After the Fact | You’re Probably Wrong About Seagrass

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TRANSCRIPT

Stacy Baez, senior officer, advancing coastal wetlands conservation, The Pew Charitable Trusts: Seagrasses in particular remains understudied and underprotected.

Annike Faure, project manager, Seychelles Conservation and Climate Adaptation Trust: You like going to the beach. Seagrass is coastal protection. You like being able to snorkel and seeing lots of wildlife—that is seagrass.

Stacy Baez: We’re still losing our seagrass meadows globally, but we’ve turned the tide on mangrove and we need to turn the tide on seagrass.

Gabriela Domenzain, host, “After the Fact” podcast: Welcome to “After the Fact” for The Pew Charitable Trusts, I’m Gabriela Domenzain, and today we’re talking about seagrass. Now, if you’re thinking of seaweed—the smelly stuff that washes up on shore and can sometimes ruin your beach vacation—you’re not alone. But that’s not actually seagrass, and that’s part of the problem.

It grows underwater and out of sight, potentially making seagrasses the most misunderstood plants in the world. In reality, it serves as a habitat for the fish that we eat, can help prevent coastal erosion, and sequesters thousands of tons of carbon. And, despite the fact that seagrass meadows cover less than 1% of the ocean, scientists estimate that they’re responsible for 10% of the carbon stored there each year.

These unsung ecosystems can also help countries meet their climate goals, but only if they know where their seagrass is and how much they have. You’ll hear more about that later in the episode.

I caught up with my colleague Stacy Baez to talk all things seagrass.

Gabriela Domenzain: Thank you, Stacy, for being with us. Tell us a little bit about yourself. I was going to say, I think you’re an island girl.

Stacy Baez: I am originally from Trinidad and Tobago, and I love all things ocean. I grew about an hour away from the beach, so the ocean has been a part of my life for as long as I can remember.

Gabriela Domenzain: Tell us about the work that you do on the coastal wetlands team at Pew.

Stacy Baez: And I've been at Pew for 10 years, and currently I'm on Pew's coastal wetlands team. We support countries with policy and research for seagrasses, salt marshes, and mangroves, so coastal wetlands.

Gabriela Domenzain: Coastal wetlands are a very specific region all over the world. Why are they so important? What's in them? What are they?

Stacy Baez: As the name suggests, they are ecosystems found near the coast, and they're influenced by tides. So sometimes they're fully submerged like seagrasses. Other times they're like mangroves and salt marshes, and coastal wetlands are really important for nature, people, and climate. Seagrasses, mangroves, and salt marshes are home to a diverse range of marine life and wildlife. Think about sea turtles and dugongs. In terms of people, these ecosystems are important for food security and livelihoods globally. If you eat fish, probably 1 in 5 of the fish you eat would've spent time or interacted with a seagrass meadow.

And then, lastly, on climate, coastal wetlands are known as carbon sinks. They're able to take carbon dioxide out of the atmosphere and lock that carbon away. And so, they're really crucial in helping countries to fight the impacts of climate change.

Gabriela Domenzain: How did we find out that seagrass was able to sequester carbon?

Stacy Baez: So seagrasses are plants. There are around 60-plus species of seagrasses all over the world. You can find seagrasses everywhere except the Antarctic—fun fact—and they are blue carbon ecosystems, so they hold carbon for a really long time.

Gabriela Domenzain: You just snuck in a term that I don't know, which is blue carbon. I've heard green carbon but tell me what blue carbon is.

Stacy Baez: Blue carbon? Yes. So the carbon itself is not blue, but because it's the carbon stored in coastal and marine ecosystems, that's the term "blue," meaning the ocean. But the interesting thing about blue carbon ecosystems is that they also hold

shorelines in place, so they buffer against storms, they prevent coastal erosion. And so they're important also for climate adaptation, not just for mitigating—pulling down carbon dioxide—but also helping communities to buffer the impacts of climate change. So they serve a dual purpose.

Pew funded a project in Seychelles to map seagrasses and estimate the carbon, and we found that Seychelles seagrass meadows in some parts hold carbon for at least 300 years—maybe longer. All coastal wetlands are able to draw down carbon dioxide and then lock that carbon away. And if the ecosystem remains undisturbed and healthy and intact, that carbon can stay locked away for millennia.

Gabriela Domenzain: And what are the dangers, the environmental dangers, to seagrass in coastal wetlands?

Stacy Baez: Human activity. They're on the coast where we have a lot of cities. We've had coastal development—hotels in tropical places. So it's human activity as a main driver of not just mangrove loss, but we've turned a tide on mangrove, and we need to turn the tide on seagrass.

Gabriela Domenzain: With everything seagrass can do, you'd think it would be a top priority to protect.

Stacy Baez: Seagrasses in particular remains understudied and underprotected. We're still losing our seagrass meadows globally. We do not have a good global seagrass map, and so it means these ecosystems are not being protected adequately. You can't monitor and measure without good science. And so I think raising the profile of seagrass so people can understand its power is important.

Gabriela Domenzain: Why do you think it hasn't been explored as much?

Stacy Baez: It's not as charismatic as coral reefs, I'll be honest. It has, like, a green and slimy kind of a feel sometimes.

Gabriela Domenzain: You had a PR problem.

Stacy Baez: Yeah, so seagrass had a PR problem. In some ways, it has a bad perception, and in other ways it's out of sight out of mind. So, because it's submerged, you don't necessarily see it, and in cloudy water, you're not gonna see it at all if it's there. So I think the seagrass science lags other ecosystems like the very beautiful coral reefs, but seagrasses are also quite beautiful.

Gabriela Domenzain: So we've talked about why it's important. We've talked about some of the risks. Let's talk about the mapping of it. How does this project even come about and how do you even start to think where you go?

Stacy: There is no good global seagrass map. So there are maps, sometimes they're good, sometimes they're not good. It's quite difficult to map seagrasses because they're underwater, so you have to use a mix of satellites, and for a more high accuracy map, you'd have to use people to go make sure that what the satellite is seeing is actually seagrass and not something else, so it's expensive to map.

And so one of the challenges that our team said, if we want to support countries, we have to provide them with the science that they need to make good decisions. And so the country of Seychelles was quite interested. It's an island archipelago in the Indian Ocean, miles of seagrass—no seagrass map that's field verified. They didn't have one where someone went to make sure it's really seagrass.

And we supported the country with the first field-verified seagrass map in Africa. That map laid the foundation for the government of Seychelles to commit to protecting all their seagrass meadows by 2030. And they're well on their way to fully implementing that commitment.

Gabriela Domenzain: Was Seychelles the first country to do something like this?

Stacy Baez: For seagrass, yes. For this level of research and commitment, yes. Seychelles is the global leader in seagrass conservation.

Small island developing states have contributed the least to climate change but disproportionately bear the impacts of it. And nature-based solutions like the conservation of mangroves and seagrass can help buffer those coastal communities from the impacts of storms, support livelihoods, and help with the reduction of carbon dioxide.

Gabriela Domenzain: Stacey connected me with her colleague Annike Faure, a project manager at the Seychelles Conservation and Climate Adaptation Trust, or SeyCCAT for short. She worked on the mapping project from start to finish.

Annike Faure: So it was the Seychelles Seagrass Mapping and Carbon Assessment Project. Their first step was they collected this countrywide satellite imagery of the Seychelles' ocean. So these images showed the presence of seagrass, but also other ocean habitats such as coral reefs.

And, of course, certain things can affect how you see it, so like cloud cover, water clarity. Trips were organized on boats by the coasts. They had to go snorkel, they went scuba diving, and they went and collected seagrass data.

Gabriela Domenzain: Did you go snorkeling with them?

Annike Faure: No. No, no, I was very happy to offer my logistical services from the ground.

Gabriela Domenzain: The science behind the mapping of seagrass is only one part of the story. And because seagrass meadows are literally hidden beneath the surface, a major challenge was bringing them into public view. When Annike first started her job at SeyCCAT, she didn't know much about seagrass, but once the mapping was finished, she coordinated a countrywide advocacy campaign and had become one of its loudest defenders.

Annike Faure: I remember when I went for the interview, I was terrified that they would ask me to learn how to scuba dive. But the shift, you know, from knowing nothing about seagrass, here I am six years later, to just having the color green as my whole wardrobe.

Gabriela Domenzain: In total, the project identified 160,000 hectares, which is around 395,000 acres of seagrass in the Seychelles. Can you help put that into perspective for our listeners?

Annike Faure: There is a comparison that we use here in Seychelles for people to be able to visualize this. Here in Seychelles, people are soccer mad, football mad, a comparison that we use is imagine one soccer field and then imagine approximately 224,000 of those soccer fields, and that's how much seagrass Seychelles has in its exclusive economic zone.

So, when we mapped those 160,000 hectares, or 224,000 soccer fields of seagrass meadows, the Seychelles revealed one of its biggest natural climate assets. The amount of carbon that they're storing is equivalent to the annual emissions from Seychelles' energy sector and more than three times of the annual emissions from the transport sector.

Gabriela Domenzain: That's nuts.

Annike Faure: It's insane when you put it out there.

Gabriela Domenzain: That is.

Annike Faure: When you say it out loud.

Gabriela Domenzain: Is it true that the name for seagrass didn't exist in Seychellois Creole?

Annike Faure: Yes and no. Within the Creole language, we were using the word gomon, so G-O-M-O-N, to refer to both seagrasses, seaweeds, or algae.

Gabriela Domenzain: What does gomon mean?

Annike Faure: Slimy, slimy, not very happy. Like when people say gomon, there's no, no happiness in their voice. It's just kinda like gomon.

Gabriela Domenzain: So seagrass and algae were just slimy green.

Annike Faure: They were just plopped together into one word. It didn't have a very nice connotation to it.

Gabriela Domenzain: And so the fact that it didn't have a name or, and had a PR problem because it had a bad connotation, how did you all tackle that and why?

Annike Faure: Oh, my goodness. We were kind of like, man, this is, this is not good. Like we're really wanting to show the importance of seagrass for Seychelles, but nobody talks about gomon with happiness in their heart or like really appreciative of it.

At the time, there was a CEO, Angelique Pouponneau. There was Dr. Jean Mortimer for the science, and then there was myself. We began to explore potential options of what could happen. Do we do public awareness? And then we added another member to our little team, Marie-France Watson. She became our communications consultant.

And the four of us, we were like, how can we get a word in Creole for seagrasses to give it that utmost importance? And so we did a lot of back and forth with the Seychelles Creole Academy, which is the institution that's responsible for the language of Creole in the country.

We were like, OK, let's figure out the steps that we needed to get Creole words for seagrass into the lexicon. It took us over a year, and then it took an additional, I think, two years before we actually got a copy of the dictionary with the words.

Gabriela Domenzain: Talk to me about those words because there's four different words?

Annike Faure: Five. Five different words. So there's gomon gran fey, which translates to a long-leaf sea grass. Gomon zerb torti, literally it's the sea seagrass that's for turtles, so it's the one that turtles eat. And then we have gomon zerb sed, or gomon zerb spaghetti, because these are the ones that have the long tubes that look like spaghetti tubes. And then we also had gomon zerb zorey lapen, or zorey lapen, that would be rabbit ears because they had that little oval shape. And then the fifth one, gomon zerb levantay, which is like a fan because it has the five leaves and it looks like a fan.

Gabriela Domenzain: So you get together and you figure out these five different names, but there's a difference between you knowing them and the country knowing them. What happens next?

Annike Faure: One of those next steps was realizing that the fishermen on the islands, the three main populated islands, they were using terms of their own. And so one of the things we ended up doing was just an A4 paper with a picture of the seagrass pipe, and asking them what names are they calling it. We had put all the terms together that were similar or being used regularly, and a second round of that paper had those terms, and then we would have the general public vote.

We went on radio for it. We put it in the newspaper. Then Dr. Mortimer reached out to her colleagues in the region to see what they were using as well. So that's why it took us over a year to get this activity done.

Gabriela Domenzain: So you brought the seagrass out from under the water into the public.

Annike Faure: We were just like, it's there. It's everywhere. It's everywhere, people. It's everywhere.

Gabriela Domenzain: So was there a moment when you realized that this public education campaign had worked, had gelled, where the population understood the importance of seagrass, and what to call it?

Annike Faure: So within the environment sector, when you talk about the national determined contribution, you talk about the Paris Agreement, people know, but we really wanted the public as well to understand. And so we ended up developing like newspaper articles and infographics, so we could make it readable to anybody who read the newspaper at the time.

And so we had published a couple of articles, one on the Paris Agreement, and then one on the seagrass. And there came a point where there was a hotel development about to begin, or they were in that environmental impact assessment. And Seychelles, one of our main economic pillars is tourism, so that was understandable. But unfortunately, the way the hotel developers were wanting to develop that area was they wanted to do it similar to the Maldives, in that they wanted to have an island go through into the sea.

And unfortunately, around the island of Mahé, where that hotel was going to be, or rather is going to be, there was one of the last remaining seagrass meadows for the Mahé Island. And so when it came to public consultation for this development, I was able to attend and I heard a lot of people just putting up their hands and going, "Seychelles has promised to protect a 100% of its seagrasses by 2030. This falls under a climate contribution under the Paris Agreement. This is going totally opposite of what was said and agreed upon by government."

And I was like, "Oh, these articles have gotten through." It's no longer climate jargon, but they're actually understanding the benefits of seagrass for Seychelles and how it all fits into this fight that we're doing against climate change. And I just sat down, I was like, this has worked really pretty well.

Gabriela Domenzain: That's a huge deal. I worked in voter education and civic education, and there's such a huge difference between education and motivation. And what it shows is that people were not only educated but motivated to speak out in support of something that they didn't even know what it was to begin with.

Annike Faure: It was a full circle moment for us.

Gabriela Domenzain: Absolutely. Absolutely. And it didn't stop in the Seychelles. The impact that you have had is being felt in the region. It's like a domino effect. Can you tell us a little bit about what's happening in your region when it comes to seagrass mapping and how other countries are following your lead?

Annike Faure: The Seychelles' story was, I would like to think, a success. We're still working through the next steps in all of it, but this project has now gone large scale into the region. And so the countries of Kenya, Tanzania, Mozambique, and Madagascar are all doing similar, if not more, amazing work.

But we're hopeful at the end of the day when all the countries have completed these exercises, we would have a validated seagrass map for the region. And I think that's an amazing thing, and I'm so looking forward to seeing it.

Gabriela Domenzain: How has your knowledge of seagrass meadows changed the way you see the world?

Annike Faure: Friends and family and even colleagues will tell you that I have a very loud voice when I want it, and I do put a very loud voice for seagrasses in Seychelles. And I think that's how it's changed for me from knowing absolutely nothing to just being like we have 224,000 football fields worth of seagrass in Seychelles.

You like football? That's how much we have. You like going to the beach? Seagrass is coastal protection. You like eating your Rabbitfish or being able to snorkel and seeing lots of wildlife? That is seagrass for you. Try not to trample them when you go snorkel.

Gabriela Domenzain: Have you started snorkeling?

Annike Faure: I did. I did. I'm like, I need to start getting in the water and seeing these silent guardian ecosystems in all its emerald glory.

Gabriela Domenzain: Thanks for listening. To hear more stories like this, visit us at pew.org/afterthefact. And if you have questions or feedback you'd like to share, you can write us at podcasts@pewtrusts.org. You can also leave us a review wherever you get your podcasts. I'm Gabriela Domanzain, and this is "After the Fact."