happening. It is a mixed picture and one that would do well from some further investment.

You mentioned the marine side. In advance of being able to come up with management proposals and the regulations to enable that management of marine ecosystems, we need a basic condition assessment so that we know what we are starting with. There is a piece of work to be done there.

Q15 **John McNally:** That takes me nicely on to the next one. Our written evidence from the Chartered Institute of Ecology and Environmental Management highlights the issues regarding the capacity and skills of ecologists. We are all getting a bit older, as you probably know. The JNCC has said it relies on expert volunteers to collect species data. Tony, how reliant is the UK on the voluntary sector for monitoring? How do we address, as we will have to do, the skills gap in ecologists who collect all this information for us?

Tony Juniper: Quite right; the country does rely hugely on various networks of volunteers and a network of biological recording centres around the country, often organised at county level. Those different organisations have formed a network and we work with that network. We hope that into the future we will be able to make more of that incredible resource of expert volunteers who know about beetles, spiders, lichens, mosses and birds, as I have already mentioned. That cohort of expert naturalists is a huge resource that the country has.

There is a great tradition of natural history in this country, going back to the time of Gilbert White, with people recording the wildlife near to where they live, and with some of those people developing huge expertise. The country does rely on that. I hope that through the future improved monitoring that we can hopefully invest in to better understand the state of nature in this country, we could put some of that investment into bolstering those networks of people and encouraging youngsters to come in—young people who have those kinds of skills. As you say, some of us who have been out looking at wildlife for many years are not young any more. What we need is that cohort of youngsters coming through.

I have been very encouraged by the idea of bringing forward a natural history GCSE, so a part of the formal education opportunities in this country will be about natural history and getting outside and looking at stuff. Over time, there has been a drift away from looking at nature and towards theoretical biology and ecology. Some of these are hugely

important disciplines, but at the same time they are beginning to erode the skills base that has been there for a very long time. One hopes that in the future quite a lot of ecologists will be expert in using not only their laptops, but also a pair of binoculars and a hand lens.

John McNally: I think Douglas will be listening to that intently. I absolutely agree with you.

Dr Allan: I completely agree with you, too.

Q16 **John McNally:** Douglas, can I come back to you in a minute or two? I absolutely agree with everything you have said in your answer. My next question is for Anne. This is extremely important, and I know you have touched on this before. Do we need to shift from measuring the level of activity, such as pollution, to directly measuring the impact it has on our nature and ecosystems? Most importantly, how do we do this?

Dr Larigauderie: Sure, we need to continue measuring what we are doing but we certainly need to measure biodiversity itself and how it is impacted. That is why I flagged monitoring, and investment in monitoring, as a condition for the success of the measures that we are going to take, because we need to be able to follow and assess the success of what we are doing. For that, you need to monitor and to measure. That is why any new post-2020 framework needs to be accompanied by a massive investment around the world in countries' capacity to monitor their biodiversity.

We are talking here about the UK, which is obviously a country that is interested in biodiversity, with significant resource—not enough, but significant resources—allocated to monitoring. But there are many countries in the world that need help with that, and I hope there is investment also to help developing countries, where the large part of biodiversity is located.

Q17 **John McNally:** Thank you. An ounce of prevention is far better than a pound of cure in this situation. It follows on from what Matthew said earlier. Doug, you might be old enough to remember Sir John Grierson, who was reckoned to be the father of the documentary. You have certainly followed on from that. I attended Macrobert Centre in Stirling when you were giving a lecture there, and you inspired quite a few children who came along with their families to your lecture. I have to say that your book is absolutely wonderful, particularly the bit on how you attempted to cross a chasm in the ice with a running jump with the sledge. It was absolutely scary to read.

Dr Allan: Thank you very much.

John McNally: Touching on what we were saying earlier—and I know you are doing everything you possibly can—is the media playing a large enough role in raising awareness of biodiversity and what it means, and the biodiversity loss, and engaging citizens in conservation? I am particularly interested in the GCSE. I think we need some sort of magna

vitae in all schools so that children get something that goes towards an education, and not just in an academic sense.

Dr Allan: I couldn't agree with you more. I think a lot of our issues stem from the loss of connection between people and where they live. I would extend that GCSE in natural history and take it all the way down to primary schools, so that when you are at primary school you learn why the sun rises in the east and sets in the west, what clouds mean and all this sort of stuff, so that you become aware of your place in the natural cycle.

The media has a huge job to do. For a long time we were good at showing the beauty but not fast enough to mix in that message of the frailty of it. It has to be done with a lot of imagination, because it is easy to turn people off by giving them too much doom and gloom. We need clever, imaginative new ways to pass on that message. We are beginning finally to see it and we have a great spokesperson in David. We need more people like David to come forward, but we also need more chances for people to experience nature, which means more money towards being able to take kids out of school into the wilderness to give them a chance to really feel the cold and feel the heat, and so on. That has a lot to do with it.

I believe that across all of the media, whether that is written, televisual or whatever, good communicators are needed. Among those I would put good scientific communicators. We do not have enough of those. There are some great scientists who, when it comes to connecting with a 12 year-old or an eight year-old—it is remarkable, listening to everyone here, how easily we slip into words like habitat and environment, which are meaningful to us but a lot of people switch off as soon as they hear that. They think, "There is jargon being used here".

There is a big opportunity to educate people in a different way and a more natural way, and not just about biology, but about economics, too. We need to change our economic system and our criteria for success. We need to look at a lot of different things in a very different way.

Professor Purvis: I want to chip in on the monitoring and the observing system, following on from Anne's point. We need to massively ramp up our ability to monitor change. As well as monitoring biodiversity, we would benefit from monitoring nature's contributions to people, or ecosystem services—what it is providing to us—as well as the pressures on it. The reason for wanting to know all of those things is that we need to have a much quicker feedback between the state of nature and our attempts to manage it than we are able to manage at scale at the moment.

We need models that link the state of nature to the pressures we put on it. Then we can see whether proposed actions are going to get us to where we need to be. With monitoring, we can see whether we are indeed on the track we thought we were on. In doing that, we improve

our model, we improve our understanding and we have a chance of steering a smooth course to the target. As it is at the moment, we set a target for 10 years' time. Five years in, we find we are undershooting and we cannot do anything about it. We need to really close that gap, with monitoring and modelling working together.

Q18 **Ian Levy:** I have a couple of questions around funding and finance. What has been the effect of the Government cut in funding to Natural England over the last 10 years? I believe that 50% of SSSIs have not been assessed in the last six years. Is this relevant because of the cutback on the funding?

Tony Juniper: Yes, you are quite right; there have been very significant cuts to the budget of Natural England going back about a decade. Those cuts inevitably have impacted on our ability to do the work that we were previously doing. There is a whole range of consequences of this. One I have already mentioned is the halving of the budget that we had available to do site condition assessments. Our planning function obviously has been eroded. The grant-making that we used to be able to do to help NGOs to do conservation work has largely gone. The headcount has been reduced, meaning we have fewer people on the ground compared to what we used to have.

I have pointed out that there is a risk that we may not be able to do some of our statutory functions in the way that we would like. There is a risk of legal action against our organisation for not doing the job that we are required to do. I say that at a time when we are very excited about the future and the opportunities to really bend the curve of nature loss towards recovery in this country. But until we can get our statutory basic functions running properly again, our ability to step into that new space of nature recovery is rather constrained.

During my first 18 months as chair of Natural England, I have repeatedly pointed out the need for stronger investment in nature recovery, including into the operations of Natural England, so that we can deliver not only on the basics of the statutory work that we do, but on the much more ambitious and forward-looking nature recovery agenda that is now being set out by Government, including through new laws that will be in the Environment Bill.

It is a moment for reflection, as the world grapples with the twin crises of climate change and biodiversity loss, as to whether we are investing enough in solving those problems through the official agencies that need to be part of the solution. It is not only Natural England—there are all sorts of other things that need to be done as well—but from my point of view as chair of that organisation, we need more resources to meet the Government's goals.

Q19 **Ian Levy:** That was going to be my follow-on question. Do you think you have sufficient funding to carry on meeting those goals for the next five years? How do you think we could motivate the public to care more about

biodiversity?

Tony Juniper: On the funding side, we had a very welcome increase from DEFRA this year to the tune of about £11.5 million, on top of the £100 million or so that was in the budget the year before. We have been able to do some work to improve the SSSI monitoring, to invest a little more on the national nature reserves, to update our licensing work and to rebuild some of our capacity on the planning side. But that is only a one-off for one year, and that is not going to do the job. We need consistent investments over the years ahead. We are hoping, obviously, to see that through the three-year spending review, but we are back to one year again now.

The public's view of all of this has just been set out by Doug. I think we have a jargon problem. "Biodiversity" is okay for this kind of meeting, but these days I talk about the web of life and the extent to which human civilisation and wellbeing is suspended and embedded in that web of life. It is not something different. I think the science that we have from IPBES, the Millennium Ecosystem Assessment and The Economics of Ecosystems and Biodiversity gives us a strong economic narrative now to tell us why we should all care, because our food security, our water security and our ability to deal with climate change are fundamentally dependent upon the health of nature.

I think something has happened in this country over the last six months or so when we have been forced into this lockdown. We can't go shopping so much; we can't go bowling; the cinemas are closed; and pubs and restaurants are much less easy to use. A lot of people have turned to nature for their health and wellbeing. I think this has led to a bit of a national reawakening of what we have on our doorstep and how much more we could have on our doorstep if only we invested in making our parks wilder, in turning green belts into wild areas, and making our national parks and areas of outstanding natural beauty wilder and more accessible.

All of these things are increasingly evident in Government policy and I think the public appetite is there now. As I say, investing in this—it is there for the taking. The other thing to add is that this is not a huge amount of money. All the different agencies that are doing this in the country operate on a pretty small conservation budget, and a relatively modest increase could deliver massive returns.

Ian Levy: What has happened with Covid-19 has made people think about nature and getting out there and appreciating it. Maybe we are going to have to rethink this a little bit. Thank you; I appreciate that.

Dr Allan: Do I get the last word? I completely agree with all of that, Tony. The Marine Conservation Society, for example, does a thing called Sea Watch, which has been going on for 10 or 15 years, where it trains up sport divers to undertake a survey of a certain area of seabed. It does that and monitors it every year. It has tried to cover the whole of the UK coastline. It is only by having those baselines that we can tell what is

going on. There is what we call citizen science, which has huge potential. I am not saying that all the science should be done voluntarily, but the public are out there and they want to.

Another one that was great was at the start of lockdown the Met Office sent out a general request. It had all these old rainfall records for all around the country, but they were all in handwritten form, so it said, "Can anyone log in and just do a few of those?" It cleared off the backlog in four years—it got all those handwritten logs into digital—so it now has rainfall records going much further back, which allows it to make much better projections into the future.

Q20 **Ian Levy:** That is the other thing, Doug, isn't it? The public want to get involved.

Dr Allan: They want to be involved.

Ian Levy: They have embraced this, and they do want to get involved. Thanks for that answer; I appreciate it.

Dr Allan: Right now we have the springboard, as Tony was saying. Right now it is a good time to bounce into a whole new, imaginatively different way of doing things.

Chair: Thank you very much, Ian. That is a great anecdote, Doug. Our last set of questions for this panel is from Caroline Lucas.

Q21 **Caroline Lucas:** I have a question for Professor Purvis, and it kind of underlines everything that we have been saying so far. How urgent is the need to tackle biodiversity loss right now, and how do we communicate that in a way that makes sure that it gets to the top of the agenda rather than the bottom? One of my frustrations, listening to this absolutely wonderful meeting, is that we are all agreeing how important nature is, and yet if we were in a different meeting—say, a statement from the Chancellor talking about the £27 billion road-building plan or HS2—suddenly all this concern for nature would go further down the agenda, sadly. How urgent is it, and how do we keep it at the top of the agenda?

Professor Purvis: That is an excellent question. It is extremely urgent. As the Chair said earlier, we are going to have another 2.5 billion people in the next 40 years. We need them to have quality of life. If we continue to mine nature rather than manage it, they simply will not. A quick back-of-an-envelope calculation suggests that if we delay conservation action to restore habitats by a decade, that would commit about a further 50,000 species to extinction, which could be saved if we act now. That is a massive number.

I have helped out in some modelling work that forms a sort of annex to Sir Partha Dasgupta's review of the economics of biodiversity, which addresses exactly this question of how much delaying action would increase the cost of achieving a given biodiversity outcome by a given time. I will not be quantitative about the answer, but it is a very big

effect, basically because for any time horizon that you want to make the census date in the future, the longer you leave it, the less time nature has to recover—as nature will do, if it gets the chance—whereas starting that recovery now means you can achieve very much more for a given expense, or if you are prepared you can achieve a given outcome much more cheaply. There is an urgency, but it is the sort of problem that people are very bad at taking seriously, because it is an incremental global problem. We respond much more quickly to things that are like a high-speed train coming towards you, to use the HS2 metaphor again. Our heuristics about what to pay attention to get tricked and misguided about this. I do not have a simple solution as to how we make it vivid.

Sir David Attenborough's approach has been to effectively scream from the rooftops. I was lucky enough to work on the "Extinction: The Facts" documentary, where he was emphasising just how urgent this is. We are not talking about the diminution of nature any more; we are now talking about the eradication of nature that people love and depend on.

Q22 **Caroline Lucas:** Thank you very much. I think you have put it perfectly. One of the things that I appreciate about the IPBES report is the way in which you talk about the need for transformational change; not piecemeal change, not incremental change, but something transformational. There was one thing that I particularly liked, which was talking about the economic system, which people very rarely do. You say there that we need to steer away from the current limited paradigm of economic growth and to shift beyond standard economic indicators such as GDP. Could you say a little bit more about the scale of the changes that are needed, particularly when it comes to our economy?

Professor Purvis: One of the issues at the moment with the way our economy is set up is that sustainability tends to require an act of altruism by the actor. If a company is sourcing all of its goods sustainably and ethically, it makes it harder to make a financial profit. That is because the cost to nature and the cost to the wellbeing of the workforce is not necessarily included and incorporated into the cost of the thing that it sells. It is able to basically mine those resources and profit from them without having deserved the profit, in a sense.

Working towards GDP growth as well as basically assuming an infinite planet—we cannot continue to grow GDP; it cannot continue to happen—detracts attention from social capital, which is hugely important in sustainability. In communities with strong social ties, people do not cheat nearly as much as they do in communities where those social ties and that social capital have been eroded. With natural capital, which is hugely important, we have to be able to move towards a natural capital accounting system that ensures decision-makers act in ways that are sustainable, bringing in the full cost of production.

To caricature it a little bit, at the moment one of the huge problems is not population growth; it is consumption growth. Yes, the population has doubled, but each person is consuming more than 50% as much again as

they would have done 50 years ago. It is not clear that they are any happier, but we have become kind of addicted to consumption of cheap things, economically—but they cost the earth. I think we need to embed the full costs. If we can better align actors with sustainability it also makes it much easier to have targets without worrying about how to enforce them legally, because enlightened self-interest leads you down a sustainable path. At the moment, enlightened self-interest tends not to. We require altruism. For me, that is the biggest single shift, but Anne may also have a different perspective on this too.

Q23 **Caroline Lucas:** Thanks so much. Anne, is there something you would like to bring in at this point?

Dr Larigauderie: You asked about the emergency of the situation, and I would like to flag that one of the conclusions of IPBES was that with these current negative trends, we have missed the 20 biodiversity targets but we are also on our way to miss the sustainable development goals. Solutions are in nature; there is no other possibility. It is only thanks to nature that we are going to solve not only climate change but, as we see now, health issues and our food and water problems. We need to treat nature better, not only because it is the right thing to do but also for our own human interests on this planet.

Q24 **Caroline Lucas:** Thank you. I have a quick question for Tony, which is around the Government's pledge to plant 30 million trees a year to tackle the climate crisis. Tony, could you say something about how the Government can do that while maximising the benefits for biodiversity? Also, crucially, how do we get the balance? Yes, of course, planting trees is so important, but things like peat bogs are also massively important, yet we are going ahead and burning those right now, which seems to me to be pretty much the definition of environmental vandalism.

Tony Juniper: Thank you, Caroline. On trees, at Natural England we try to talk about woodland establishment rather than tree planting. Tree planting suggests plastic tubes and trees being put up to cut them down again to make timber and for other purposes, whereas woodland establishment I think embraces a much wider range of needs of society. In the modern context we don't only need trees for wood—of course we need them for that—but we now need them to catch carbon, to recover wildlife, to make landscapes more beautiful, to be open for public access and wellbeing, to clean up the rivers, to reduce flood risk and to reduce air pollution, and in agroforestry we need trees for food production.

There is a vast number of reasons why we need to be putting more trees back into the landscape, but it needs to be done with the right trees in the right place for the right reason—and, I would add, through the right route, including natural regeneration, rather than simply sticking saplings inside plastic tubes. This is quite a complicated agenda, but one of the things I am very much hoping that we can assist with at Natural England is blending all of these different targets for trees, agricultural policy and net gain into a nature recovery network so that we can make sense of all

of these different functions and values of nature, and so that we can use our different tools to do the very best in the right place, including for public health and wellbeing.

You mentioned blanket bogs, which of course are hugely important for the carbon story. We very much agree that rotational burning should not be taking place on those ecosystems, and we should not be planting trees there. Maybe we should be removing some of the trees that were planted in a less enlightened era during the 1960s and 1970s. In fact, some of the colleagues at Natural England are involved in exactly that on various areas of peatland habitat across the country—removing the wrong tree in the wrong place, from the decisions made in the 1960s and 1970s.

The tree piece is hugely exciting, but I think it goes beyond sticking saplings into the ground to thinking about landscapes, natural regeneration and all those multiple benefits. The good news is that even though it sounds a bit complicated, we can do that. This is something that can be mastered and will hopefully come through the England Tree Strategy, which will be published soon.

Q25 **Caroline Lucas:** Lovely, thank you. Finally, I want to ask Doug—we have touched on this already, to some extent—about the best way of motivating people to care about biodiversity loss. I was pleased that people referenced the GCSE in natural history a number of times. I have been working on that with Mary Colwell, the curlew expert, and the exam board, OCR, has been consulting on bringing that exam forward. There was massive support for it in the consultation, so I am hoping very much that the Department for Education will give the green light to it. As well as education, is there anything else, Doug, that you would point to for motivating people? Is it perhaps seeing some consistent action from policymakers that might make people more motivated, because they would get a single set of messages instead of the very different messages they get from different actors at the moment?

Dr Allan: I know Mary very well, and I know that the pair of you got on very well. I think the key to it lies in education at all levels. My suggestion now, because I know time is running out, is: why not give Rishi Sunak—you know him better than I—a copy of "Doughnut Economics" by Kate Raworth? I think she should be compulsory reading for every MP.

Caroline Lucas: Great idea; I will do that. Thank you.

Chair: Thank you very much, Caroline, and thank you, Doug, for providing us with a practical recommendation for our inquiry. I would like to bring this panel to a conclusion by thanking our panellists—Professor Andy Purvis, Dr Anne Larigauderie, Tony Juniper from Natural England and Doug Allan—for your particular insights from your careers on the natural world. Thank you very much.

Witnesses: Dr Braulio Ferreira de Souza Dias, Professor Elisa Morgera and Kate Norgrove.

Q26 **Chair:** Now we are going to move to our second panel of the afternoon. I would like to welcome another international panel, in particular Braulio Dias, who joins us from Brasilia, where he has been one of the leading figures in the UN Convention on Biological Diversity, I think since it began. Welcome, Braulio.

Dr Dias: Thank you. It is a pleasure to participate in this inquiry.

Chair: Thank you. We are also joined by Professor Elisa Morgera from the University of Strathclyde. Welcome, Elisa.

Professor Morgera: Thank you.

Chair: And Kate Norgrove from the World Wildlife Fund.

Kate Norgrove: Thank you for having me.

Q27 **Chair:** This panel is designed to touch on the role that the imminent COP15 Convention on Biological Diversity has to play in taking the Aichi recommendations forward. I would like us to set the scene, if we could, perhaps with Braulio. I think you were present at the Earth Summit that kicked this off back in 1992, was it?

Dr Dias: Yes, the Earth Summit in Rio.

Chair: Could you set the scene for us about how the UN conference has evolved since its origins, so where you think the opportunity is for this coming conference in China?

Dr Dias: Sure. I think the biodiversity agenda, which is led by the UN Convention on Biological Diversity, has been making great progress since the Rio 1992 UN Conference on Environment and Development. I think the CBD has played a good role in supporting countries to enhance their legislation, their policies and their policy instruments to provide capacity building, and to provide financial support through the Global Environment Facility and through bilateral co-operation, although it is clear now that we have failed to meet fully the 20 biodiversity targets that were established 10 years ago in Nagoya when we adopted the current strategy for biodiversity.

It is also good to acknowledge that there has been some great progress. For example, the first panel already mentioned the increase in marine protected areas, and the UK has contributed significantly to that. There has been great progress in eradicating invasive rodents in oceanic islands. There has been progress in avoiding extinction. There is a recent paper indicating that in the past 10 to 20 years, we managed to avoid extinction of mammals and birds three to four times more than the actual extinctions that happened in the period. This is just to mention that conservation works and there has been progress, but not enough.

Unfortunately, the crisis of biodiversity loss all over the world is still going on at full speed. The reason for that is that we have not tackled straight on the underlying causes of biodiversity loss. That is related to human population growth, unsustainable consumption, unsustainable production patterns, pollution, spread of alien invasive species and climate change. All these drivers of biodiversity loss are still going strong. I think the main assessment I can make of our efforts to protect biodiversity is that we have seen great progress, but it has mostly been limited to the environment sectors in each country.

I think the main failure has been not to promote the mainstreaming of biodiversity into all sectors of governments and all sectors of society. The other sectors are where biodiversity is lost: in transportation, urbanisation, agriculture, energy and so on. Unless we face this challenge straight on and do a good job to engage all the sectors in our Government and engage fully the private sector to take on its share of responsibility, which is huge, we will fail again. I think COP15 will be a unique opportunity to enhance our efforts to protect biodiversity, but it all depends on the will of governments, society and the business community to face this challenge. I think we have a great opportunity to have a great decision at COP15.

By the way, in previous preparatory meetings governments have indicated they understand we need more ambitious goals and targets and they understand the new strategy needs to be transformative. Finally, I want to highlight that governments have indicated their willingness to support a 30-year strategy instead of just 10 years, so we would have goals for 2050 and also medium-term goals for 2030 coinciding with the deadline for the SDGs. That is where we are in preparing for COP15.

Q28 **Chair:** Thank you very much. That is a very helpful overview. You touched on what the ambition is for COP15. Given the impact of the Covid pandemic delaying the conference by several months, do you anticipate from this distance that we will be able to achieve an effective conference next year, despite the pandemic?

Dr Dias: It is a big challenge. We would be looking at more than 10,000 people participating face to face at CBD COP in China. We cannot have that with the pandemic still going on, so it will depend on the approval of vaccines and having a large part of our populations vaccinated, otherwise we cannot have this face-to-face big meeting. We are having virtual meetings to prepare some of the issues for COP15, but COP15 was originally planned to happen this month—this year. Not only has the COP has been postponed and we do not have a final date agreed yet, but some of the key preparatory meetings to advance the negotiations on the final text that might be adopted at COP15 have been postponed.

Currently we have a zero draft of the strategy that was launched in January this year, and then last month a slightly modified 0.5 draft was made available. We are looking forward to having what will be called draft 1 of the new strategy available either towards the end of this year

or at the beginning of next year. But the actual negotiations are at a standstill. There are informal bilateral conversations among governments, and that is good. There are meetings taking place between many stakeholders, the scientific community, civil society and the business community, so all that is great, but the actual negotiations to allow us to agree on an ambitious new strategy for biodiversity at COP15 is still to happen. That is the challenge that we have.

By the way, as we refer to the pandemic, I think that we need to make clear to everyone listening to this hearing that the pandemic is a direct consequence of the destruction and degradation of nature and of illegal wildlife trade. This mismanagement of nature and the fact that we are allowing nature to be destroyed in this way is hurting us. There are estimates that this pandemic alone will cost us something in the order of 10% of global GDP, so that is quite a lot of money. Conservation of nature and the control of wildlife trade would cost certainly 100 to 1,000 times less than the cost of just one pandemic, so we should be able to convince people that investing in nature will pay us back very importantly.

Q29 **Chair:** That is an important observation. Do you think that analysis is shared by the hosts?

Dr Dias: I think so, yes. This pandemic apparently started in China, although there is some new evidence that it might have started a little earlier at the end of last year elsewhere, but clearly China has had a problem with what we call the wet wildlife market. After the outbreak of the pandemic, it banned this market throughout China. We do not know if it will keep this ban permanently, and of course China is not the only country where we see these kinds of markets. I hope COP15 will also help to make a strong decision on that so that we can avoid future pandemics.

Q30 **Chair:** Thank you very much. I am going to ask Kate to give a quick observation from civil society, the NGOs, for your expectations from the CBD 15 conference before we move over to Barry Gardiner.

Kate Norgrove: Thank you, Chair. You heard originally in the last panel just how urgent and serious this situation is. Nature is in freefall, and I think that the only way to tackle it is through looking at the way we use our land and use and abuse our seas. This nature loss is driven primarily by the food and agriculture system and a change in land use. We have to tackle the way that we use our land if we are going to do that in this year where we are hosting COP26 and we have CBD.

Our view of the draft 0.5 text is that it is nowhere near good enough, and that the framework needs to be much more transformative and ambitious in its goals and targets and comprehensive in its tools for implementation. If I can use a comparison with climate change, the world, in a way, is on the right pathway. It is not nearly fast enough nor ambitious enough by any means—in fact, we are looking at a plus-3 degree world, which shows that it is nowhere near good enough—but

there is at least a broadly accepted direction, shown recently with China's announcement to be net zero by 2060. The same cannot be said for nature. There is no global goal that the world is driving towards on nature. There are 12 biodiversity targets in the SDGs but they run out this year and are not, so far, due to be replaced. There is a plethora of targets in the Aichi framework and, as I said, there are nowhere near good enough targets in the 0.5 draft either.

The UK should ensure that this post-2020 framework includes a mission statement, a goal for nature, so that we can do for nature what climate targets do for emissions. We need that because we need to have a clearly stated global direction to drive investment into the right places. We need to signal to markets, to the public and to national policymakers the level of ambition that we have all together. Then we also need attention, as some of the previous speakers spoke to, on the implementation of the CBD.

The sort of implementation mechanism that we are looking for would require governments to translate this global target or global goal into relevant national planning processes. It would require the review of progress made, not every 10 years or even every five years, but reviewing it in the same way that we are doing on the Paris Agreement. We would then ramp up the delivery of plans and action to have a requirement to ratchet up ambition overall. That is what we think needs to be seen in the COP15 process next year.

Q31 **Barry Gardiner:** It has been a pleasure. The first panel was excellent and I am looking forward to this engagement. Braulio, can I start with you? First of all, I just want to thank you for all that you have done over the years and during your tenure at the CBD. We in GLOBE certainly felt the support that you and people like David Cooper gave, and it has been fantastic to hear you today.

I wanted to start off—perhaps this is a difficult position to put you in—by putting to you some of the criticism of the zero draft or the 0.5 draft. Many people looking at that and seeing the ambition that we had at Nagoya—and even before that in 2002 when we set the 2010 biodiversity targets, none of which have been achieved, or certainly not in full—say, "It seems to be rowing back". You talked, quite rightly, about addressing the drivers. Here we have targets for species loss, which is the percentage of species threatened with extinction being reduced by a yet undecided percentage. If we let them all go extinct, they will not be threatened, so these are meaningless targets, aren't they, in one sense? In so many ways there is this sense of disappointment that in trying to be realistic we have lost the sense of ambition that you certainly had during your tenure at the CBD, trying to drive the Aichi targets forward, and that sense of urgency that Kate was just speaking about.

Dr Dias: I fully agree, Barry. The zero draft and the 0.5 draft are not ambitious enough and they lack the quantification. We need goals and targets that are measurable. Just having some nice wording for goals and

targets will not take us anywhere. We need much more ambition. If we look at the current strategy, which is quite ambitious, even if not enough to fully face the scale of the challenges, we have a major problem with a mismatch between the level of ambition of the global targets—the Aichi targets—and the level of ambition of national goals and targets. It is a huge mismatch. The same thing happens with climate change, so if you look at the indices and you compare with the global targets for climate change, we will not get there.

The Paris Agreement made a big breakthrough, thanks to the strong support of Obama's Administration, to have a five-year review process. We do not have something like that under the CBD and I think we need good, strong global leadership to make sure we can have that as part of the package coming out from COP15. Of course, many governments are rather unwilling to be very ambitious regarding biodiversity goals and targets. Many countries still see these goals and targets as a cost, not as an investment, and they see this as a challenge for their economic and social development. We still have this kind of thinking in many parts of the world, which does not help.

Papers have been produced by scientists indicating clearly that, given the scale of the loss of biodiversity, it is not just the biodiversity that we are losing; we are losing ecosystem services. One example is pollinators. We are losing pollinator species in Europe, in the UK and elsewhere, and with that we are losing productivity in the food systems. People need to understand the nexus of biodiversity and ecosystem services and other major issues of interest to society. We all want to have clean water in good quantity; we all want food security with nutritious food; we all want to be healthy; and we all want to have the support of biodiversity and natural resources for our economy. People need to understand these links so they know that as a consequence of the failure and the loss of biodiversity, they will not have access to all these other goods and services that we need.

The issue of urgency is one that people do not understand. It is different from climate change, where you can see a storm or you can see where the sea level has been rising. Most people do not see the loss of biodiversity, because it happens in the wilderness and most people live in cities. That is a major problem. The big issue that a number of scientists and conservationists have been calling to our attention is that it is not just those threatened species that are at risk. The World Wildlife Fund Living Planet Index, which is produced in partnership with the London Zoological Society, clearly indicates that over the last 40 years we have seen an average drop of more than 60% in the population of animals that have been monitored all over the world. The problem we are facing now is that even the common species are becoming threatened. The scale of the problem will be huge.

Then with climate change coming in stronger and stronger, biodiversity has to be seen as one of the answers to adapt to climate change. Climate

change will have a huge impact on food production everywhere in the world. Even though some people in England are happy to see that maybe they will be able to produce grapes and wine in England, climate change will have bad impacts overall. The only way we can adapt agriculture to face the challenge and the scenarios of climate change is with biodiversity, genetic resources and ecosystem services, but if we continue to lose these, we will be lost. We will have no chance to adapt to climate change.

The urgency issue is very significant. One of the answers to why many countries and societies have not done enough to face the challenges of biodiversity loss is that they do not understand the nexus—these links with other issues—and the other is funding. We have to face the challenge of financial resource mobilisation and I think the UK should step up. The UK has, for example, the Darwin Initiative, but that is a very modest initiative globally. You need to step this up and increase it.

Article 21 of the CBD has the provision for the establishment of a dedicated financial mechanism to help implementation of the CBD. This was never implemented—never. We have the Global Environment Facility that funds many conventions, but for the last 10 years the funding level of the GEF has reached a ceiling. It has not been increased, so the problem is increasing but the funding is not increasing. Unless we can face and find solutions for this, there is no way we will be more ambitious at COP15.

Q32 **Barry Gardiner:** Would it be a good outcome if one of the recommendations from this inquiry to our Government in the UK was that they should substantially raise their contribution, both to the GEF and via that as the funding mechanism for the United Nations environmental work?

Dr Dias: Certainly. Climate change benefits from the GEF, but it has established several dedicated financial mechanisms. The CBD has never had the strong support of key nations to get there, so that is an important issue.

I would also like to stress what was raised in the first panel. More than 90% of the biodiversity of the UK is in its Overseas Territories. Of course the UK has done a good job in expanding the number of marine protected areas; the challenge is the management and the enforcement of these areas. But the UK should do much more for its Overseas Territories and also help other small developing nations and territories in small islands near the UK Overseas Territories. That is a strategy that France has been implementing over the last decade, and the UK could be doing the same.

There are issues where the UK has a clear advantage to play a bigger role. The first panel mentioned the issue of eradication of invasive rodents in oceanic islands. They are a major source of extinction of biodiversity. We have proven this is effective, but we need more money to hugely expand this initiative. We have lost more than 50% of the coral

reefs all over the world and unfortunately the predictions are that if climate change continues as it is, we are going to see the disappearance of all the coral reefs in the world within a decade or two. That is terrible. We will need much more attention to coral reefs. I think that the UK Government could and should play a major role in issues like that.

Barry Gardiner: Message received loud and clear. Thank you for that.

Dr Dias: One issue, Barry. When a country like France ratifies the CBD, automatically all its Overseas Territories are under that convention. With the UK, it is not the case. Many of the UK Overseas Territories are not under the mandate of the CBD. That is something you should look at to help correct, so the UK should make sure—

Q33 **Barry Gardiner:** We have a constitutional problem here, which I have raised many times with the Foreign Office, but again it may well be an outcome of this report that we stress that issue once more.

Dr Dias: I have been told by a colleague from DEFRA that the UK Parliament needs to receive a request from people in its Overseas Territories. There is no human population in many of the UK Overseas Territories. It is just animals, and they don't know how to make a request to Parliament.

Q34 **Barry Gardiner:** It is a very convenient excuse that is used by the officials in the Foreign Office and DEFRA to play off against one another.

I want to focus on one of the things that you said, and perhaps bring in Kate and Elisa. You made this comparison—indeed, Kate also did—with the UNFCCC and the NDCs and of course in the CBD we have the NBSAPs. I think you know that over a long time I have been wanting to see the NBSAPs become more like nationally determined contributions. Perhaps if I could turn to Kate, then Elisa and then back to Braulio. How can we create a system in the CBD where these commitments and the ratcheting process, the five-yearly review process that Braulio spoke of, can be embedded within the CBD so that the international structure is supporting the achievement of those goals?

Kate Norgrove: I look forward to hearing from Elisa as well. As I said originally, I think that the key thing is about requiring some attention on the implementation of the CBD and translating the framework and targets into relevant national planning processes, and this ratcheting process that you referred to as well, Barry. I think though, almost more importantly, we need to think about finding areas of common interest over the next year between COP15 and COP26, because nature and climate, as the Prime Minister himself has said, are two sides of the same coin. One way of ensuring that there is increased attention on the CBD is to link the two processes together. Can we use the momentum of COP26 to pull up the CBD? Is there a moment in 2021 where we can trail both COPs? We need to somehow jointly boost political ambition and secure global action on both sides of the coin.

I would like to pull out three areas of common interest. One is the global footprint of the agricultural sector. I think it is too easy to blame the pandemic on wet markets and on the wildlife trade. While the illegal wildlife trade will have contributed, the evidence shows that it is about land use change, driven primarily by food and agriculture. We need to tackle those negative impacts of our production through decisions that will require actions in both the UNFCCC and the CBD. What we are looking for is a commitment in the CBD to tackle global footprint—and currently that is missing entirely from the zero text—and to use the process over the year to draw together a group of producer and consumer countries to tackle footprint.

There is consultation on the due diligence obligation in the Environment Bill, which I hear is now due to come out on 3 November. We hope that this consultation on due diligence will also include or be based on more than just legality. If we have a good commitment from the UK on tackling our global footprint, in particular looking at deforestation embedded in our supply chains, as Professor Andy said earlier, we can use that as a basis for an international agreement in 2021 to make this the norm. We think China might be quite receptive to this idea because of growing pressure to green the Belt and Road Initiative.

The other area of common interest is protected areas. We have heard earlier about this 30x30 commitment—country coalitions of protected areas that are active in the UNFCCC and the CBD. The UK is leading on this Global Ocean Alliance. That would benefit from collaboration across both COPs.

Last but not least are nature-based solutions, which are an area of focus for COP26 for the UK Government. That means not just landscape-level conservation, which we have heard a lot about in these sessions, but again tackling the reason why biodiversity loss happens, which is because of our land use and agriculture. I think a decision that can recognise the crucial role of nature-based solutions, including the systemic reasons behind nature-based solutions—while we plant trees with one hand and take them away with the other—could be a real area of opportunity to work across both CBD and UNFCCC.

Q35 **Barry Gardiner:** Thank you. I turn to you, Elisa, as our legal specialist today. Have you ever known a plan in which they say, "We will decide on the means to implement it two years after we have started it, and then we will see if we want to commit to those means of implementation"? Just structurally, as an institution, do you not find this incredible?

Professor Morgera: Yes, that is a good point. It shows that how we achieve biodiversity targets matters as much as what kind of quantities we are looking at to monitor progress. That very much speaks to the questions that have been raised around ambition and urgency. No matter how much I was hoping for the CBD COP to happen when it was supposed to happen, there has been a sea change in perceptions. Negotiating the framework six months ago the concern was, "We are

negotiating something that people are not aware of and are not interested in. It is so hard for us to connect with a particular sector or with everyone's lived experience". Those six months have changed everything.

Now not only do we have the economics, the law and the science to show how each and every one of us now—not future generations—can be impacted in dramatic ways, but we have also a sense of dependency and regeneration that comes from the contact with nature. I think negotiating the framework and the delay that has been brought about by the pandemic has created a unique opportunity for the Government and all other stakeholders to be much more ambitious. That also requires learning how the CBD is a very unique process. For all that I share the views of colleagues about what we can learn from the climate regime that we can do within the CBD, I also think that the CBD has unique contributions that we do not find in the climate regime or in other international processes.

There is an opportunity for the UK as a champion to use the existing decisions that have been adopted by the UK as well as 195 other countries, where we have developed guidance to ensure that in our actions to achieve climate mitigation or climate adaptation, we do not violate human rights, we take holistic approaches and we do not lead to further deforestation. All those concerns around policy coherence, achieving multiple SDGs and achieving sustainability as well as equity are things that have been discussed and captured in very helpful and broadly agreed guidance under the CBD. But unfortunately we do not see those then making strides and inroads in other sectors.

To me, the question is: how do we make what the CBD has already done matter in other regimes where we have the structures for monitoring progress in a different way? It is up to every government that is party to the CBD to ask for that in the climate regime and the chemicals regimes. We see this happening already in some of the human rights monitoring mechanisms. We have very different ways in which these existing international monitoring mechanisms assess performance by governments, the kind of powers they have and the pressure they can apply. Different constituencies of stakeholders use them for the purposes of holding governments accountable.

Q36 **Barry Gardiner:** I want to push back at you slightly here, because I think this is a critical area when you are talking about monitoring. With the UNFCCC we have a unitary indicator, carbon. In biodiversity we do not, and establishing that unitary indicator gives us a serious problem. I would welcome your thoughts on how we overcome that and what indicators we should be using as the fundamental ones. The other side of this, though, is the baselines that we have. In this country we are very fortunate because we have 200 years of data. In many countries they have not had that data, and therefore the baselines are unknown. I wonder if we should be going back on ourselves a little and saying that

countries like the UK should be enabling countries to establish clear data about what they have, because unless you know what you have, you cannot then know how to manage it.

Professor Morgera: On the point of carbon, it is hard for biodiversity to come up with a unitary way to assess progress, but this is both the strength and the weakness of the climate change regime because not all carbon reductions are equally good for us. There are some that damage biodiversity and some that violate the human rights of indigenous peoples or our own chances of better health in the near future. I think that on the climate side, carbon is helpful, but only to some extent. How we achieve emission reductions is really what counts, and that is where the CBD can bring the "how" into that. We want that exchange between the two regimes that I think Kate was alluding to.

The second point—and thank you very much, Barry, for the question—is what the contribution of the UK can be to the science behind biodiversity. We have a lot of science, but the science is quite disconnected still and some countries may have more or less capacity. In fact, one of the hats I am wearing today is as a director of the one of the Global Challenges Research Fund hubs that the UK has funded. It is leading to fair partnerships in research between the global north and the global south, pushing the boundaries of all the disconnections in science that preclude cohesive and transformative approaches in governance.

I do not know of any other funder in the world that has taken the same vision and approach as GCRF has done. I know from my own experience of the One Ocean Hub, but also other hubs working on other matters related to biodiversity, that there has been a whole change in how we have worked over decades. We see how that can be transformative and how we need to transform the way in which the UK and other donors support research, in order for that to feed into more inclusive and integrated approaches in the governance of resources and collaboration among governments, which is what biodiversity needs.

Chair: Thank you very much. Thank you, Barry and Elisa. We have three more sets of questions and we are effectively out of time, so can we have slightly more concise answers, please?

Q37 **Claudia Webbe:** I will try to be absolutely precise, because obviously we have absolutely run out of time. I want to build on something that Braulio said right at the beginning about looking at the root causes of this issue and the need to get a number of bodies—key actors—working together to find a solution. Professor Elisa, how would you like to see the UN engage citizens and stakeholders, including businesses, financial institutions and the agriculture and food sector, in the new framework?

Professor Morgera: Thank you very much for that question. I think that is the million dollar question about the framework. That is what the framework is meant to be, to become a reference for all sectors of society. The current draft embodies that ambition of a whole society

approach. When it comes to how we do that, I think the first point is realising how biodiversity is essential for very basic human rights and how our very basic needs for life to health, food and water are dependent, and recognising also the rights of indigenous peoples and local communities. Building an ongoing effort, which the UK has been party to, to address the responsibility of business to respect human rights also means bringing biodiversity into all those efforts and making alliances with the human rights groups to push biodiversity much further up in the agenda so people feel that they all have a stake. Human rights methodologies can help with that more inclusive approach.

Q38 **Claudia Webbe:** Thank you very much. Braulio, what advice would you give to the UK Government on their negotiating position going into COP15? I will ask this as my last question, Mr Chair, because I can see that I am three people away from speaking in the main Chamber. It is a real pleasure, Braulio, to see you here today, and thank you for all the work that you have been doing across this field.

Dr Dias: To comment on the earlier question, when we adopted the current global strategy for biodiversity in Nagoya in October 2010, all governments agreed to update their national biodiversity strategies and action plans and adopt them as policy instruments for the whole of government. The good news is that in the review of the current NBSAPs—the National Biodiversity Strategy and Action Plans—around 70 governments have adopted their updated NBSAPs as a whole of government national policy instrument, and some 20 others indicated that they would do that. That is around half of all the countries that are members of the CBD. It is significant progress, but we need more. Biodiversity policies need to apply to the whole of government and to the whole of society. That is one key way to do it, and we should be pressing for that.

The role that the UK can play in the lead-up to COP15 is potentially big. The UK will be finalising Brexit and will be playing an independent role in the negotiations of the CBD, because up to now it has been a member of the European Union and the negotiations have been co-ordinated by the European Commission. I think the UK will have more freedom leading up to COP15. I would like to remind you that although we have almost 200 countries—in fact, 195 countries plus the European Union—as members of the CBD, there are fewer than 20 countries that are proactive in the negotiations. We have to make the most of the proactive countries because they are the ones that push the agenda forward. I would like to see the UK playing this role as we move towards COP15.

There are a number of issues where the UK could decide on issues where it would be pushing and putting on pressure to get a result at COP15. I would like to remind everyone that all decisions under the CBD have to be made by consensus—we do not have a voting rule. You have to help convince other countries, so you have to liaise with other countries bilaterally and regionally to get their support for your proposals. It is

clear that there is a need for more ambitious goals and targets, and more ambitious and effective implementation mechanisms, so we cannot wait two or more years after the decision is made at COP15 to start thinking about how to support implementation.

The issue that Kate raised about the interlinkage between the climate change and biodiversity agendas is an important one. We do not have a clear mechanism for engaging and strengthening a joint implementation of both conventions. All we have is a liaison group of the secretaries of the conventions, so I am taking part in that. That is not enough; it is just to share information about the next meetings, and so on. This could be adopted at COP15. We started a process in Cancún in 2016 at COP13 to make progress on better co-ordinating all the global biodiversity conventions—there are seven of them—so that is one effort.

There were decisions made at COP13 and 14 asking for more co-operation among the Rio conventions, including on climate change, biodiversity and combating desertification. The willingness is there, but we need concrete proposals to put forward in the negotiations.

Q39 **Cherilyn Mackrory:** We have already touched on what I was going to ask. I want to thank Kate for her earlier answer about potential communal outcomes of COP15 and COP26. Obviously 2021 is going to be a big year for biodiversity and climate change and how we tackle that internationally. I am interested to see how the UK and China can work collaboratively next year, perhaps at the COPs but also because we are both host nations, and how we can achieve mutually beneficial outcomes at the COPs so that they mean something. I am thinking that a lot of behind-the-scenes work will have to go on here. Kate, could you expand on that and what you think we might be able to do?

Kate Norgrove: Yes, of course. It is obviously a politically challenging moment for all of us, but I think it is fair to say that, to our knowledge, China is the only large country with a comprehensive land use planning framework for biodiversity ecosystem services and DRR, or disaster risk reduction work. It is quite far ahead and, in combination with greening the Belt and Road Initiative, I think that there is a lot to build on from what China has done nationally. I think that the UK can work closely with China in looking at the expansion of that—it is called the redlining initiative—to see how we might then look to address the footprint issues that I referred to earlier. We need the UK to work internationally to get this agreement on the way that we consume too much, which is what some our earlier panellists talked about, and the impact of that on biodiversity and nature loss. I think that would be one good way of China and the UK working closely together.

The other way, as I talked about, is nature-based solutions, which is quite linked in. In fact, if I can reflect a little bit on some of the earlier points that were made about bringing in the public and the role of the public in support for CBD and biodiversity, I think the public is obviously key. The SDGs have shown how important it is to bring the public on

board with some of these big international agendas. I also don't think we can blame the public for a lack of action on biodiversity because that is our responsibility as governments. In the UK, I think the public would be horrified to know that we are unwitting drivers of wildlife and biodiversity loss through the products that we consume. I think we would also be horrified by some of the stats that came up earlier about marine protected areas.

The UK needs to play a leadership role in our own territories in the UK in protecting land and sea properly and, in fact, in tackling our footprint abroad. We can do that very nicely and very well with China through the work that they have been doing on national redlining.

Dr Dias: If I may, I would like to support this. I think the UK can enhance its collaboration with China leading to COP15. China has made some great progress internally in the last decade regarding biodiversity, but it has very little experience in international environmental negotiations and international environmental leadership. That is an area where the UK has much more experience, and you could tie up with China to come up with some joint proposals for the COP. China wants to see the most coming out from the COP, of course, as China is the host, but it does not have all that experience in international negotiations, so I think that partnering with some other countries would help very much.

Nature-based solutions is a concept that has so far not been discussed and negotiated under the CBD. We have two concepts that have been fully discussed and adopted under the CBD. One is the ecosystem approach; the other is ecosystem-based adaptation. The nature-based solution has been proposed by IUCN. This concept is still not fully developed, so there is a certain uneasiness by many governments to fully support the use of this concept of nature-based solutions at COP15 unless we move quickly to have some preparatory negotiations on this, and to clarify and have a decision at COP15 fully defining what is the meaning of nature-based solutions regarding the CBD mandate.

Q40 **Cherilyn Mackrory:** Thank you, Braulio. I am going to change tack slightly. In the run-up to the Paris climate summit, the UK deployed a special representative on climate change to support efforts to secure a climate deal. Is there a case for the UK to appoint such a special envoy on climate change and biodiversity in the run-up to the two summits next year? Do you think that would be beneficial? I am going to throw it open. I don't know who wants to start.

Professor Morgera: Is it okay for me to take the floor?

Cherilyn Mackrory: Please do.

Professor Morgera: Yes, I think this is a really good idea. There is an opportunity there to make an additional link, which is already starting to happen in the climate regime, which is a connection between biodiversity, climate change and the oceans. The CBD has done quite a lot of work on

biodiversity, oceans and climate change, but in the climate change context we are just starting to understand how important the ocean is. There is an opportunity to get to a more concrete understanding of how these regimes—and other regimes that China, the UK and many others are negotiating with at the UN in New York—can work together.

There was also mention in the 30x30 pledge of world leaders. There is an important opportunity there to identify how those regimes and the new commitments that are being negotiated internationally can work together with that understanding, as Braulio said, of the ecosystem approach, which is a force for policy coherence. The integration of traditional knowledge—this idea of extending the science basis we are using, which is something that IPBES has been championing—is something where I think the CBD has a lot to offer to other regimes as well.

Q41 **Cherilyn Mackrory:** Kate, did you want to come in?

Kate Norgrove: I think there is a big diplomatic outreach that needs to happen, whether it happens through some sort of special adviser or whatever, that would link the two processes. That is one idea, but it is just about reaching out to China and encouraging the diplomatic negotiations and exchange that inevitably is going to need to take place. As Braulio said, the support to China, where it asks for it, with the international diplomacy will be important. Certainly, there needs to be some event—a moment in the New Year—to bring the two processes together. There could also be a diplomatic win to see if China would sign on to the Leaders' Pledge for Nature, which 75 countries have already signed in the last few weeks. I think there are plenty of opportunities, but the UK needs to grab it from a diplomatic perspective.

Q42 **Cherilyn Mackrory:** Thank you; that is great. Before I hand back to the Chair, I will throw this open to everybody. Stakeholders have recommended a joint memorandum between the two conventions—I believe we touched on this earlier, and it is a good idea—perhaps a covenant for people and nature to link the climate, biodiversity and sustainable development goals. What strategies should be used to address the triple challenge of those three?

Dr Dias: There is a great opportunity because clearly there are important linkages between both agendas, biodiversity and climate change, and also with the SDGs. For example, just promoting ecosystem restoration can deliver great results for both conventions if we do it right. Both conventions are framework conventions, so there is no limit on what we can propose as a mechanism to enhance their implementations. It is just a matter of creativity. We need to be creative, we need the support of experts to help design some good proposals and then we need good diplomatic skills to negotiate with other countries to get support. It is totally feasible.

One concern that I see on the part of many governments is that as we move towards working in a more co-ordinated way between the two

conventions, there are concerns that we should not be losing the specific mandates and commitments under each convention. For example, just because under the CBD we can expand protected areas and expand ecosystem restoration, it does not mean that countries should not keep their commitments to reduce greenhouse gas emissions. As long as we are aware of this and make sure we are keeping the specific mandates of the two conventions, I think there is a lot of room for new proposals.

Cherilyn Mackrory: That is great, thank you.

Kate Norgrove: The nature-based solutions is not a cop-out. It is not a way of stopping decarbonising economies. I think there is a huge risk with nature-based solutions being such a focus for COP26 that we can somehow say that planting trees is a way of getting away from the difficult decisions we need to take on carbon emissions. One important thing is that the discussion and recommendations to the UK Government are not just about the soft stuff, because we have made it extremely clear that the major reason for biodiversity loss is land use change and agriculture systems. That is essentially about money, what we value in the world, where we put it and the investment we give our farmers to invest in the right thing. With a really good Agriculture Bill that rewards farmers for public goods, we are on a good standing to do more in that area.

Professor Morgera: I think in connecting the two conventions, there is an opportunity for biodiversity to build on what has been done very successfully on climate mainstreaming. As Braulio was saying, the challenge is that biodiversity is taken as seriously and as urgently as it needs to be across sectors. I think we have made a lot of progress on climate change and we have routine discussions—even if they are perhaps not sufficient, as you say—in the transport sector, infrastructure and health. That is an area where I think that looking at the co-benefits from a biodiversity and climate change perspective will benefit us in mainstreaming across these sectors and building on the successes that the climate change regime has been able to achieve.

Cherilyn Mackrory: Thank you; that is great. I think the conversation is now about people really understanding that circular thought, or, more likely, the web that we referred to earlier this afternoon. On that, I am going to hand back to the Chair.

Chair: Thank you very much, Cherilyn. We have a final set of questions from Jerome Mayhew on what meaningful actions can come out of CBD15.

Q43 **Jerome Mayhew:** It is a great honour to be promoted into the position of bringing this Committee home and working out what the conclusions should be. Before I do, I want to reflect on something that Kate said—I took a note at the time—which is, "For climate change, we have net zero by 2050, but we've got no similar goal for nature". I think that is a powerful point. I have been in Parliament for less than a year, but I have

already seen how useful it is to have a legislative target, because then it goes outside of the Environment Agency—or DEFRA, in our case—and it is considered right across policy, right across Government. I fully endorse the view that you expressed.

We have already heard that our existing protected areas just aren't being monitored in a way that gives you confidence that the designation and protection leads to an increase in biodiversity. I think the evidence that I have heard today makes that conclusion pretty overwhelming. We are moving from one set of targets, of which we have met some but have not met most, and designations that are not reliable in achieving the result we want, which is biodiversity, not protected zones. We are going towards the pledge of 30% protection by 2030. How do we make that meaningful? What needs to change in implementation, marking our own homework and all of that? Kate, because you came up with that profound thought, I am going to start with you and then I am going to go to Professor Morgera.

Kate Norgrove: Many organisations have come together on the goal we have written and agreed—and it is published in the "Living Planet Report"—which is, by 2030, to halt and start to reverse the loss of biodiversity and put nature on a path to recovery for the benefit of all people in the planet. In 2030, we need to have at least as much biodiversity on the planet as we have now, and then we need to restore it up very steeply until 2050. It is not going to be good enough to have a 2050 or 2060 target here; we need to have something for 2030. As we have said before, we need to have a mechanism that translates that framework into national action that reviews the progress much more often than every five years and that ramps up or provides this ratchet mechanism.

The CBD is a bit like the UN; if you did not have it, you would have to create it. We have to invest in it now to make it work, to ensure it has the level of traction that UNFCCC is starting to have and, as Professor Elisa has said, to bring some of the complexity of the CBD and the good parts of it into the UNFCCC. But it is about having a single goal that we can all mobilise around, translating the framework into national plans and having a way of ratcheting up delivery to make sure that each year, year on year, we get better at it.

One last thing on the sustainable agriculture piece is that we have to tackle the drivers of biodiversity loss. We cannot just talk about it as a target up in the air. We have to tackle it, looking at our footprint and looking at the perverse subsidies that mean that we reward the wrong things in our agriculture and land practice. We can do that by the UK taking a leadership role in the Agriculture Bill and then in the Environment Bill and on oceans as well, looking at and tackling our footprint overseas.

Q44 **Jerome Mayhew:** Thank you. It is great, and genuinely encouraging, that we have those two landmark Bills going through Parliament at the

moment. I am particularly encouraged by the Agriculture Bill, and I think it replaces the CAP in a very positive way. It is just the beginning, but it is great.

Professor Morgera, could you focus on the mechanisms? We have heard about a ratchet. Can you expand a little bit on that so that we have an idea of what structures we need to put in place?

Professor Morgera: What has been interesting is that the CBD has experimented with a model of peer review of implementation. That has taken a slightly different view on making things effective, based on the realisation that every single country, from the most developed to the least, struggles with the idea of a holistic approach to the ecosystem approach. There is an opportunity there to make that system, which is a constructive way to look at where countries are doing well, but also at where they are struggling, and how other countries can suggest approaches and share learning.

As long as it is seen as an equal partnership between the global north and the global south—as long as there is no assumption that in the global north we are doing better—that can be quite an important element. There is a lot that we have to exchange on good practices and transformative change, which very much comes from that continuous learning and sharing across nations. I think that is an important experiment that has started under the CBD, and it will be important for a country like the UK, which invests so much in ground-breaking research, to suggest a very serious approach to it and maximise the benefits that can come from it.

There is a lot of aggregate data assessment at the CBD secretariat, including looking at contributions by stakeholders. That is also important. There has been a new emphasis on the collective contributions of indigenous peoples and local communities, and there has been some engagement with the private sector. We can look at the contributions of not just governments, but other actors, and learn what has worked and how other countries may benefit from it. Together with that, there needs to be something that has never been a possibility within the CBD—maybe things are changing and a champion is needed—which is to have a closer look at where things are just not good enough and more urgent action needs to be taken by individual governments and by governments together.

A combination of these three things is important, because they are hard targets to meet. It is very important that we do it by changing the economy around, changing very embedded patterns and seeing biodiversity not as a competing interest, but as a precondition for all the other sectors of society to flourish. It also takes learning and it needs support, as well as maybe a harsher look at where we could do better.

Jerome Mayhew: Thank you very much indeed. It is great to remind ourselves sometimes, as national politicians, that this is a global partnership and it is not just about us and what we do, important though

that is, but we have to help other countries and be helped by other countries. On that note of unity, I will hand back to the Chair.

Q45 **Chair:** That tees me up to use Chair's privilege to ask one final question about the targets for access and benefit-sharing. In particular, how credible and realistic might the proposals be that emerge from a conference that is hosted by one of the least accessible countries in the world, when one of the most accessible but least inclined to share benefits, the United States, is not as engaged in this as it should be? Elisa, would you like to comment on that?

Professor Morgera: I think access and benefit-sharing is the element in the convention that brings to the forefront how important a real partnership between different countries on biodiversity is, and where we have seen the most pushback by countries. One thing that it is important to mention is that if the UK wishes to play a championing role vis-à-vis the post-2020 framework, it also needs to play a positive role in the current debate of digital sequence information—the new frontier where we need to share benefits fairly and equitably for biodiversity research and collaboration to go ahead. Many developing countries will hold that as an important element of discussion for showing partnership to accept the global framework. I think there is a lot that different countries can do in access and benefit-sharing. Sharing of lessons learned is one, and sharing practice, but also improving our research structures, which is itself already a barrier to sharing benefits down the line. Again, there is a lot of experience on the One Ocean Hub that I would be happy to share in writing.

Q46 **Chair:** That would be helpful, thank you. A final comment from Braulio.

Dr Dias: I think there is a great potential for access and benefit-sharing. However, most governments do not have a full legal framework in place and many countries have a biased framework, which goes against science and technology developments. There is a big push to fight against biopiracy, but people ignore the fact that if you do not provide access to genetic resources and associated traditional knowledge, there will be no progress in science, no new products developed by technology and nothing to be shared with the providers.

We need a virtual cycle to be implemented. Here we need to provide more support with legal advice to countries. We need more co-operation. This is an area where we can benefit poor communities, which are the ones maintaining much of the biodiversity in the world, to encourage them to continue to maintain the forests standing and to have some economic benefit from biodiversity. I hope we can see progress in that.

There is a big issue in our hands, which is the digital sequencing of genetic resources. Unfortunately, a few developed countries have taken the position that they see that this as outside the scope of the Nagoya Protocol, so that any new technology that was developed based on digital sequencing would not have to share benefits. But these digital sequences

do not fall from the sky; they come from the labs. Some scientists have accessed genetic materials and extracted the gene sequence, and then they have made this available through the gene banks. We have to get this right, otherwise a big part of the convention will be impossible to implement if this narrow-minded view prevails.

I want to comment on something that Jerome highlighted. We do have a long-term vision for biodiversity that was adopted in Nagoya in 2010, but it is a qualitative goal. It says, "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people". It is very nice, and everyone agrees with that. The challenge is—and here the UK could play a role with its scientists—that we need to translate this into something that can be measured, because otherwise we will not be able to see whether what we adopt at COP15 helps us to meet this 2050 vision.

Chair: Thank you very much indeed. I think that is a very good note on which to draw this panel to a close. I would like to thank our panellists—Braulio Dias, Kate Norgrove and Elisa Morgera—very much for a fascinating discussion, following on from the excellent first panel. On Thursday 12 November we have two panels to continue this inquiry on evaluating biodiversity policy and implementing biodiversity policy, so I hope that we will have as interesting a conversation as we had today; no pressure on our panellists on 12 November. Thank you very much indeed to our panellists from both sessions, to our Committee members and to the Clerks who facilitated today, in particular Medha Bhasin, who wrote our brief.