



After the Fact | [Our Blue Planet—Protecting the Ocean](#)

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TRANSCRIPT

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Dan LeDuc, host: Our blue planet. More than a turn of phrase, the ocean covers 70 percent of the surface of the Earth. Beyond its beauty, the ocean is critical to the biodiversity of the planet, provides sustenance to hundreds of millions of people, and links many cultures across the globe. That brings us to our data point for this episode: Leading scientists recommend that 30 percent of the ocean be protected. We'll talk with experts today about why marine protections are important and how we might get there.

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Dan LeDuc: This is "After the Fact," where we discuss the numbers and trends on today's pressing policy issues. June is World Oceans Month, a time when people come together around the globe to celebrate the vast waters that are, after all, the majority of our planet. Few know these waters better than Dr. Sylvia Earle. She's been diving for decades in oceans around the world and is the former chief scientist of NOAA, a National Geographic explorer-in-residence, and a well-known oceans advocate. In a prior conversation with Pew in 2015, she spoke about why the ocean is so special.

Sylvia Earle: The real joy is in the life that's there, this great diversity of life. Nearly all of the major divisions of animal life occur in the ocean. Only about half have representation on the land. So if an alien wanted to explore Earth to know what's really going on in this little blue speck in the universe, they would for sure dive into the ocean first, because that's where the action is.

Dan LeDuc: Earle's passionate advocacy has led her to be called a "hero for the planet" by *Time* magazine. She talks about establishing marine protected areas that serve as a home to thousands of marine and plant species.

Sylvia Earle: Clearly, the idea of having protected areas as a source of renewal, where safe havens for fish, safe havens for mangroves, safe havens for sea grass meadows—and in the



deep sea, where we're just beginning to explore and understand what's there—we need safe havens there, too. And now we know they work. We have evidence, not just in our own coastal waters, but in waters around the world. That when you actually embrace an area and give the fish and the other creatures that are there—whatever they are—the oysters, the clams, the lobsters, the little guys that are affected by the actions, it's almost miraculous that recovery can occur. This is that moment when, as never before, we're armed with knowledge. And, as never again, we have a really good chance to put things in motion that'll secure an enduring future for us.

Dan LeDuc: To learn more about creating that enduring future, we spoke with the director of the Pew Bertarelli Ocean Legacy Project, Matt Rand.

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Dan LeDuc: Matt, something like 70 percent of the Earth is covered by water, and your job is to protect it.

Matt Rand, director, The Pew Charitable Trusts: Yeah.

Dan LeDuc: That's a big job.

Matt Rand: Yeah, it is a big job. Yeah, lots to do. The ocean obviously is extremely important to the health of the planet. And unfortunately, the health of the ocean is not in terrific shape. So we are set to try to create the first generation of marine parks. Analogous to, say, Yellowstone National Park in the ocean as a way to help keep the ocean resilient.

Dan LeDuc: Seventy percent of the world is covered by the ocean. There's so much of it that it seems like it should be okay. Yet science reports that there are some problems. So what's actually happening in the ocean that we need to be concerned about?

Matt Rand: Yeah, we've got—there's a number of different problems that the ocean is faced with, from climate change, warming oceans, oceans becoming more acidic, to very direct impacts of overfishing. You know, as carbon dioxide builds up in our atmosphere, the ocean actually intakes that carbon dioxide. And it does that naturally. But as we're increasing the concentrations, it actually increases the concentration in the ocean, which essentially becomes an acidic substance. And that has major ramifications for the whole health of the ecosystem, whether it's coral reefs, or whether it's shellfish— which build their shell and their infrastructure of the creature itself out of essentially calcium. And calcium dissolves in acidic water. So you have a lot of different problems when it comes to increasing the acidity in the



ocean. But certainly the warming of the ocean is also becoming a huge problem. And we've seen a lot of news around the loss of the Great Barrier Reef, but also coral reefs globally.

Dan LeDuc: And what about the fish down there?

Matt Rand: So the fish are the other major issue that we're helping to try to resolve. There is a global overfishing problem. Recently, the United Nations issued a report that indicated up to 90 percent of the global fish stocks are either fully exploited or overexploited. We're past the point of where the ocean can fully regenerate the fish population to provide food for us. For instance, bluefin tuna in the Pacific Ocean is over 90 percent gone.

Dan LeDuc: That's an amazing number.

Matt Rand: Yeah, a really staggering number. Yeah, the ocean I think has a number of major threats that it's faced with. Whether it's climate change or whether it's global overfishing. And one of the things that we are working on to try to help keep the ocean more resilient are these big marine reserves. They're sanctuaries in the ocean to help keep the ocean resilient, to give fish populations opportunity to recover. And even these ecosystems that are fully intact are more resilient to the impacts of climate change.

Dan LeDuc: So you create these sort of marine reserves, parks in the sea. Sort of like the equivalent of a national park where we went out and saved thousands of square miles on land. We try to do that in the ocean—like go underwater, what happens? If we're not—if man isn't doing anything there, other than letting nature be, what happens?

Matt Rand: So the first thing you see is, just like in, say, Yellowstone National Park, the predators come back. So the tuna, the sharks, the billfish, the large, you know, manta rays. All the big megafauna in the ecosystem come back. You can tell whether an ecosystem is generally healthy or not by the level of top predators in that ecosystem.

Dan LeDuc: So we create these parks. What's the ideal sort of marine reserve? Pew has been doing this for a while. A few have been created. And we can talk about where they are and what the goals are in a moment. But what creates the ideal conditions? Do you just pick a place somewhere in the globe? Or what's the process for figuring that out?

Matt Rand: Well, you know, we're very focused on the science, and making sure that our efforts are aligned with what the scientists indicate are the best types of marine reserves. And there was really a pre-eminent study that was done. It looked at over 100 marine reserves globally. And it did an analysis to identify really what was needed for a marine reserve to be



successful. And there were a number of key indicators. That it was large, fully protected, well managed, isolated, and old. And that's what we follow.

Dan LeDuc: Now, the isolated thing might lead to some people to scratch their heads. Like, well, if it's all isolated, what good does it do to the rest of the ocean? So how do these places actually help the rest of the ocean?

Matt Rand: When you look out at the ocean, you see this big giant, you know, blue area in front of you. You think there's no way that we can actually deplete this thing. I was on Easter Island not that long ago, and I was looking out to the ocean, and you could almost get a 360 view of the ocean. And you can't see anything, just blue ocean. And it is kind of staggering to think that mankind has—in a relatively short period, really since the 1950s—has significantly depleted the fish population in the ocean. But unfortunately, there really is no place at this point where fish are not commercially extracted, in mass quantities. So any of these places that get fully protected are sanctuaries for fish populations to recover.

Scientists have recently done another analysis, and this was in the last six months, looking at what would be needed for a fully healthy ocean ecosystem if you were going to manage it only through marine sanctuaries. And what the scientists indicated was that we need 30 percent of the ocean to be protected in marine sanctuaries. We are not, unfortunately, close to that number. We're more like 3 percent at this point. So there's a lot of work left to do to try to actually increase the percentage of ocean protected.

Dan LeDuc: That goal of 30 percent is our data point for this episode, for example. And how much of a stretch is it? When we're at 3 percent now to get to 30 percent?

Matt Rand: We've had exceptional growth. And the 3 percent really has come in the last—less than 10 years. And really, we went from less than—it was 0.001 percent 10 years ago. And in the last 10 years we have established, as a global society, over 10 very large, fully protected marine reserves. Which it really equates to an area of now fully protected ocean that's about three-quarters the size of the continental United States. So a huge area in the ocean. And there's discussions going on right now at the United Nations to hopefully develop an agreement to start implementing these marine reserves on the high seas as well.

Dan LeDuc: Let's talk about how Pew works with the local communities when it comes to these marine reserves. We're going to be talking with one of those environmental stewards in Hawaii later in this episode—so, how do you work with them?



Matt Rand: The Northwest Hawaiian Islands are quite a distance from the main Hawaiian Islands, and they're uninhabited. But they are very important to the Hawaiians from a cultural and spiritual perspective. Ten years ago, the area was being considered for protection. And a bunch of local community groups had been advocating that we create a marine reserve around these islands. And Pew engaged, worked with the local community, worked with the Hawaiian government, the local legislature, and the governor. And ultimately, President Bush in 2006 created Papahānaumokuākea, the first very large marine reserve on the planet, really. Prior to Papahānaumokuākea, the average marine reserve was like a square kilometer in size.

Dan LeDuc: Really? That small?

Matt Rand: Yeah, and Papahānaumokuākea was over 300,000 square kilometers in size. So that was 2006. And then a decade later, Pew has stayed engaged with the local Hawaiian community, with the managers of the marine reserve there. There was a number of new scientific findings that said, “Really, to fully protect this ecosystem, we should expand the size of it.” So in 2015 we started having some conversations with some of the Hawaiian leaders. And fortunately, after some effort working with the local Hawaiians, with the congressional delegation there and the U.S. government back here, the administration—President Obama—did expand Papahānaumokuākea and made it 1.5 million square kilometers in size.

Dan LeDuc: And the local communities are relatively small populations by nature, because these are remote places. But they welcome this sort of protection for their areas?

Matt Rand: Each community is different, Dan, and each community has different reasons for being connected to these places. But generally, the local community—and very often indigenous populations—have a very strong connection to the ocean, and a strong connection to conservation of the ocean. They in many instances have had historical efforts to actually conserve and protect certain portions of the oceans.

[Sol Kaho’ohalahala chanting]

Dan LeDuc: “Glorious to see is Maunalei ... clouds surrounding its summit.” This translation from the excerpt of an evocative chant you just heard about the island of Lana’i is more than a song; it’s a legacy. And the voice you heard is that of Sol Kaho’ohalahala, a seventh-generation native Hawaiian who lives on the island and who has worked tirelessly to protect fragile natural and cultural resources. This includes the area first protected as a marine reserve by President George W. Bush and expanded in 2016 by President Barack Obama, Papahānaumokuākea.



Sol Kaho'ohalahala, advisory council chair, Hawaiian Islands Humpback Whale National Marine Sanctuary: So currently I'm calling and talking to you from the island of Maui, and if you look at the map on the Hawaiian island chain, you'll see that Maui is sort of in the center of the arc of eight islands. But in comparison to where I am, the island archipelago that includes Papahānaumokuākea and our eight main Hawaiian Islands actually stretches—if you can relate to this—from Boston on the East Coast of the United States all the way down to the Florida Everglades.

Dan LeDuc: Wow, when you describe it that way you really get a sense of the vastness that we're talking about in the Pacific Ocean. So you have been very passionate about protecting this region of the globe and the waters there. Can you tell us a little bit about what that place means to the Hawaiian people and in your culture?

Sol Kaho'ohalahala: In our Hawaiian culture, we have what we describe as our “creation chant,” and that is called a Kumulipo. And in that chant, it describes our beginnings. And it starts out by talking about darkness and light. So the chant begins with light and dark and then ends up with the creation of all creatures, including man. And so, when we look at the area that we call Papahānaumokuākea in that name, so “papa” is described as Mother Earth and “ākea” at the end of the name is “wākea,” or sky father. And it says that “Papahānaumoku.” “Hānau” means “to birth.” And “moku” are the islands. And then “ākea,” meaning the area of the gods. So we look at this area as really the manifestation of our creation chant. And that, in fact, today as we speak, new creatures are being discovered within the ocean depths of Papahānaumokuākea that have never been found before and are endemic to this area of Papahānaumokuākea. And in fact, the oldest coral recorded on Earth today is found within Papahānaumokuākea.

Dan LeDuc: You have been working on preservation of the waters there for a long time. Have you seen things change there that made you think it needed to be preserved?

Sol Kaho'ohalahala: Well, one of the things that is clear to us is that the area of Papahānaumokuākea appears to be pristine. And yet we know today that those waters have been, for the most part, allowed for longline fishing. And it is a method of fishing that I think is not congruent or is not something that would be employed as a method by a Hawaiian cultural fishermen or gatherer. By comparison, the current methods used by longline fishing is one that's indiscriminate. So you're dragging a 40-mile longline with hooks and bait. And then you're catching whatever is in the ocean. And then you specifically will take the fish that you are finding more valuable and then discarding the rest as bycatch.



So if we are going to continue to extract at the rate we are today, then the science says that one-third of our oceans globally need to be protected to be allowed to be restored and replenished. And in fact, we need to encourage many more areas on our Earth and in our nations throughout the world to support this idea, so that we can be ensured that our children's children's children will be the beneficiaries of that kind of vision for restoration and protection for the long term.

Dan LeDuc: Now, last year the boundaries were expanded by President Obama. And he was building on something first created by President Bush. This is a great example of bipartisan government at work. What happened in the waters during that decade as these new protections were in place? Could you see fish starting to come back in some areas and the effects of the longline fishing decreased?

Sol Kaho'ohalahala: You know, I served for the last decade or so as a member of the cultural working group of Papahānaumokuākea—actually even prior to its designation by President Bush. The working group was formed to be in an advisory capacity to the monument and to allow for an integration of the kind of work that was continuing to happen within that area of ocean.

In these last two years, we have experienced the warming of our oceans and we have had coral bleaching like we've never had before. We do recognize that the Northwest Hawaiian Islands are in much cooler waters and temperate waters, that should there be a drastic change in the temperature of the seas in our main eight Hawaiian Islands, it might be that the surviving corals will be the only ones that could be found would be in the Northwest Hawaiian Islands. So it's things like this that we're trying to integrate in understanding in a knowledge—that this kind of support on good cultural sciences, what I'd like to term it.

Dan LeDuc: That's a nice phrase, “cultural science.” I know you've spoken a lot with policymakers and a lot of other interested people who want to see these sorts of marine reserves created, but I know you also have a granddaughter who has visited this place. What's the most important story you can tell her about the preservation of this important place?

Sol Kaho'ohalahala: Well, this kind of vision and work is generational. So when I looked at my granddaughter, and as she spent a lot of time with me along the shorelines and the ocean of my own home, some of the resources that I grew up with in terms of food, I was questioning whether or not I should have her to taste that. Because I believe that part of the inherent responsibility comes with also the taste. The memory of that is inherent in us. And if we taste it, then all of that comes alive in our understanding of place and responsibility to place. My hope is that by giving her that connection to place, she too will have that responsibility to bridge into



the future generations, to continue that responsibility, to continue that connection, and to continue that flavor of where we live. And if they can continue in that kind of practice and responsibility, then I see Papahānaumokuākea as an extension of our home. It's the farthest area within our archipelago, but it's no different in what it means in support and protection than the shoreline that is in front of my home. So if they can adopt that idea of taking care of my home, then they can adopt the idea of taking care of the entirety of our archipelago of Papahānaumokuākea. My hope is that we have come to understand that this planet is our island home. We have one planet. And therefore, we all have the responsibility to care for her.

[Sol Kaho'ohalahala chanting]

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Dan LeDuc: It can be easy to forget that this one planet on which we all live is mostly water and that more than half of all the species on Earth—with new ones still being discovered—call the ocean home. Large marine reserves like Papahānaumokuākea are essential to the health of the ocean and so, to the health of the planet. And they are just one way Pew and those it partners with are working to protect the oceans.

To learn more about this work, including the Pew Bertarelli Ocean Legacy Project, go to pewtrusts.org/afterthefact. And if you like what you've heard on this podcast, subscribe on iTunes and other streaming services.

Thanks for listening. For the Pew Charitable Trusts, I'm Dan LeDuc. And this is "After the Fact."

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