

**Ashanti:** Welcome to Doing What Works: Exploring the Blue Economy, a podcast series that dives deep into the vast potential and challenges of the blue economy. I'm your host, Ashanti Blaize Hopkins, interim associate dean at Santa Monica College's Center for Media and Design. Together, we'll navigate the uncharted waters of this exciting and rapidly growing sector.

Joining us on the podcast today is someone who has been internationally recognized for their work in temperate water seaweed cultivation in the underwater farming space, also known as aquaculture. She's done everything from seaweed harvesting, processing, and packing to sales. Currently, she is the director of California operations at Ocean Rainforest, a company that grows seaweed in the ocean and aims to mitigate climate change. She even developed an economic assessment on the feasibility of seaweed cultivation in Southern California. Eliza Harrison, thank you so much for joining us on the podcast.

**Eliza Harrison:** Thank you, it's a pleasure to be here.

**Ashanti Blaize Hopkins:** So, our first question for every one of our Doing What Works podcast guests is exactly the same. Tell me, what was your first job ever, and what did you learn from that job that helped you in the work that you do now?

**Eliza Harrison:** First job ever... Um, I worked—I'm from Santa Fe, New Mexico—and I worked for the Santa Fe New Mexican, their teen reporting section. That was my kind of foray into the professional space, and I think really what it helped me learn was the importance of communicating with people and then being able to listen very openly and honestly. And that's something that has, you know, carried forward in different conversations with community members but also fishermen in this current role that I have with Ocean Rainforest.

**Ashanti Blaize Hopkins:** I can completely appreciate that your first job was as a journalist because I spent many, many years as a journalist. So already, we're off to a good start. So, you've been in this aquaculture space for quite some time, but how did you discover this was a field you were interested in and that you could build a career out of?

**Eliza Harrison:** Yeah, I first became interested in aquaculture actually through a presentation that I heard at the Bioneers Conference, which before COVID, used to happen every year in San Rafael, California. And there, when I was a sophomore in college, I heard a presentation that was kind of extolling the potential value of seaweed farming, specifically as a way to provide a meaningful source of food for the global community but also as a way to sequester carbon. And, you know, as someone from New Mexico, the ocean has never really been on my radar as an interesting place to kind of dedicate this interest or energy that I have toward mitigating the effects of climate change. So, this presentation was kind of my first introduction, I guess, to the blue economy and to the potential opportunity that we can kind of tap or the potential opportunity of the ocean. From there, from that kind of presentation, I became very interested in seaweed aquaculture and tried to learn everything that I could about it, and through a series of haphazard kinds of emails and phone conversations, found my way to the Ocean Rainforest in the Faroe Islands. And that was my, you know, first hands-on experience actually cultivating seaweed, and then I never left.

**Ashanti Blaize Hopkins:** You've been there ever since. Well, so let's talk about the company, Ocean Rainforest. It's an interesting name. What's behind the meaning of it, and what makes this company so unique in this space?

**Eliza Harrison:** Yeah, so my understanding of the name Ocean Rainforest is the idea that you can build kind of a local ocean rainforest around the world. And so the idea would be to encourage and facilitate

seaweed aquaculture operations in all varieties of different locations while also recognizing the fact that cultivating seaweed does create this habitat for marine wildlife. And so, in that sense, it does serve as this rainforest, just in the ocean. And so that's kind of, at least as I understand it, the original origin of the name.

One of the things that makes us unique as a company is that we have a fully integrated supply chain, which means we have the capacity to produce our own seedlings and then run that through seeding production, seed outplanting, harvesting, and then preliminary processing. So what you end up with at the end of it is this storage-stable product that can be used then to support a variety of other industries. And so that full integration makes Ocean Rainforest unique, and also the fact that we have this expertise in offshore seaweed cultivation because Ocean Forest is based both in the Faroe Islands as well as California. And the Faroe Islands, if you have not been there, are quite a unique place. They're somewhere that, you know, weather changes on a minute-by-minute basis and, at least as hearsay and as the locals say, most of their month of January, for example, will be, you know, hurricane-force winds. So, they are in the middle of the North Atlantic; it's extremely rough, it's a very harsh environment. And so to have developed a facility to cultivate seaweed in such offshore rough conditions gives our company kind of a benefit and a leg up when you're thinking about open ocean or offshore aquaculture.

**Ashanti Blaize Hopkins:** Obviously, permitting seems to be a bit of a challenge here in the state of California, especially in the aquaculture space. Let's talk about how Ocean Rainforest was able to secure in-water farm sites in California. Do you know how long that took and how did the company decide on its farm operations locations?

**Eliza Harrison:** Yeah, so the permitting process was really why I got involved with the ARPA-E project because all of our work in California is funded under the contracts of the Department of Energy's ARPA-E Mariner program. And at the time, we had run kind of a phase one in 2018 to 2019 that was really focused on a finite element analysis, techno-economic assessment, very broad site suitability assessments looking at—we're focused on the Southern California Bight. And we did a decent enough job that ARPA-E gave us additional funding to move into what they were calling phase two of what's, you know, colloquially referred to as the macrosystems project. And at the time, we made the transition from phase one to phase two, we had a partner that is—that became no longer a partner, that kind of transitioned away from the project. And with that transition, we, as the macrosystems team, lost access to all of our hatchery infrastructure, all of our boat infrastructure, the offshore operation, the permit, all of those different things. So I got engaged because I had done some permitting work in North Carolina, and Ocean Rainforest, of course, was now suddenly in a position to need to secure a permit in California. And in North Carolina, there's a research and development permit that takes somewhere on the order of six weeks to four months to secure. So very straightforward, it's all very nearshore operations, but not a lot of legwork. It's a pretty clear-cut process. And so, with that as, you know, my framework, I kind of came into California and said, "Yeah, I think we can get a permit. I don't think that'll be a problem." And quickly realized that was very wrong.

But what was interesting is, you know, we kind of came into the—into California and now were in a position to identify a new area where we were going to apply for a permit, which involved a lot of stakeholder outreach, specifically with the commercial fishing community. And in response to many of their concerns, we changed the location, we changed the size, we changed the marking strategy that we were going to use for this demonstration project, things like that. And eventually landed on a location that seemed, you know, based on the depth and the environmental conditions, seemed like it would be amenable to cultivating seaweed but also in a place that wouldn't have significant impact on these existing marine operations or maritime operations. So that was kind of how we started the site selection

process. We worked very actively with the NOAA and COST team to be able to move through that actual site suitability study, where they're not only looking at commercial fishing data but also recreational fishing, navigational hazards, you know, oil, all of those different things. So we worked very closely with their team as well as a local contractor called DC, who prepared our biological assessment, essential fish habitat analysis, and what's called a cultural and prehistoric record search. And then we did internally what the bulk of the application writing but also what's called the navigational safety risk assessment. And we started the process in January of 2020. Obviously, COVID happened. So I continue to spend a lot of my time writing and reading and typing on a computer. We submitted our application to the U.S. Army Corps of Engineers for a site, an 86-acre demonstration project in federal waters, in November of 2020. Our application was deemed complete and went out for public notice in December of 2020. And then, after a significant amount of back and forth with all variety of agencies as well as the California Coastal Commission, we did win the permit in December of 2021. So it did take us a year. The full process of preparing the application material took us about eight months, and then it took us another year for us to get everything in, in the context of a mitigation and monitoring plan, kind of put into place.

And part of the reason that it took so long for us to develop that plan is because we had moved through this phase two of ARPA-E Mariner program very successfully at a nearshore site where we were leasing lines. And it just became a question of, you know, we weren't going to be able to install the infrastructure if we didn't continue to have the support from the DOE. So then they indicated that they would support the project, and so we kind of picked up again in those negotiations with the Corps and the Coastal Commission to really then be able to operationalize the permit. Well, the permit application process took a year; the whole process took 24 months. That is quite a sprint to get to where you are now.

**Ashanti Blaize Hopkins:** I know that there has been new legislation that has been passed here in the state of California, authored by California State Senator Steve Padilla. Do you think that this new legislation is going to make the process easier or streamlined in the future?

**Eliza Harrison:** You know, I think there's definitely potential for that legislation to help. I think there needs to be a broader effort. You know, you look at Nationwide Permit 48, which is a very standardized way of permitting shellfish operations. If they can replicate that kind of at a national scale, both for state waters as well as federal waters, you know, that would be ideal. But I think the legislation passed by Padilla is going to be really helpful in kind of serving as a stepping stone toward improving the efficiency of permitting. That said, I think there are a number of other aspects of the permitting process that need to almost happen before the full application process is streamlined. One of which is kind of identifying a lead agency, because right now, there's a bit of confusion, or there's a bit of complexity, I should say, in the context of who is actually taking the lead on a permit, because it depends a lot whether you're in state or federal waters. And then, of course, you know, the agencies are significantly understaffed. And so, as much as they want to have a say in, you know, how a permit is approved or what kind of permit is approved, they don't want to bear the responsibility for coordinating with all the other agencies that need to see or have a voice in the application process. So I think identifying a lead body to kind of spearhead the permit application process is going to be really important.

And then there's also, kind of on a more nuanced side, we were hit with a requirement to facilitate or to create a decommissioning bond. So, in essence, it's this idea that, you know, if something should happen to Ocean Rainforest and we left, you know, gear in the water, the company went bankrupt, the California Coastal Commission would actually have access to money that they could use to pull or recover all of that infrastructure. So, in that way, you don't have any kind of lost gear that's just sitting aimlessly in the channel.

**Ashanti Blaize Hopkins:** So this would be kind of like an escrow account, where you would put the money in there just in case?

**Eliza Harrison:** Exactly, it's an escrow account, it's a bond, it's a letter of credit, things like that. And what's important is, you know, if you do—if you think about insurance, you're obviously not paying the full cost right up front, right? You're paying some portion of that. But we were asked to pay the full amount. And if—and this is for a demonstration project. So if you want to have kind of any sort of large-scale commercial operation, there needs to be some give and take, whether it's a federal fund, whether it's a statewide fund, that allows, you know, the commission and the California Department of Fish and Wildlife, or whomever, to be able to know that there are resources to potentially deal with, you know, gear that gets left in the channel without placing that full financial burden on the applicant. And so I think, yes, you know, the legislation is really important, but there are these other pieces that need to be addressed in order for the permitting process and then the actual operation of a farm to be feasible.

**Ashanti Blaize Hopkins:** And my guess, the sooner the better, that some of these issues can be addressed would be ideal, because, you know, these jobs are coming. The blue economy is about to really take off in the state of California, so it would be nice to have those pieces in place before the big boom comes, right?

**Eliza Harrison:** Absolutely. And the thing is, you know, there's so much expertise around the world in the context of how to do seaweed and shellfish aquaculture in a way that is very environmentally responsible. But if you have this bottleneck with permitting, that you can't take advantage of those skills, then, I mean, there's going to be kind of a—we're going to fall behind.

**Ashanti Blaize Hopkins:** So let's talk a little bit about Ocean Rain forest, specifically in terms of the kelp that you all grow. How many different species of kelp are we talking about here, and tell me, why kelp? And what are the potential uses of a product like this?

**Eliza Harrison:** Yeah, so the company in the Faroe Islands grows four species commercially. Here in California, we're only focused on giant kelp. One of the reasons—or there are a number of reasons for that. One of which is, giant kelp is local to Santa Barbara Bight, or the California Bight, excuse me. The other one is that giant kelp, in particular, can grow very, very quickly. So, if you're thinking about, you know, the framing—or I guess, stepping back, the framing of the ARPA-E Mariner program was looking at providing or building a kelp industry that would scale sufficiently to be able to produce biofuels from kelp. So that's going to require millions and millions of tons of kelp before, you know, a biofuel industry is even remotely feasible. And so, if you think about *Macrocystis*, or giant kelp, which has the capacity under ideal conditions to grow, you know, 2 feet a day, that's a lot of biomass, as opposed to, you know, some of the other species like sugar kelp, where, you know, maybe you can expect, you know, 3 to 6 kilos per meter of line that you seeded in the ocean. You know, giant kelp, you can get 12, you can get 15, you might even be able to get 20. Some pieces of literature point to 80 kilos per meter. So the difference in the amount of biomass that you can have, specifically because it's giant kelp, makes it very attractive from a commercial standpoint.

The other piece is that kelp, more generally, has a variety of different compounds that can be used to support all a collection of different industries. And so you've got, you know, potential extracts, so alginates, fucoidans, things like that. You've also got the capacity to produce biostimulant products because there are existing brown species of seaweed that are already used for a biostimulant product. Whereas biostimulants are basically like a glorified fertilizer, except they don't contain nitrogen, phosphorus, and potassium, and instead just help improve the plant's resistance to stress. So it's not any

sort of like additive, per se, but it just makes the plant a little bit better able to deal with, you know, drought conditions or things like that. But you can also use kelp for animal feed. So it's got this kind of multifaceted collection of uses that make it very well suited for a biorefinery approach. And given that kelp is not a hugely, uh, economically attractive thing to cultivate, um, because it's expensive and it's ultimately a pretty low-value crop, the more products that you can derive from one species makes it that much more of a compelling business case. And so that's one of the reasons that we're looking at kelp.

And then, the last piece, and more kind of from an environmental and ecological piece, is the way that we've designed our systems in California to mimic a natural kelp forest. And so, if you think about the habitat value creation, the different, you know, the foraging potential within that kind of kelp canopy, all of that holds true in Southern California. And so there is this kind of environmental play as well. And then, of course, there's the tourism opportunity because we do have a fair amount of marine life that is moving in and around the system, and that's, you know, helpful as well for other boats that are going out and maybe looking to see some fun things as they're on their way back and forth from the islands.

**Ashanti Blaize Hopkins:** I think it's really important to make the distinction between what Ocean Rainforest does and how the commercial fishing community operates. What is the difference there, and do you see ways in which the two industries can, or already are, working together?

**Eliza Harrison:** Yeah, so the commercial fishing industry is one of the most, if not the most, important stakeholder group, both in the context of our demonstration project but also in really the continued development of aquaculture in Southern California. And the reason is, you know, they have, over the years, the industry has changed significantly, as I understand it, and they've been increasingly limited to where they can't fish. For example, where they can troll or where they can't troll. You know, how they're able to move along the coastline. And those constraints, in some cases, overlap or conflict with potential aquaculture operations. For example, when we were moving through our site suitability assessment, we identified nine sites in federal waters, so past the three-nautical-mile mark, and then nine sites in state waters that could be suitable for our demonstration project. And the problem with the ones in state waters is every single site fell within the state-designated Habitat Troll Zone. So even though that would potentially work for seaweed aquaculture, there was no way that those Habitat trawls could continue to operate. And so that was a pretty quick red flag and really again pushed us back to federal waters.

So, the way that the commercial fishing industry has—has worked, you know, you as the applicant have to be very sensitive to where folks can and can't fish. There is, of course—or it would be naive to assume that we'll be able to find one single spot in the ocean where nobody fishes. So then it becomes a question of minimizing the impact. So making sure that the system is properly lit, that it's marked on navigational charts, that there are maybe different configurations of the cultivation systems, or the ocean cultivation units, as we call them, that would allow potentially for vessel transit—not necessarily for trolling, but for allow for a boat to move through that area, things like that.

**Ashanti Blaize Hopkins:** Can I pause you? Can you explain what trawling is, for folks that may not be really read into some of the terminology? What does that mean?

**Eliza Harrison:** Trawling, as I understand it, is basically you have these large boats that drop nets behind them, and then they'll kind of gather things in, in this, you know, almost purse-seining technique to make sure that basically to collect everything that they can catch. And so it's this net fishing strategy.

**Ashanti Blaize Hopkins:** So that would obviously, if you had an aquaculture farm underwater and you had someone trolling, that would disrupt the ecosystem that you've created, right?

**Eliza Harrison:** Yes, and they would also get entangled in the ropes and the buoys. It would just be a mess all around. So we definitely have to be cognizant of that. But, you know, in terms of the larger—I guess, the broader potential synergies between fishing and then aquaculture, a lot of the skills that we use and rely on in our aquaculture operations are things that many fishermen, you know, already have. There's a facility to be able to work on boats, there's an understanding of knot tying, there's an understanding of like, okay, well, the current is doing this, the waves are doing this, which means maybe we can do this piece of our task today, but we can't do this other piece because we won't be able to lift the buoy safely or whatever. And there's a facility with how to operate a boat, all these different things that seem pretty basic, but, you know, when you get into the nitty-gritty, a lot of people don't have that. And so, their facility and their ability to really work on the water and put in long, hard days kind of overlaps very nicely with aquaculture. And at least how we're envisioning it in Southern California, a lot of this work would come, you know, seasonally. So in that way, we're not, you know, making a pitch to folks to say, "Look, you know, abandon your fishery and come be a kelp farmer." That's not our idea. But it's instead much more thinking along the lines of, "Okay, we're going to start harvesting our seaweed. Our harvest season is going to go for three months. Would you like to work for two weeks, or, you know, a month, and get paid X amount a day to be able to be out there working with us?" And then you can go back to your, you know, traditional fishing. That means you're not a farmer; you still have that independence. But maybe you have a little bit of extra income.

And the other nice kind of synergy, and this would be the last point, is as much as the actual operation in itself is pretty distinct, barring these pretty broad-stroke skills, the infrastructure that is needed to support both commercial fishing as well as aquaculture is very similar. So everybody needs, you know, cranes; everybody needs boat hoists; people need cold storage; people need truck bays; people need a place where you can process food-grade—in a way that is, uh, considered food-grade, things like that. So there's a nice overlap in the kind of onshore facilities, or at port facilities, that are needed to support both aquaculture but also these offshore commercial fishing efforts.

**Ashanti Blaize Hopkins:** Santa Monica College has an aquaculture program launching in the fall. For those students who complete the program, what kinds of jobs might be waiting for them at a company like Ocean Rainforest, or at any aquaculture industry in California, in general? And what skills do you think those students need to master?

**Eliza Harrison:** Yeah, I think there are kind of three different areas in which we categorize our work. One of which is being in the hatchery. And so, in that sense, you know, it's basic lab skills. So an understanding of how to work in a sterile environment, an understanding of how to take and record or how to record and potentially analyze data, things like that. I totally recognize, or we recognize as a company, that, you know, specifically culturing giant kelp gametophytes is a very niche thing. But any sort of familiarity with working with these biological organisms in a laboratory facility is super important. Then there's the kind of boat operations, in which case, not only are you looking at folks who, you know, have some facility with knot tying, boat operations, boat vessel maintenance, electrical things like that, but you're also looking at monitoring. And so, as part of our work with the—as part of our requirements under our Coastal Commission and Corps permit, we're asked to go out every two weeks and do these surveys, which require flying a drone and flying an ROV. And so, some facility or some familiarity with these remotely operated vehicles, if that's possible, just to facilitate those monitoring requirements. And then, in that same vein, a pretty basic ability to write reports of like, "Okay, this is what we saw, these are the GPS coordinates, this is what we can assume or we can safely conclude based on these data that, you know, the farm is operating in good condition or in good order."

And then, the last space is processing. And so that's much more of working on a production line, being able to sort things, to sort different seaweed, or, you know, pull out giant holdfasts or things like that. But

also kind of the harder skills. So think, you know, electrical, plumbing, you know, potentially welding, things like that. So there is really a space for everyone in the aquaculture industry, especially if you have those hard, tangible skills that you're able to bring to any company that—that you would be interested in working with.

**Ashanti Blaize Hopkins:** It feels like you don't necessarily have to have a master's degree or PhD in order to do a lot of this work. Even a bachelor's degree, it seems like as long as you are able to master those skills that you referenced, there's a space for you within the blue economy, at least here in the state of California.

**Eliza Harrison:** Oh, absolutely, absolutely. And, you know, those degrees are helpful, especially if you want to be, you know, a hatchery lead, or if you want to do all the, you know, science and production, or the, um, chemical science for production, and different things like that, absolutely, those higher degrees. But, you know, there are—there's definitely a way for us to bring in folks who, you know, have a high school degree, preferably a bachelor's degree, and then kind of up the chain.

**Ashanti Blaize Hopkins** So, if I look at Ocean Rainforest, it is super clear that your company is fully entrenched in the blue economy here in California, and it's an area that really many are just learning about, that it even exists, right? So what does the blue economy mean to you, and what is your dream state for the blue economy in the state of California, especially if we are considering this aquaculture industry?

**Eliza Harrison:** Yeah, so historically, kind of the blue economy is referenced to not only sustainable use and management and conservation of these marine resources, but there's also increasingly this awareness of the fact that we have, you know, so much space that is available to us that can support food production, that can encourage job creation, all those different things. And right now, we're really not taking advantage of that. And so, you know, in parallel to the green economy, the blue economy, I think, takes that idea of transforming our relationship with land and brings it over to the ocean. And so, in the context of a blue economy in California, I think that is in large part contingent on, you know, increasing the scale of, you know, seaweed and shellfish operations off the coast here. But I think there's also a piece that recognizes that the blue economy does revolve a lot around water. And, you know, Nordic Aquafarms is doing this incredible effort in the northern part of the state to move forward with a, uh, with a giant tuna operation that would be on land. And, you know, yes, technically, that's land-based, but I think there's definitely a space for those types of operations as well in California because ultimately, you know, we do need to change our food production strategies. We do need to provide different forms of biomass to support these existing industries. You know, we're working with a number of different partners in the context of product market development who are looking at bioplastics or biomaterials that would come from seaweed. And in that case, the pitch is not to say, "Well, we're not going to use plastic," but it's to say, "Okay, well, what is—what if seaweed can provide this alternative basis for a biomaterial, so that the thing that would have otherwise made the bio-material can be used for something more specialized?" And so, I think there's this really nice way of using not only seaweed but also kind of other things to not only support kind of alternative food production but also support a variety of existing industries that—that then carries over into the larger kind of climate resilience strategy that—that we, at Ocean Rainforce, are looking for.

**Ashanti Blaize Hopkins** We talked about how permitting could be a potential challenge. Let's talk about what are some of the other hurdles that could prevent us from getting to this dream state that you have.

**Eliza Harrison:** Yeah, so permitting is definitely one of them. A lack of community buy-in is also a challenge. It's something that we're—we're really trying to combat the Ocean Rainforest, but of course, you know, that takes time to build trust. And then, the other piece is the product market development. So, there's a lot of enthusiasm and excitement around seaweed and seaweed aquaculture in particular, but the market to meet that supply really hasn't taken off yet. And so, you end up with this classic chicken and egg scenario, where, yes, you know, we know we can grow the seaweed, but the question becomes, you know, what is the most effective way to bring that seaweed into market? You know, is it just a storage-stable product? Does it need to be through this kind of multi-steered extraction process? You know, how can we best utilize biomass? And then, what are the regulatory approvals that are required to do that? So, I think the product market development, that's something that we'll really turn our attention to in the next year and a half or so. And the idea is to say, "Okay, well, if you can clearly do—uh, demonstrate that there is a market, and it would require this supply, then there's an opportunity." Once you, at least, have overcome the permitting hurdle, then there's an opportunity for you to actually build a viable business. And so, I think those two are kind of the—the challenges. And also, within that product market development, there are market barriers. So, you know, you do need to have certain certifications for some products but not for other products. And if there's not a clear regulatory framework on which kind of products falls under what, you know, regulator jurisdiction, that's going to further delay the development of the blue economy, especially in the state.

**Ashanti Blaize Hopkins:** What do you think is working well in the state of California in terms of growing the blue economy, and what can other regions learn from what we're doing here?

Eliza Harrison: Well, I have to give a lot of credit to the folks in the regulatory space because when we started those conversations, there was pretty much no understanding of what seaweed aquaculture was, or what it looked like, or, you know, how it was potentially distinct from other forms of aquaculture. And they've really worked with us to improve their understanding, but also, you know, in recognizing that everyone has the opportunity to learn from this demonstration project. They do, we do, the community does. And so, that's kind of why they've authorized the project. And I—I give a lot—a lot of credit to them for, you know, basically saying, "Okay, let's try this." Because if you don't have the data, if you don't have the experience to be able to say, you know, "What is important or what is not important in an application? What's important for monitoring?" all of those different things, then the—the development of the blue economy, specifically for aquaculture and Southern California, will continue to stall out.

So, they've really come a long way. And it's also been really important, I think, for the commercial fishing community to not—by any means, get on board but to begin to understand, you know, there's an important synergy with the types of infrastructure structure that are required to be able to do an offshore operation. And so, I think that synergy is an important lesson for California but also for other states.

In terms of what—well, I don't know if I have an—an answer for what other states could necessarily learn from California, but I think, you know, there are a lot of states that are doing very innovative things with aquaculture, specifically. You know, Alaska has a beautiful permitting guide, and I think California could really benefit from building out a similar permitting guide. And so, I think there's—there's an opportunity for states across, you know, all—all different coasts to come together to say, "You know, here's what's working, here's what's not working." That would be my take on the question.

**Ashanti Blaize Hopkins:** Feels like we're getting there, slowly. But you feel like we'll get there, right?

**Eliza Harrison:** Yes, no, I think there's definitely an opportunity. And I think it's dependent on the operators but also, it's—it's, um, kind of a continued conversation or a willingness to continue



conversation with, you know, community members, stakeholders, and also the regulatory agencies to say, "You know, what are we learning, or how are we doing? How can we do it better?" And then, continuing to grow from there.

**Ashanti Blaize Hopkins** Eliza Harrison, I appreciate this conversation we have had. Thank you so much for sharing your insights and expertise with us. And thank you for joining us on this incredible journey through the blue economy. We hope this episode has inspired you to explore further and learn more about this vital sector. If you enjoy Doing What Works: Exploring the Blue Economy, be sure to subscribe to our podcast and leave us a review. Stay tuned for more exciting episodes that push the boundaries of knowledge and open new possibilities. Until next time.