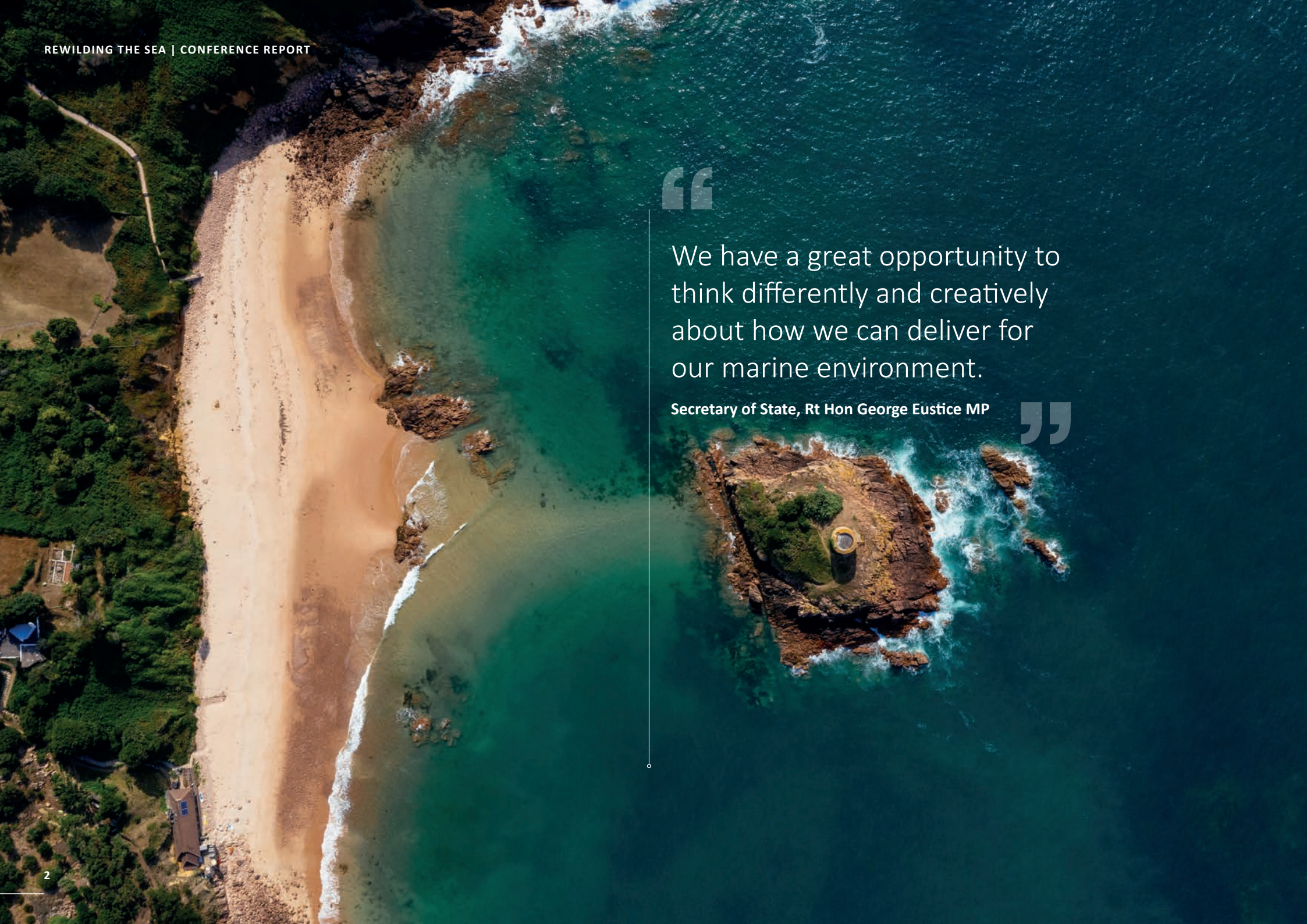
BLUE MARINE FOUNDATION

REWILDING THE SEA CONFERENCE REPORT

JUNE 2020



> We have a great opportunity to think differently and creatively about how we can deliver for our marine environment.
>
> **Secretary of State, Rt Hon George Eustice MP**

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SESSION 1

A VISION FOR REWILDING THE SEA

> Rewilding offers us a way to enable the sea to play its part in protecting us from the climate crisis. Nature is able to help us, if only we'll allow it.
>
> **Ben Goldsmith, Conservative Environment Network and DEFRA**

INTRODUCTION

"I convened this conference to show the huge potential of rewilding the sea, making marine restoration a priority for funders and overcoming existing regulatory challenges. The future we want has practitioners, industry and regulators working together to make large-scale marine restoration a reality. Rewilding the sea showed how much progress has already been made towards this point and how much work we all still have to do. Alongside the templates we are establishing around the coastline, BLUE will build a coalition to continue this momentum."

Dan Crockett, Development Director, Blue Marine Foundation

On land, the concept of rewilding has been gaining traction for decades. There is a growing understanding that putting nature in charge, allowing re-growth, restoration and resilience-building at the planet's own pace, can bring untold benefits for humankind and may be one of the key tools at our disposal in fighting the climate crisis. In the ocean, while the conservation sector is well-versed in the terminology of marine protected areas there has been little discussion of marine rewilding. For the purposes of the day, BLUE defined rewilding the sea as any effort to improve the health of the ocean by actively restoring habitats and species, or by leaving it alone to recover.

BLUE is dedicated to seeing the ocean restored to health. The frame of 'rewilding' in the marine realm is new, but offers real opportunity for fostering a new understanding of, and respect for, the role of the ocean itself in building complex, resilient ecosystems. Ecosystems that could be crucial engines for biodiversity on an increasingly nature-depleted planet, and that could create huge marine carbon sinks to buffer against the negative effects of climate change.

Requiring a move beyond traditional target-setting and an acceptance that the outcomes of rewilding projects may prove surprising (including the possibility of more interconnected and more abundant benefits than anticipated) is a challenging new opportunity for ocean advocates to grasp.

To explore how rewilding might apply to the marine realm, and take inspiration from existing case studies on land and at sea, BLUE convened an international, digital conference on June 24th 2020. The conference had three core ambitions:

1) To unite the marine restoration community ahead of the UN Decade on Ecosystem Restoration,
2) To overcome regulatory challenges that hamper current restoration efforts,
3) To introduce a new audience of maritime businesses, funders and politicians to the topic of marine rewilding.

The digital delivery of the event allowed over 1,500 people to join the morning sessions, hear from expert speakers and share their views online (a recording of the day has attracted over 3,000 viewers). A smaller, focused gathering in the afternoon included break-out rooms to identify key takeaway messages against headline themes.

THE CONFERENCE FOUND THAT:

Communication will be central to many aspects of securing the development of rewilding projects at the local, national and international level. Communication challenges range from clearly defining rewilding to compellingly sharing the benefits of the approach with stakeholders. Beyond this, securing engagement from a range of key audiences – from local communities, to policy-makers, through to potential funders – will require a tailored, strategic approach.

Education is part of the picture of securing public support, and broadening understanding of the ocean to incorporate the concept of nature-based, marine rewilding solutions. Educating communities around rewilding approaches and benefits, particularly for projects on their doorsteps, appears central to securing buy-in.

Sharing knowledge and best practice within rewilding networks has multiple benefits. This can allow nascent projects to benefit from the experience of more established restoration initiatives, can help provide concrete guidance to streamline regulatory approaches, and highlight co-benefits of rewilding, such as rebuilding fish stocks, carbon sequestration and tourism.

Re-framing ambitions for marine restoration, and fostering understanding at the highest levels of policy that rewilding projects need process-oriented targets, rather than predetermined, measurable goal-setting, is vital. This applies equally to potential funders for rewilding projects.

Bringing communities along with projects is part of a successful vision for rewilding: where benefits are understood by locals, and where local knowledge and energy is incorporated into the marine protection process. Vocal, supportive communities in favour of rewilding will also foster political will and generate momentum.

These findings are explored in greater detail within the conclusion to this report.

PRESENTATIONS

His Serene Highness Prince Albert II of Monaco

The online conference was introduced by Prince Albert II of Monaco, a long-time funder and advocate of ocean conservation. He spoke of the importance of finding nature-based solutions to systemic threats such as biodiversity loss and climate change that don't limit human ambition, but rather find an approach that is *"respectful of ecosystems, [and] satisfying human needs"*. He said: *"For decades, marine protected areas have proven that concern for nature can have positive effects on the economy, on the local economy with the promotion of sustainable activities and more generally on the regional economy, because we can see that by banning fishing in some areas, we have been able to regenerate fish stocks, and thus give rise to productive fishing in the surrounding areas."*

He spoke of rewilding nature as being built upon *"rewilding also our minds; agreeing to understand the huge benefits humanity can reap from this movement"*, concluding that rewilding should not be seen as a 'loss' to humankind, but a real opportunity.

Secretary of State, Rt Hon George Eustice MP

Protecting large areas of ocean will play a key role in capturing carbon emissions from the atmosphere, George Eustice, Environment Secretary, told the conference.

Mr Eustice revealed that his Department is considering restoring habitats such as seagrass and salt marsh and removing damaging activities (including trawling and dredging) from marine sediments, some of which, the conference heard, can capture up to five times the amount of carbon as peat bogs.

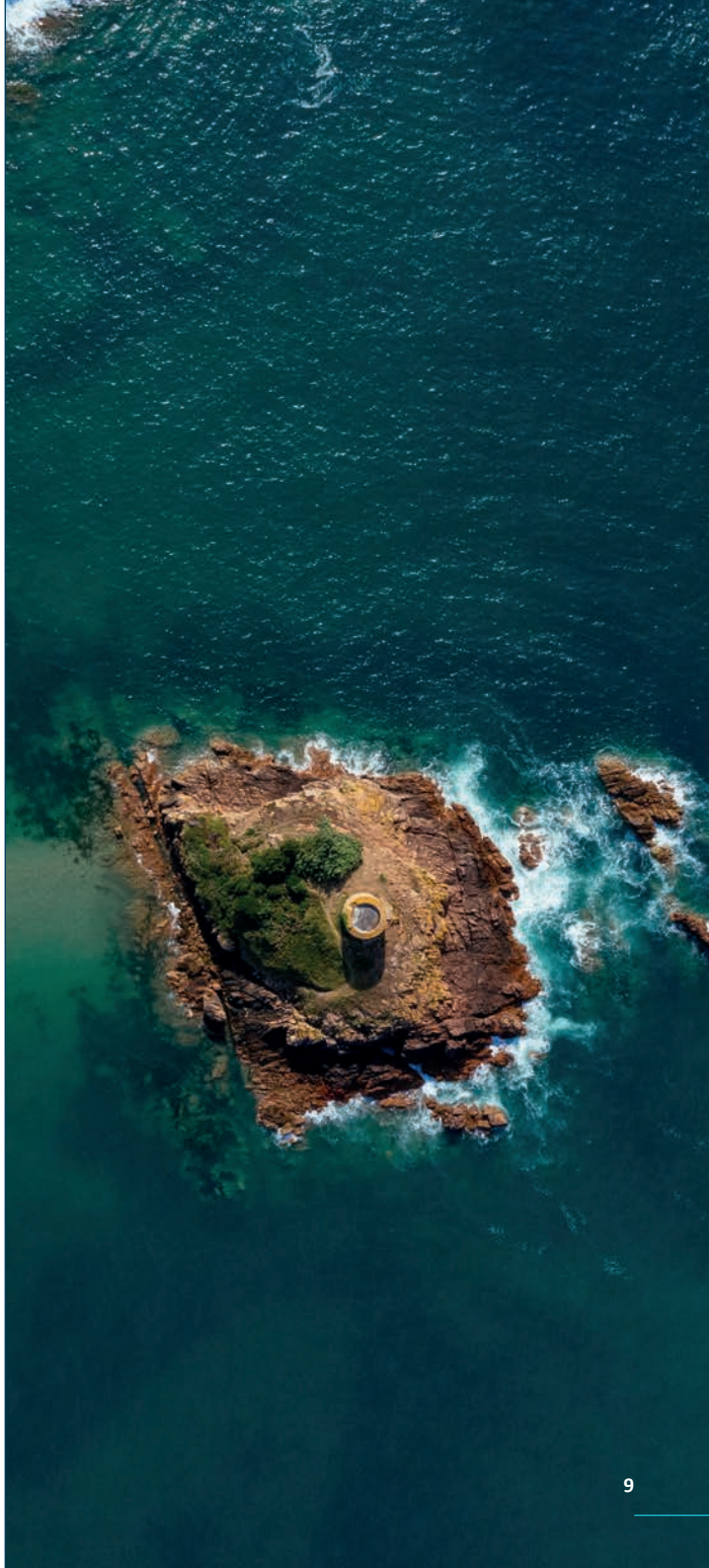
In his keynote address, Mr Eustice also observed that leaving the EU would give the UK powers to manage its vast offshore marine protected areas – which are the size of England and Wales put together – for the first time. Mr Eustice also said that the government was planning to allocate greater fishing opportunities, or quota, to inshore fishermen who often fished using more sustainable methods.

Mr Eustice shared his thinking on the climate conference, COP26, which the UK government is hosting next year. He said: *"We have been very clear that we want biodiversity and the role of nature in addressing climate change to be a major part of that agenda. We also know that left alone to recover you get an abundance of life in these areas that are protected. Not only does that have a role in carbon sequestration but also in biodiversity."*

He commended the recently-published Benyon Review on Highly Protected Marine Areas (HPMAs) as a *"very powerful, very cogent report that describes the benefits of leaving areas alone and fully protecting them." He added: "You do get an abundance of life and spill-over outside the area, in some cases more fish for the communities outside the area that has been protected."*

Of the concept of marine rewilding, he noted: *"This is a cultural change from the protected designations we have had in the past".* Highlighting upcoming opportunities to instil this 'cultural change' in national policy, Mr Eustice pointed to a number of 'flagship Bills' currently progressing through the Houses of Commons. He noted that Bills going through Parliament on Agriculture, Environment and Fisheries gave an opportunity *"to really think differently and to think much more creatively about how we can deliver for our environment, including our marine environment."*

Specifically on future fisheries management, he added: *"We will be requiring sustainable fishing activity as the quid pro quo for any UK or foreign vessel seeking access to our waters and once we regain control of our Exclusive Economic Zone it gives us much greater power to decide how we manage protected areas that are within it, so this is a very exciting time."*



Ben Goldsmith, Conservative Environment Network and DEFRA

Ben Goldsmith, a non-executive board member of the Department for the Environment, Food and Rural Affairs, said how much he had been influenced by George Monbiot's book Feral, which quoted the novelist and playwright Oliver Goldsmith in 1776 on the arrival of the herring shoals as seen from the British shore:

"The fish were divided into distinct columns, of 5 or 6 miles in length, and 3 or 4 broad. While the water before them curls up, as if forced out of its bed, the whole water seems alive, and is seen so black with fish, to a great distance, that the number seems inexhaustible. The herring were followed by massive cod, spurdog, tope and smooth-hound, longfin and bluefin tuna, blue, porbeagle, thresher, maiko and occasional great white sharks. Moving in behind within sight of the shore, were pods of fin whales and sperm whales."

Mr Goldsmith added: *"This astonishing congregation of life, has all but gone, largely through overfishing."*

Despite the depletion of nature that he described, Mr Goldsmith felt optimistic about the opportunity to engage people worldwide with rewilding – particularly given the widespread appreciation of nature displayed by the public throughout the Coronavirus pandemic. Concluding with thoughts on marine rewilding, he highlighted that *"it offers us a way to enable the sea to play its part in protecting us from the climate crisis"*, but with this and with other environmental challenges, he noted *"nature is able to help us, if only we'll allow it to".*

Isabella Tree, the Knepp Estate
'How rewilding could change our world'

Callum Roberts, University of Exeter
'Defining rewilding the sea'

Writer and conservationist **Isabella Tree** shared her experiences of re-wilding the Knepp Estate, alongside her husband Charlie Burrell, in West Sussex. Her most recent book, *'Wilding'*, describes the journey of the estate from intensive arable and dairy farming to a landscape *"likened to the Maasai Mara, or the Okavanga Delta in Africa"*.

Tree detailed how "*the idea of rewilding came from Frans Vera, a Dutch ecologist in Europe, whose work is transforming how we think about nature restoration". Key to restoring natural systems, according to Vera, is to "kick-start the dynamism in the process again, allow nature the space and time to breathe and let it restore itself – standing back as human beings and allowing nature to perform."* This process has not been without its controversy

for Ms. Tree and Mr Burrell, who faced widespread local opposition to the transformation of their land from a traditional farm. This included opposition from local conservationists, who despite wanting to see more wildlife in the area failed to consider the wider ecosystems needed to support this.

Tree noted they *"weren't aware of the fact that Britain is one of the most depleted countries in the world"* – adding that those living in the UK shouldn't have to travel far afield to see astonishing wildlife, it can be plentiful on our doorsteps if nature is given real space.

The conference heard of the importance of water systems and the introduction of large, free-roaming animals to the rewilding of Knepp: *"the large megafauna that would have been in our landscape in the past – the way they interact with vegetation, how they disturb the soil, their dung and urine, the way they transport seeds…everything they do has a kick-on effect, a 'trophic effect' that…creates a kaleidoscopic range of habitats."*

This emphasis on the importance of animals at the top of the food chain was echoed by **Callum Roberts**, University of Exeter, who offered the conference a vision for how rewilding could be mirrored in the marine realm. He explained that *"in the past we found the oceans contained many large-bodied animals: giant cod, cetaceans and bluefin tuna, for example. And the habitats on the seabed that supported them were three-dimensionally complex and highly diverse"*. The significance of the loss of these creatures lies in the fact that the *"ocean has lost its complexity"* and ocean habitats have become filled with small-bodied, fast-reproducing creatures that can biologically support the pressures of fishing. The seabed has been converted to a predominantly sandy or gravel-covered habitat.

For Professor Roberts, this represents the loss of the ocean 'wilderness' – a concept he noted is rarely considered or discussed. 'Wilderness' in the ocean realm has typically conjured images of empty seas, whereas the reality is that truly 'wild' seas, where nature is in charge, teem with a rich diversity of life. Such sites are increasingly difficult to find: the human footprint of shipping and fishing across the seas means that just 13% of the world's ocean is considered 'wilderness'.

"We can turn around the state of our seas, we can rewild them, we can put nature back in charge."

Callum Roberts, University of Exeter

Whilst he notes that the oceans have been on a *"trajectory of loss"* for decades, Professor Roberts gave cause for optimism: *"the reality is not that the only thing we can do is try and stem those losses. There is a more empowering message: which is that we can turn around the state of our seas, we can rewild them, we can put nature back in charge"*. Some species have been depleted to such an extent that nature cannot restore them back to abundance, and in these instances *"they will need a helping hand to recover"*. To allow space, either for nature to restore and regenerate itself, or for concerted conservation efforts to lend the 'helping hand' referenced, Professor Roberts underscored the importance of Marine Protected Areas (MPAs), adding, *"it is the higher levels of protection that are really delivering the big impacts in terms of recovery of marine life and habitats". Marine rewilding would sit at the higher levels of marine protection – "areas fully off-limits for exploitation".*

The wide-reaching benefits of rewilding, and the potential knock-on effects of protected areas was a point emphasised strongly by **Isabella Tree** in her address, as she described: *"The very presence of Knepp has a spill-over effect I think. We've become a biodiversity hotspot, so as species spill out into the wider countryside, it is expanding people's imaginations."*

The two speakers were unified in their conclusions, articulated by Professor Roberts as: *"rewilding is not a luxury. It is not a niche interest for a small number of people. It is an absolute essential to rebuilding ecological processes and the services they provide for all of us. So rewilding is an essential for all of us."*

QUESTIONS AND ANSWERS

FOLLOWING THE PRESENTATIONS

Q Could a well-managed fishery create rewilding benefits, possibly more extensive and longer lasting ones than in a protected area, many of which have recently been shown to be dysfunctional?

A *Yes, good fisheries management is a major part of rewilding because what it intends to do is to rebuild stocks to healthy productive levels. Many of our fish stocks are not there yet. However, the fact that some protected areas are dysfunctional doesn't mean that protected areas don't have a big role to play in rewilding - I think that the important things that we can do is to learn from why those protected areas are not functioning properly and how to make them better. When we do it right - when we give areas high levels of protection and we manage them well - we can see some fantastic recovery taking place. I think there are many surprises and unexpected paths taken in that recovery which we wouldn't see in the case of directed management, so protected areas alongside good fisheries management are essential components of rewilding.*

Professor Roberts

Q How long in total has the rewilding process at the Knepp Estate been? Is this something that can be replicated in the marine environment?

A *The idea took hold about 20 years ago but we weren't brave enough to commit all 3,500 acres to rewilding in one go - it was a journey and we've grown as we've gone along that journey. Really, it has been between 15 and 20 years. That's the astonishing and powerful thing: nobody could have expected how nature has come back when you think of the depleted baseline we started with - very depleted soils and very few species of any note at all. I'm not a specialist in the marine environment, but a key lesson has been that it is not about expecting outcomes. Not predicting, not setting goals and targets, has been hugely freeing. Then you see what will spontaneously come back on its own.*

Isabella Tree

Q Secretary of State, how do we control sectors that have historically acclimatised to a lack of regulation?

A Marine protected areas we've had to date have been about explicitly protecting certain features. What's different about a 'highly protected' area, and the theme of this conference, is that it's not about protecting one feature – it's about setting in place a set of circumstances that foster rejuvenation, a new abundance. It's not about what's there, but conditions for things to dramatically improve over time. That is a cultural change from the designations we've had in the past. I actually think it's not really about enforcement on fisheries – yes we have enforcement, we have quotas, we have quite sophisticated ways to check that people aren't fishing where they shouldn't be – I think it's less about enforcement, and more about the cultural change in the nature of the designations that we have.

Rt Hon George Eustice MP

Q Several of the speakers have touched on the importance of letting nature take its course, without prescribed outcomes. How do we reconcile this with the requirements of conservation funders, who often require indicators and measures to show the impact of their funding?

A This is one of the conundrums [we face] when funders are driven by targets and set out very specific requirements for what needs to come back by when. Nature doesn't comply with those sorts of things. What's better to measure is how successful we are at withdrawing human activity from these ecosystems, and then see what happens. What we know is we get more complexity, more diversity, more large-bodied species. We will provide hotspots for wildlife. When asked to reflect on whether he was optimistic for the future of the marine environment, the Secretary of State reflected that optimism is a pre-requisite for his role, and told the conference he felt points raised around target-setting were of great importance. He elaborated: "Increasingly my view is we should be looking at trends, so that we don't have fixed numeric targets that we have to hit [by a specific date]. Much more important – as we're doing in our reporting at the moment on our 25 Year Plan – is to report on the trend, and keep all trends heading in a positive direction.

Professor Roberts

SESSION 2

THE OPPORTUNITIES AND CHALLENGES OF REWILDING UK SEAS

> For decades, marine protected areas have proven that concern for nature can have positive effects on the economy, on the local economy with the promotion of sustainable activities and more generally on the regional economy, because we can see that by banning fishing in some areas, we have been able to regenerate fish stocks, and thus give rise to productive fishing in the surrounding areas.
>
> **His Serene Highness Prince Albert II of Monaco**

PRESENTATIONS

Richard Benyon, former MP and Environment Minister
'Could the sea rewild itself?'

Richard Benyon detailed his work on the Highly Protected Marine Area review, launched on the 8th June, 2020. The conference heard of the diverse board of experts involved in the development of the review, including voices from academia and industry. Their primary task had been to define a Highly Protected Marine Area (HPMA), and this had been determined as *"areas that allow the protection and recovery of marine ecosystems. They prohibit extractive, destructive, and depositional uses, and allow only non-damaging levels of other activities". Mr Benyon underscored the importance of a 'whole site approach' to HPMAs, informed by 'common sense' – "so it's the water column, it's the seabird [and] it's under the seabed as well, that we are talking about protecting."*

He went on to discuss the balancing of ecological and socio-economic factors in decision-making: *"sites should be identified on the principles of ecological importance. Those are: naturalness, sensitivity, a potential to recover, and - as we discussed earlier - ecosystem services. A secondary filter to that will be the social and economic principles. They are key."* Mr Benyon spoke of 'lessons learnt' during the development of the review, around the importance of engaging people, and 'people's minds' – "*yes, these sites will have impacts on people's lives, and we can minimise those impacts, but we've got to maximise the value for the natural environment. If you do it the right way, people will come along."*

The conference heard how BLUE's experience in Lyme Bay is key to a vision for coherent marine rewilding – fishermen get a text in real-time when they're too close to a protected area. Mr Benyon encouraged participants not to get 'bogged down' in concerns around enforcement, asserting *"technology can help".*

He concluded his remarks by drawing out the wider ecological importance of marine rewilding: *"our seas have never been under greater threat. We know about climate change and acidification, we know the impact of over-exploitation, we understand about pollution. We rely on our seas. In Britain, if we want to be viewed globally as a leader in [marine protection] – this is our opportunity." And noting the wider policy context and key drivers for HPMAs: "This fits with the Government's 25 Year Environment Plan, it fits with our '30 by 30' commitment to the UN, it fits with our own marine strategy and the Commonwealth Blue Charter, and of course with the Blue Belt policy that's been so successful."*

SUMMARY: HIGHLY PROTECTED MARINE AREAS

What is an HPMA?

Highly Protected Marine Areas regulate use of a marine area to allow marine ecosystems to recover to a mature state, by taking a 'whole site approach'. At present there are no official HPMA designations. The potential role of HPMAs is explored in the Benyon Review.

What is the difference between HPMAs and MPAs?

Marine Protected Areas currently cover 40% of England's seas, but do not offer the same level of protection as HPMAs. They rarely allow ecosystems to fully recover or deliver the full potential range of ecosystem services. HPMAs will have more stringent protection measures, including the exclusion of fishing, construction, dredging, sewage and anchoring. Many sections of existing MPAs can be upgraded to HPMAs.

Why are HPMAs being introduced?

The government's Marine Strategy Assessment indicated that England's marine environment is not in a healthy state. HPMAs are intended as a core part of the strategy to restore our marine ecosystems.

What other benefits might HPMAs bring?

HPMAs could bring significant social and economic benefits. These could include increased tourism (such as through scuba diving and watersports), opportunities for research, education and public engagement, and positive health impacts. In time, as species recover, spill over may lead to increased fishing opportunities.

What challenges might HPMAs bring?

HPMAs exclude certain activities, and will likely lead to the displacement of fishing effort, for instance. This can lead to increased competition for marine space.

How are sites for HPMAs selected?

The Benyon Review advises the government to prioritise areas for ecological importance, recovery potential, benefits to nature and ecosystem services, as well as to work with marine stakeholders to minimise the consequences of displacement of other activities. They should also aim to protect blue carbon habitats.

What's the next step?

A minimum of five pilot sites with a wide geographic spread will provide initial evidence on the success of HPMA introduction. There are a number of potential sites around England that could qualify as pilots.

Dr Philine zu Ermgassen, The Nature Conservancy
'Marine ecosystem restoration, the global picture'

Dr Philine zu Ermgassen offered the conference a compelling global tour of marine restoration and rewilding success stories, focusing on work undertaken to restore oyster reef, seagrass, mangrove, salt marsh and coral reef habitats. Highlighting a seagrass restoration initiative in The Nature Conservancy's Virgina Coast Reserve, Dr Zu Ermgassen detailed how, in the late 1990s, seagrass coverage in the reserve area was 'just a few hand-towels worth'. The Nature Conservancy (TNC) and partners developed techniques to harvest seedpods from the remaining seagrass, which were then grown under protected conditions in tanks, and re-planted into the bay when mature. This work continues, and a time-series of data shared with the conference showed how, through a remarkable spill-over effect between planted sites and natural re-seeding, the project has become *"the largest seagrass restoration in the world, in these coastal bays, with over 36km squared of habitat restored."*

Dr Zu Ermgassen remarked *"it's not just for the seagrass – it's for the associated communities that we're trying to restore these habitats. Bay scallops were the interest of a very large fishery in the 1930s, which in fact contributed to the decline of seagrasses in the bay, as it's quite destructive to harvest. But now that the seagrasses are back, they're able to reintroduce bay scallops from hatcheries into the bay". Future plans for the restored area include opening up part of the bay to recreational take of these shellfish – something which she emphasised will bring back "part of the connection between land and sea for these communities."*

Dr Zu Ermgassen detailed the wide range of oyster restoration projects taking place across the world – including an example off the coast of Australia, using large-scale industrial methods whereby vast quantities of limestone are taken out to sea in barges to build an artificial reef. Of the oysters seeded on the 2.5-hectare reef so far, over 80% have survived – and local managers are already seeing an 'unprecedented' abundance of other fish and charismatic marine species in the area.

The conference heard how Europe is home to a diverse network of oyster restoration initiatives, including the full re-introduction of extinct oysters in German waters, and examples across the UK and Ireland. Dr Zu Ermgassen remarked on the importance of knowledge-shared between

restoration initiatives, to build capacity rapidly and foster best practices: *"One of the things that I'm really proud to be involved with is the Native Oyster Restoration Alliance, which together with the UK-Ireland Native Oyster Network is really helping support interactions between projects so that we can learn lessons, reduce waste, understand the challenges associated, and how other projects have overcome them. We do this through creating physical networks in terms of conferences, through sharing information on Twitter, through updating our websites, and through running working groups that are specifically addressing current barriers to restoration."*

Looking beyond restoration of a single species, to opportunities for co-restoration of habitats, is another exciting area for development, and something that has been long-established in the US, Dr Zu Ermgassen shared. *"Oyster reef restoration, for example, has been taking place for over two decades in the US. Here they really regularly register multiple habitats together. [In] Mobile Bay, Alabama, they've been restoring the shallow oyster reefs with the intention of also regaining salt marsh behind, through reduced wave activity and increased water clarity."*

In Australia, kelp restoration initiatives in Tasmania have seen the added benefits of really significant oyster recruitment within the shaded areas afforded by the new kelp. Expressing these kinds of inter-connected opportunities, is a key part of convincingly sharing the benefits of marine restoration and rewilding with decision-makers, Dr Zu Ermgassen asserted. She said: *"I'm excited to be part of a project that's looking to express to decision-makers and the public exactly how much those habitats give us in terms of benefits moving forward as we start thinking about how to scale-up, and where to go. What our models have shown is that we can get thousands of tons of additional fish from these habitats each year. We're also building these into a tool, again to help decision-makers, where they can then select areas of existing habitats…it will allow them to see how many more fish they're getting from these habitats, or they can put into the area they're restoring and see how much they might expect to get from their restored habitats in the future."*

Dr Gareth Johnson, Ørsted
'An industry perspective on marine restoration'

Dr Gareth Johnson provided an industry perspective on marine rewilding, based on the experiences of Ørsted – currently the largest renewable energy company in the world, having installed over 1,500 wind turbines globally. Dr Johnson highlighted opportunities for wind arrays to foster new habitats for marine species, sharing that within Ørsted's Borssele wind project, concrete pipes had been laid in circular formations, creating 'cod reefs' in which fish can hide, rest, and feed on smaller fish and crustaceans.

As part of another project – the Anholt array in Danish waters – Ørsted sought to restore rocky reef habitat on the seabed that had been removed by industrial activities. Dr Johnson shared how *"[Ørsted] aggregated six thousand boulders to create 25 reefs of increased complexity, in order to provide habitats for wildlife, shellfish and fish species". The company gathers underwater footage from the site, showing "around six months after creation, there is a colonisation [of the site] by encrusting fauna and also increases in fish and shellfish".*

In a UK context, Ørsted explored options to work with the Blue Marine Foundation on oyster restoration around wind turbines in Gunfleet Sands, 7km off the Essex coast. Despite significant collaborative work to develop the project, plans to introduce oysters in cages around the array foundered due to perceived risk that resulting oyster sprat would not settle effectively. Dr Johnson commented: *"What this serves to highlight is that we will need to invest effort in developing restoration concepts in the offshore marine environment, due to very few existing exemplars. Also, knowledge of the precise local conditions will be absolutely critical to any rewilding initiative."*

He elaborated that *"compared to land, the UK offshore marine environment can be very dynamic and ephemeral - this means that sometimes we don't have the data we need to understand what will and won't work in terms of conservation initiatives. Also, a lack of reliable historic baseline data in many instances means that we do not know precisely what we always want out of conservation efforts."*

Dr Johnson spoke of a 'particular synergy' between green energy and the concept of rewilding, but noted practical considerations around the need for maintenance activity at offshore wind sites – meaning human activity can't be fully removed. However, he noted that the offshore wind sector has *"a great deal of technical expertise and knowledge of the marine environment" to offer to rewilding initiatives, and added that" [in the] offshore marine environment, offshore areas that are developed often have extensive environmental surveys carried out over a number of years and as such these areas can often be relatively well known compared to other offshore areas".* The conference heard that platforms established for this regular surveying could be used to *"either establish or monitor any rewilding schemes".*

Roger Proudfoot, Environment Agency
'Marine restoration in practice'

Roger Proudfoot introduced the ReMeMaRe project to the conference: an initiative working on the restoration of coastal and estuarine habitats around the English coast, focusing on seagrass meadows, salt marshes and oyster reefs.

The project's mission is to restore at least 15% of its priority habitats, reversing their decline and creating multiple benefits for people and nature – including increased containment absorption, fisheries, recreation and coastal protection.

Mr Proudfoot spoke of the importance of a 'collaborative and partnering approach' across the project, adding *"given the enormity of the task, breaking it down into bite-sized chunks was really important – this is helping us gather together and focus the necessary expertise that each partner brings to the table, and achieving much more together".*

He shared how this collective dynamic is built into the strategic approach of ReMeMarRe: *"project governance was - and continues to be – about getting the right leadership and buy-in around the table, understanding drivers and responsibilities, and creating collective capacity to carry the initiative forward*". Whilst it's early days for the initiative, the project's ambitions extend to developing a larger funded programme of activity, strategically led and supported at the national level, but with localised partnership and delivery.

To realise these ambitions, ReMeMaRe is developing a funding and finance strategy to raise an estimated additional £250 million needed to achieve an increase of 15% in the coverage of the project's priority habitats. This strategy includes *"more innovation finance approaches in partnership with businesses and industry"* including *"using a natural capital approach".*

Of the required regulatory environment to achieve the changes ReMeMaRe seeks, Mr Proudfoot said *"we're all in agreement that we need an enabling environment to promote restoration for public and environmental good. We [the Environment Agency] are looking into options for how we can streamline regulations for projects that are promoting that. Options include changes in legislation [and] having sufficient guidance, and case studies, in place to streamline processes – having the right information up-front can help case officers process applications, and can reduce costs"*. With this in mind, the initiative is internally sharing best practice through technical working groups and developing practical 'manuals' for the kind of restoration work supported. Initial manuals focused on salt marsh habitat restoration, sea grass habitats, and 'beneficial use of dredge materials' will be ready early in 2021 – *"We want these manuals to be the go-to guides for anyone who is interested in undertaking restoration projects from industry to community groups and as far afield as possible given these habitats occur throughout the Northeast Atlantic."*

In sharing ideas and knowledge, Mr Proudfoot emphasised the importance of acknowledging and working with the 'extensive' expertise on-the-ground all around the English coast. He remarked *"Natural England, local authorities and environmental NGOs have decades of intertidal habitat creation expertise through the building of flood defences and associated infrastructure at the coast – local partnership has been critical to their success"*. As a result, the ReMeMaRe initiative is committed to a 'local partnering approach' with pilot projects, to maximise use of this pre-existing local knowledge and ensure community buy-in.

He concluded *"let's work together, increase our capacity, pool our expertise and make practical restoration happen".*

QUESTIONS AND ANSWERS

FOLLOWING THE PRESENTATIONS

Q Do you believe we have the ability to deliver innovative marine management within the current UK legislative framework?

A *We think there are actually simpler legislative routes to go down. One of the reasons we recommend that HPMAs are located within marine protected areas is that the legislation already exists to create those latter designations. This makes it relatively easy to create higher-level designations. In UK waters, we've only got two or three very small sites, but we need to upscale. The legislation exists and there is adequate scientific research. However, I desperately hope we don't start saying that we need to gather vast amounts of new scientific data and spend years doing it, commissioning huge amounts of work. Higher levels of biodiversity exist in areas that are currently protected. The most important consideration is engagement with local communities, and with sea users of all types. It's perfectly possible to deliver marine restoration relatively quickly.*

Richard Benyon

Q Present wind farm developers do not provide compensation to fishers for operational phases, as they insist fishing can resume once construction is complete. Why doesn't the offshore renewable industry and/or government accept that all fishing is banned inside the arrays, as in the Netherlands, and use the arrays as official rewilding areas?

A *We work ever so closely with the fishing industry to ensure that they're not excluded from our wind farms. We have fisheries liaison officers who work with local fishery groups. Fishing does occur within wind farms in the UK currently.*

Gareth Johnson

Q If investment in marine restoration could be scaled to hundreds of times the magnitude that it is currently, what could we actually achieve?

A *The sky is the limit. I'm sure some restoration projects are expensive upfront, but what we have shown through our work in the United States is that actually, marine restoration also pays economic dividends back into the economy, through both enhancing ecosystem services and through job creation. There's also an increase in the body of evidence about human well-being and interaction with the oceans, which restoration will play a really key part in as well. You have to be clever about where you put things, and you have to be clever about how you do it, but anything is possible. Ultimately, I think what we've shown is that the returns can outweigh the investment.*

Philine zu Ermgassen

Q How do you square the circle of closing off areas often enough to promote rewilding, with the clear impact it will have both economically and socially on the small-scale inshore fishermen of the UK?

A *Firstly, consultation and engagement at an early stage. Secondly, an understanding that whilst larger fishing vessels and other marine activities can move elsewhere, the smaller inshore fleets and artisanal vessels cannot. There is a greater impact on them and they will need support. The government needs to recognise that they need help. I also extend my reply to talking about recreational angling, as I think the charter boat industry certainly should be looking at this with some trepidation. Angling is not something that fits into the definition of an HPMA, but there are benefits to all these interests, such as spill over effects. I hope that fishermen, anglers, and other stakeholders will see the benefit fairly and quickly, and that their displacement concerns will be alleviated by an increased biomass, increased size of fish, and a healthier ocean.*

Richard Benyon

Q Where do the obstacles to large-scale marine restoration lie and how do we overcome them?

A *It's the capacity to scale-up and acquire the funding necessary to allow that capacity to grow, that represents our biggest challenge. One of the weaker areas for us is gathering the evidence together to show the return on investment. We need better evidence and information, which Philine alluded to with the tool that they're developing, to get that return on investment. That is a really important area for us to focus on at the moment, in terms of bringing the tools and evidence together to give people confidence to invest, which in turn gives us the capacity to scale-up.*

Roger Proudfoot

Q I'm pleased to see the work of the community of Arran Seabird Trust in the designation and management Lamlash Bay no take zone celebrated here and in the Benyon review. What roles do you see coastal communities playing in rewilding our seas across the UK, and how can communities be empowered to take part?

A Lamlash Bay is a great place to visit to see what the Seabed Trust have achieved, not only in terms of the ecology and the recovery of species within that highly protected marine area, but also how to engage local people. A point on enforcement - you wouldn't be able to do anything in that area without being seen by local people who now feel a strong sense of ownership over the HPMA. I think this is a model for other inshore sites, and it's very important that we recommend both inshore and offshore sites as HPMAs. When you can engage a community and they can see the tourism and the other benefits that come from this, it's an infectious experience. What's happened in Arran can be replicated around our coasts, but it's crucial that we learn from the mistakes of the reference sites, particularly around intertidal areas.

Richard Benyon

Q Large companies move slowly and the ocean needs rapid support. How could industry expedite marine restoration?

A I don't think we work particularly slowly. If someone approached us with a research proposal, a project, or a partnership, we would be able to respond to it fairly quickly as an individual developer. As a sector and through a sector group, I think we may move less slowly but we collaborate with many universities directly, so we can turn things around pretty quickly. We often have very concrete milestones in terms of construction and operation of our projects that we're very loath to move. Therefore, in terms of programmes of works, you can actually predict well in advance what's going to happen if you want to operate in and around a development.

Gareth Johnson

SESSION 3

THE PRESENT AND FUTURE OF REWILDING THE SEA

> Rewilding is not a luxury. It is an absolute essential to rebuilding ecological processes and the services they provide for all of us. Rewilding is an essential for all of us.
>
> **Professor Callum Roberts, University of York**

REWILDING CASE STUDY EXAMPLES

SUMMARIES

LAMLASH BAY, ARRAN

Howard Wood
Community of Arran Seabed Trust

This was the first community marine reserve in the UK, and established a 'no-take zone' within its bounds in 2008. Since then, lobster and scallop numbers have quadrupled within the no-take zone, and scallops have increased six-fold in the larger Marine Protected Area.

THE NORTH SEA

Emilie Reuchlin-Hugenholtz
WWF NL

The North Sea is one of the busiest seas in the world, and less than 1% is protected. WWF Netherlands has carried out projects to assist sharks, rays and oyster reefs in the Dutch North Sea. They collaborated with fishermen to build the first oyster reef in this area, and subsequently dive clubs, hotels and restaurants have also become involved.

TURKISH SEAS

Zafer Kizilkaya
Mediterranean Conservation Society

Protected areas here have resulted in a tenfold increase in fish stocks, which have spilled over into adjacent fishing grounds. Incomes of local fishing communities have increased by 400% in the last 5 years. Mediterranean monk seal, sharks and large fish have returned to the area.

KELP FORESTS

Sean Ashworth
Sussex IFCA

Kelp vanished from the Sussex coastline in the late 1980s. The Sussex IFCA is introducing a byelaw to prohibit trawling up to 4km from the coast. Over 2000 people from the community voiced their support, and the legislation is now awaiting sign-off from DEFRA and the MMO. They are following the ecosystem-based approach, using the language of natural capital and drawing on local knowledge to allow the kelp to recover. Kelp forests can provide nurseries for fish, carbon storage, biodiversity, enhanced water quality, coastal protection and tourism opportunities.

RESTORING SEAGRASS

Dr Richard Unsworth
Swansea University & Project Seagrass

92% of the UK's seagrass has been lost, but regeneration is possible, as seen in the US. North Wales is the hub of this project, where seagrass seeds are collected, grown in aquaria and then planted in the sea. It is an expensive and laborious process currently, but this could be changed when it transitions from a small-scale to an industrial process. Seagrass supports fisheries, protects coastlines and mitigates the effects of climate change.

RESTORING OYSTER REEFS

Jacob Kean-Hammerson
Blue Marine Foundation

The Solent Oyster Restoration Project is working with diverse organisations across the Solent to restore oyster beds. Their nursery system breeds adult oysters and allows larvae to be released straight into the sea. They are also working on restoring the seabed, by reintroducing juvenile oysters and building up 'cultch' (the stony, shelly base layer of an oyster bed). They are working with the University of Portsmouth to build an oyster hatchery, and despite legislative challenges the project is making good progress and they are ready to scale up.

BRINGING BACK THE STURGEON

Rory Moore
Blue Marine Foundation

European sturgeon are very rare, but are a species native to the UK. The UK Sturgeon Alliance is working on their reintroduction into UK rivers, estuaries and coastlines, including collaboration with similar European organisations. The Severn Rivers Trust's 'Unlocking the Severn' has provided a template for facilitating this, through their work in removing river barriers so shad can use the river to spawn. Similar techniques can be used to restore sturgeon populations.

SALTMARSHES AND BEYOND

Angus Garbutt
Centre for Ecology and Hydrology

Saltmarshes are best as part of a mosaic of habitats, such as sand dunes, estuaries and so on. They have profound ecological and cultural value. By taking down sea defences and allowing saltmarshes to establish on former agricultural land, there is the potential to recreate fully integrated ecosystems.

QUESTIONS AND ANSWERS

FOLLOWING CASE STUDY EXAMPLES

Q No-take zones are needed to protect fragile and rare seabed habitats, but are they really a fisheries management tool also?

A *I think that no-take zones should be part of any sound sustainable fisheries management. On the one hand you are exploiting the seas, and on the other you need to make sure they recover. There can't be any fisheries in the long run if we don't protect our resources.*

Emilie Reuchlin-Hugenholtz

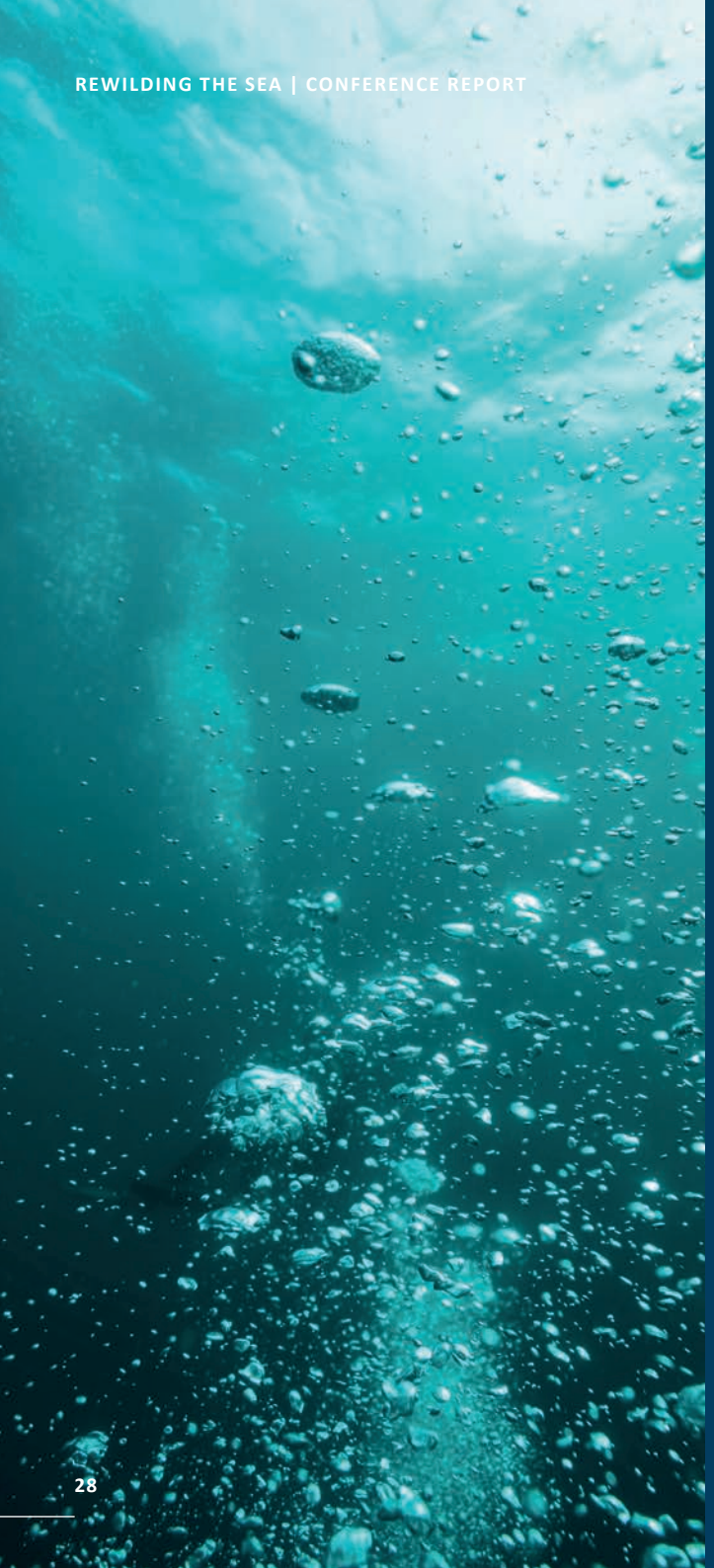
A *They are one of the best fisheries management tools. Not only no-take zones but also fisheries restriction areas. We have huge no trawling, no purse-seining areas - there are huge benefits if industrial fishing is excluded. In Turkey, we are filming so many things happening underwater [to show] the benefits of no-take zones. We have good links with the government officials, and can always send them our amazing footage that nobody else is filming. We have to show them the good things as well as the bad.*

Zafer Kizilkaya

Q This morning, we heard that when rewilding the ocean we shouldn't be afraid to fail. What is the biggest challenge that the panel perceives that prevents us from embarking on active restoration. Is it an issue of regulation, stakeholder opinion, money or perhaps something else?

A *I think whilst all of those are issues, one that hasn't been touched on is regulation. For oyster restoration in the UK, we're treated for licensing purposes as something that deposits on the seabed, much like waste and other marine uses. I think that as we move towards a vision for rewilding the seas, we need a more inspiring way of viewing restoration in that environment, that extends to legislation and licensing in an appropriate manner.*

Jacob Kean-Hammerson



Q Trees and peat bogs have attracted interest from the Treasury, whereas marine habitats were also considered but were not taken forwards because of lack of confidence in the scalability and returns via future benefit. We need to work together to build a stronger evidence base. How can we be more influential?

A *In terms of influence, I think that reaching out to influencers is needed. For example, locally in Sussex where we're trying to restore kelp forests through introduction of a byelaw, people have reached out to us who are local influencers, including local authorities. For instance, the Adur and Worthing Council and West Sussex County Council are very interested in kelp restoration from a carbon sequestration perspective, but also because they genuinely want to be doing the right thing. They can see all these multiple benefits of restoring or rewilding the marine habitats and they want to get involved. To get involved I think we need to step beyond the usual suspects, and engage with our local influencers and decision makers.*

Dr Sean Ashworth

A *The major problem is that nobody can see what's happening down below, in a good way or a bad way. When we look at the Mediterranean, it's so crystal blue that everyone thinks it's paradise. But when you put your head down below, there's overfishing, invasive species, climate change impacts - it's like a nuclear war happening underwater, and nobody sees that. We need to show what is happening that's bad, and how we can turn the tide for benefits.*

Zafer Kizilkaya

BREAKOUT DISCUSSIONS

ALISON DEBNEY, ZSL

Following the question and answer session, conference participants were divided into themed breakout rooms, to discuss possible solutions to key barriers to rewilding.

A synthesis of agreed points was presented to the conference by Alison Debney, Senior Programme Manager – UK & Europe Conservation Programme from ZSL.

REWILDING AND INDUSTRY

Across the day, the conference heard how a collaborative approach with a range of stakeholders, use of a range of expertise, and local buy-in has been central to rewilding success stories thus far. To engage industry partners with rewilding initiatives, it was agreed that emphasis should be placed on conveying the benefits of improved marine environmental health: both ecological and economic impacts that may provide opportunities for industry in future.

Public awareness and endorsement of marine restoration may underpin greater industry investment in this area: ocean literacy education and promotion of marine protection to the general public is potentially one way to advance rewilding.

REWILDING AND PERMITTING

Discussions around permitting and regulation for rewilding projects indicated that there are a range of solutions to be sought in this area – and that legislative change may not always be the answer. Whilst it was noted that 'active restoration' needs to be recognised within legislation, allowing for appropriate levels of flexibility and adaptability to house a range of rewilding projects, emphasis was also placed on the importance of partnership-building between regulators and potential projects. With trusted working relationships regulators can offer marine restoration practitioners practical advice and guidance on navigating permitting.

This group also voiced the opinion that a 'top-down' shift is required – moving from 'solely the protection of our marine environment' to its enhancement and restoration. This may require 'better training and guidance' for the teams that issue permits and licenses.

Again, local buy-in was emphasised – and seen as important to building support that may influence regulatory decisions around a restoration scheme.

REWILDING IMPACT

Showcasing the range of positive impacts achievable through rewilding was heavily emphasised across the day and within the break-out session on this subject. Participants discussed the importance of inspiring the public and potential funders with impactful success stories – touching on climate benefits, economic and community benefits, and the long-term potential of rewilding.

It was seen as important to accurately frame time-scales and levels of certainty: not to promise 'prescriptive, short-term, impact-driven goals' to funders, but to shift the narrative more towards a longer-term horizon, and the potential opportunities and co-benefits afforded by rewilding when nature is left in charge.

Overall, translating science into policy around rewilding was seen as a key limiting factor to marine restoration – the need to quantify that 'restoration works' to satisfy policy-makers and funders was a recurrent concern.

REWILDING AND BLUE CARBON

It was considered that there is not enough communication, dialogue or public understanding around blue carbon and the role that it plays in climate change mitigation, as well as the other benefits that protection of marine habitats provides to society.

Again, measurement and evidence was felt to be a barrier – the difficulty in measuring blue carbon impacts of marine ecosystems was seen as a limiting factor in securing buy-in and understanding.

Awareness-raising and education at all levels, to promote the vital role the marine environment plays in the fight against climate change, was seen as key.

REWILDING AND HPMAS

There was agreement that HPMAs could bring a wide range of benefits to society. However, this discussion group noted that it may take a significant period of time for the benefits of greater marine protection to be 'felt' by communities – in the interim, it was suggested that those who miss out on livelihood as a result of lack of access to marine space could be compensated. Again, engaged communication around the benefits of greater protection, with a wide range of stakeholders, was seen as crucial.

Government and NGOs need to take care to bring fishing communities along with plans for new marine protection, and new HPMAs. Alongside this, it was considered that the fishing industry should seem to engage 'positively' in the discussions, and recognise the important role that no-take zones play in recovery of biomass – which has positive economic implications for their businesses in the long-term.

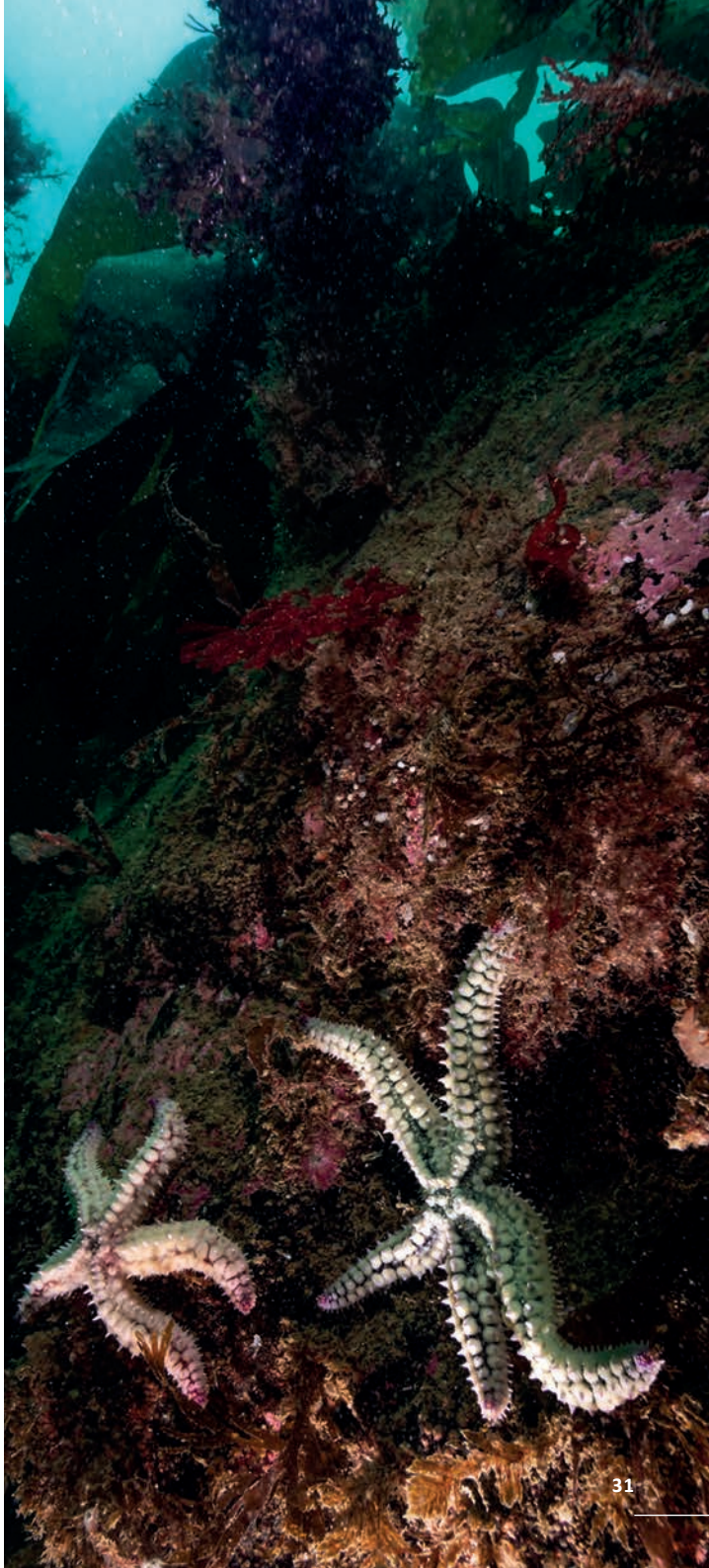
REWILDING: WILD LAW

In terms of law and legislation to enable or 'disable' rewilding approaches, the overall consensus was that a 'less technocratic' approach to the area is required, and there needs to be greater scope for communities to engage with ocean law. Participants in this group spoke of the need to 'get stakeholders involved' and 'get nature represented' – by fostering a collective sense of 'us' (as part of nature, and advocates for it) rather than an 'us and them' divide between environmentalists and industry. Opportunities to 'build bridges' between groups, and build on opportunities within existing law should be sought – but this group also mooted the need for 'hard-edged judicial reviews' as a strategic tool. This group also described HPMAs as 'an holistic solution, compared to existing legislation', offering hope for ocean law to evolve and for the environment to have 'its own legal voice'.

BUILDING A REWILDING NETWORK

Discussing parameters for building an inspiring network of rewilding projects, this group noted that a level of 'acceptance for potential failure' would be key – as a new concept, marine rewilding requires bold action, and cannot guarantee outcomes. Setting a 'benchmark' for nature to be restored back to how it was 50 years ago, or 100 years ago may not be possible. But this doesn't mean that those undertaking rewilding can't be clear about their ambitions: these may be framed more around processes (e.g. removing human activity from a site) than specific goals.

In some instances, leaving nature in charge won't be sufficient: this group also discussed how active restoration would be needed in many instances, and highlighted that – as with the Knepp Estate discussed in the morning's session – actively restored habitats can prove more profitable than non-restored habitats.



CONCLUSIONS AND CLOSING REMARKS

> We know that left alone to recover you get an abundance of life in these areas that are protected. Not only does that have a role in carbon sequestration but also in biodiversity.
>
> **Secretary of State, Rt Hon George Eustice MP**

CONCLUSIONS

COMMUNICATION

The importance of communicating a definition of rewilding, of communicating the possible, and interconnected, benefits of rewilding, and the importance of effective outreach and engagement with affected communities was emphasised across breakout rooms.

With many new 'audiences' now sharing in the concept of rewilding, as well as its potential benefits, effectively communicating a coherent vision is strategically crucial.

This vision needs to be tailored to these audiences: the language used to engage a local community with restoration of habitats on their doorstep will be different to the way rewilding is communicated at the national policy level. Furthermore, attracting new and large-scale investment in rewilding – and conveying investable opportunities around, for example, blue carbon – also requires specialist understanding and vocabulary.

EDUCATION

Part of this effective communication will be education: at the local, national and international level. As a new lens through which to consider marine protection and restoration, 'rewilding' needs to be built into wider ocean literacy. Educating local communities can create strongholds of support for marine rewilding processes – as evidenced by the case studies presented.

Education around the role of the marine environment in carbon capture was also highlighted – the role of our seas was seen as missing from general understanding around climate issues, and should be brought to the fore in discussions around marine rewilding.

SHARING OF KNOWLEDGE AND BEST PRACTICE

Presenters, case study examples and break-out groups were unified in extolling the benefits of sharing knowledge and ideas, and in highlighting the possibility of expediting complex regulatory processes by bringing regulators into discussions around building concrete guidance and understanding.

Break-out discussions around a 'rewilding network' present a potential vehicle for this kind of knowledge-exchange at scale, and examples exist which can be built upon – such as the UK and Ireland Native Oyster Restoration Network. Seeking out and sharing experiences globally may also help tackle the challenges of quantifying rewilding benefits: learning from how this has been achieved elsewhere. This also offers the opportunity for industry and other voices to join the rewilding conversation, and offer specific technical expertise or practical insights – such as seen within the Ørsted case study.

REFRAMING AMBITIONS AND TAKING THIS TO THE POLICY LEVEL

A significant shift in decision-makers' expectations was discussed across many of the breakout groups: moving away from target-setting at the outset of projects, and towards a 'trend-based' approach – perhaps defining processes to be undertaken rather than seeking to measure specific outcomes. This 'freeing up' of the discourse around what marine protection and restoration looks like is integral to delivery of rewilding, whereby nature is in charge and outcomes may be unpredictable.

This speaks to the 'tolerance for failure' that was picked up in several group discussions – which in turn is indicative of an amplification of ambition around marine restoration: trying new, ambitious things will necessarily require a greater appetite for risk in some circumstances.

BRINGING COMMUNITIES ALONG

The conference heard across the day, and within many of the break-out sessions, that the benefits of rewilding may be significantly more than the current system of protection of specific, individual features within the marine environment. These benefits should be the lynchpin through which communities are engaged with the concept of rewilding, and their involvement and endorsement will be part of securing wider political support and momentum for rewilding processes.

A sense of community 'ownership' of marine protection initiatives may additionally help to secure their long-term future.

CONCLUDING REMARKS

CHARLES CLOVER

Charles Clover
Blue Marine Foundation

BLUE's Executive Director, Charles Clover shared his concluding thoughts with the conference – *"I think the sense of possibility is immense, the sky is the limit. We will remember Ben Goldsmith's verbal image of vibrant seas, pictures of the Knepp Estate from the air, Philine zu Ermgassen talking about the largest seagrass restoration in the world, and the fact it had gone far beyond the borders of its planting."*

He spoke of new facts and ideas that had been shared across the day: the 'cod pipe reef' concept developed and implemented by Ørsted within its wind arrays, and the reality that marine sediments can 'hoover up' more than five times the carbon than upland heath. On the policy side, he noted it was *"incredibly inspiring to see the political will does exist – we're on a glide-path to a better future"* adding he was *"inspired by Secretary of State George Eustice, who thinks Brexit brings real opportunities for better management of offshore reserves, who wants to save carbon in the sea and who wants to allocate quota in new ways".*

Mr Clover offered the conference three headline conclusions – i) that rewilding works; nature does it for you if you let it, ii) rewilding benefits everyone, and brings economic benefits too, iii) we can, and must, use our waters to save carbon.

He invited participants to join BLUE in tackling some key challenges, together, framing these as:

- How do we remove obstacles to the restoration of habitats – particularly around the issue of securing licenses to 'let nature recover itself'?

- How do we get rewilded areas, and rewilding, properly funded? People haven't realised this is a priority until now and it needs long-term financial support.

He hoped that organisations and individuals represented at the conference could work together to tackle these challenges, in what BLUE hopes will become a 'coalition based on action, not just conversation'.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