

## The Conch- TracyFanara.mp3

**Julie Kuchepatov** [00:00:04] Hello. My name is Julie Kuchepatov and I'm the host of this podcast, The Conch. We are continuing our journey with this podcast, talking about seafood and the ocean. And most importantly, we're uplifting some of the incredible people working in the seafood sector, sharing their journeys, the challenges they face, and the triumphs they've achieved. Today, we are thrilled to have an incredible guest joining us, Dr. Tracy Fanara. Tracy is also known as Inspector Planet and she's a research scientist and program manager at the nation's environmental intelligence agency, the National Oceanic and Atmospheric Administration, or NOAA for short, where she works to understand earth systems and provide information needed to protect human lives and livelihoods from threats in a changing world. Welcome and thank you, Tracy, for joining me today on The Conch. Let's get to it.

**Tracy Fanara** [00:00:53] Thank you so much for having me. Yeah. Did you like that? National Environmental Intelligence Agency. Somebody said that about NOAA once, and I just keep on running with it.

**Julie Kuchepatov** [00:01:03] I love it. So tell us about your alter, or maybe not so alter, ego Inspector Planet. What's that?

**Tracy Fanara** [00:01:11] So Inspector Planet, I developed back, I don't know, oh my gosh, almost ten years ago now. I had my little cousin come over and she was just obsessed with these reality stars, and she was looking them all up on Instagram and I was like, Oh my gosh, Julia, there's got to be better female role models. And at that time there really weren't many on TV. I decided to take my research and start making videos about science. So she had something to watch, so she can understand what I did, too. And I came up with Inspector Planet because true sustainability probably can't be reached without innovation. I mean, we are constantly increasing entropy, and so Inspector Planet is a combination of Captain Planet and Inspector Gadget. So, sustainability meets innovation.

**Julie Kuchepatov** [00:02:09] That's awesome. So, what do you do at NOAA?

**Tracy Fanara** [00:02:12] So at NOAA I am the coastal and ocean modeling portfolio manager, which is a really big name for physical scientist. And I manage our coastal and ocean models. So, I work with academia, industry, other government agencies and scientists within NOAA to meet the needs of our stakeholders to protect lives and livelihoods. All those things that you always hear about. And we do everything from the bottom of the ocean, all the way to storm surge, which includes everything in between the physics, the chemistry, the biology, and trying to find a way for all of our academic and regional partners that contribute to modeling efforts to meet local needs. Try to get that all together and create this community. So, we can be more efficient and effective force moving forward.

**Julie Kuchepatov** [00:03:06] So what is modeling exactly? Just maybe a primer.

**Tracy Fanara** [00:03:11] Yeah. Good idea. So, it's basically not runways. It's kind of like playing a video game. So that's how I always describe it to kids at least. I ask them if they like to play video games. And of course, everybody says yes. And modeling is like playing a video game, but it's real life. So, you're simulating real life phenomena and relationships, interactions between the ocean, the atmosphere, humans, the land, hydrology, and everything else. So, you're trying to understand this really complicated, intricate web that

we live in. Earth systems are extremely complex, and there's so much about about how the world works that we don't understand. And we need to, we need to predict extreme weather. We need to predict ocean hazards, inundation, flood, everything, algae blooms for fisheries, everything. And there are no local problems. So, we have to understand how everything is impacted by everything globally to really get these answers that we need to predict threats locally, if that makes sense.

**Julie Kuchepatov** [00:04:29] Yeah, that makes sense. So, you basically run these scenarios, right? And then you prepare responses to them or what happens after you prepare model.

**Tracy Fanara** [00:04:38] Yeah. So my research, through my dissertation was scenario modeling. So basically modeling current situations or current physical or chemical or biological or all of them, phenomena together as is and then I did scenarios where in my case I was doing stormwater and stormwater chemistry. So, I looked at how a watershed is built right now and what we could do if we tried to install engineering designs that would mimic the natural hydrology. So, when rain falls, if nothing was built on the ground, that water would percolate into the ground, be treated by physical and biological means. Now, what we have done is put so much concrete on the ground. So now instead of that water infiltrating it, it runs off at really high volumes, decreases water quality, causes sinkholes in places that have harsh geology, and it creates a whole boatload of problems downhill. For not only humans, but of course, fish, algae, basically the entire ecosystem from the ground up. So, I did scenarios for what we could do depending on how much retrofit we did. And I found those scenarios. But what we're doing at NOAA is more operational modeling. We want to develop a model that we can use in real time and that will advance as changes happen. So basically, your weather that is constantly getting updated, our ocean models for navigation and fisheries, all of that that we need to know, that is real time. We need those operational models to know what's going on right now. And advances to those models include adding data. It's called data assimilation. So, we're taking real time observations and actually using them in our operational models to find the best algorithm possible and the best answer as possible. So, these models are constantly getting better and better so that we have real time information.

**Julie Kuchepatov** [00:06:58] So that's fascinating. It sounds like a real coordinated effort, probably amongst many, many different offices, right?

**Tracy Fanara** [00:07:06] Yeah. Many offices, but not just within NOAA. Like throughout agencies, we work with USGS, NASA. You know, we use a lot of satellite data, and we have a lot of collaborations with NASA to get these satellites up in space. Then, you know, just academia and industry with their technology advancements, there's just so many partners. And you're exactly right. It's a very coordinated and it's a huge effort with thousands of people working on this.

**Julie Kuchepatov** [00:07:37] Yeah, it sounds really complicated. You just mentioned there are no local problems. What do you mean by that?

**Tracy Fanara** [00:07:44] The first job that I got was at Mote Marine Laboratory, and I was working with a species called *Karenia brevis*, also known as Florida Red Tide. This is a toxic phytoplankton species that's endemic to the Gulf of Mexico. And when these blooms are in really large numbers, not only does the toxin that they release impact aquatic life causing mass wildlife fatalities, fish kills, just tons of fish washed ashore, especially when we have an extreme bloom. The toxin can aerosolize so it can attach on to sea salt

particles, move on shore, causing humans to cough or sneeze. But for those with asthma or COPD, it can be really serious. It also impacts quality of life. So, these blooms are really important. And after 70 years of research, we still had so many questions and I was like, why? How do we still have so many questions? And the public is asking the same thing. And honestly, like, I didn't realize until I was actually working with the species how difficult answers are. This is a microscopic species that in a huge body of water that acts differently in a laboratory than it does in the natural environment. And we only have so much money to take so many samples. And we were trying to answer these questions locally. When these blooms are actually impacted by hurricane events and currents and Saharan dust coming over from Africa feeding another species that can possibly feed *Karenia brevis*. Ancient sinkholes, blue holes, that might bring nutrients 40 miles offshore where these blooms are thought to initiate. There's just so many things that impact these blooms. We could not look at this locally like and it is an earth system phenomena. I started realizing that pretty much everything is.

**Julie Kuchepatov** [00:09:36] Yeah. I was just going to ask you about the red tide as you have earned international media recognition due to your expertise in hydrology and harmful algae blooms during the Florida water crises and even the Weather Channel's Jim Cantore called you the face of red tide. How do you feel about that? And then what else do we need to know about red tide?

**Tracy Fanara** [00:10:01] Well, at the time when Jim Cantore called me the face of red tide, I didn't know if that was a good thing or a bad thing because red tide was devastating the southwest coast of Florida at that time. So, he had, I mean, it's great to, you know, be recognized as someone that has answers. And I didn't have all the answers and none of us did. But what made me different than other phytoplankton ecologists was that I'm not a phytoplankton ecologist. I'm a hydrologist. I looked at these blooms holistically. I wasn't just looking at the biological behavior, or just the chemistry or just the nutrient input or the ocean currents. I was looking at everything all at once, and I think that that gave me a unique perspective to speak on the topic and also alert the public of threats. When I was at Mote, I redeveloped a website and developed an app that uses crowdsourced information to alert the public of where the effects of Florida Red Tide are. So, getting that information to the public was essential. You know, these blooms were decimating people's way of life, you know, just completely killing fish. And the fish, it wasn't killing. I mean, this bloom was 120 miles long, like 15 to 20 miles wide. So even if you did catch a fish, it was likely toxic. It was a really hard time as a scientist and as a science communicator, but a really important time for the direction of my career and to move on to NOAA and look at everything holistically.

**Julie Kuchepatov** [00:11:49] I apologize to Jim Cantore because I mispronounced his name. So, I'm sorry, if you're listening. So, you know, this podcast is about seafood. So, seaweed and sea vegetables and kelp, they're all super hot right now, like really, really hot. And so I'm curious, can you explain, like, how these harmful algae blooms or harmful algae are different from the seaweeds and algae and kelps that are popular right now known as sea vegetables are really, you know, hitting the grocery stores and hitting the restaurants. Can you kind of explain the difference because I'm really not sure what that looks like?

**Tracy Fanara** [00:12:34] Yeah, for sure. And that's a great question probably something I should've explained in the beginning.

**Julie Kuchepatov** [00:12:38] That's okay.

**Tracy Fanara** [00:12:39] So there are thousands of species of phytoplankton and there are microscopic phytoplankton and macroscopic. So the seaweed that people eat is the macroscopic algae or also known as seaweed. Florida Red Tide is a microscopic dinoflagellate. So it's really, really tiny. It's about, I don't know, around 20, 25 microns like that small, tiny. In fact, if I had a vial with thousands of cells, it would look clear. That's how small these things are. And they're also toxic. So, I mean, phytoplankton, that's the base of the ecosystem. But a few species have developed a defense mechanism. And with Florida Red Tide, it does release a toxin. And that's not the case with a lot of these, well, with all of these seaweed that we're actually consuming. But there is a risk. So, for example, with Florida Red Tide, the toxin can actually accumulate on epiphytes that attach to seagrass, for example, or sargassum. Right now, there's a lot of people saying, what can we do with all of this, you know, yellow algae that's washing up in tons right now on the shores of Florida and Mexico? And a lot of people are looking at sargassum as a possible food source. The tough thing is that a lot of these algae and the reason why they're so important to the ecosystem, specifically with sargassum is that it not only provides an ecosystem and, you know, brings over so many important species over the Atlantic and through the Caribbean and provides a house for, you know, the base of the ecosystem. And fishermen love these patches of sargassum because fish are attracted to them. But sargassum, like a lot of our really important plant species can uptake pollutants in the water columns. So sargassum has been connected to a lot of heavy metal concentrations. So, I mean, there is a threat there when we're talking about, you know, really taking what looks like an opportunity and creating it into a food source that makes sense.

**Julie Kuchepatov** [00:15:01] Yeah. That's really helpful. Thank you for that. So, I do a bunch of research on the person that I'm joining in conversation, and so I listened to another podcast interview where you said, quote, "A big challenge is how do we get a farmer in Iowa to care about a shellfish farmer in Gulf of Mexico?" And so you're talking about the interconnected nature of our planet. And like you said, these challenges are not local. They're global and we were just actually in the Gulf of Mexico recording a special podcast series in the coastal bend of Texas. So, I'm curious, do you have an answer to that, first of all, how do we get an Iowa farmer to care about a shellfish farmer in Gulf of Mexico? And what is a solution? Like, how do you think about solving these global challenges that are affecting these localized areas? Two-part question.

**Tracy Fanara** [00:15:58] Yeah, and those are big questions. If I had a clear answer on that, I would be putting 100% of my time and energy into doing that. But it's tough because this, just like every other animal, it's like this need to take care of yourself and your family. It's hard to start caring about those that you might be affecting downstream that you don't even know. And trying to make that connection is a huge challenge. So, everybody's impacted by someone else. And looking at how they're impacted economically and public health wise. If they're impacted by someone else, maybe they'll look at their impacts on someone else. But that's where regulations come in and that's why a lot of these water regulations and these water rules are so important because if they weren't there, what would stop, for example, Georgia from using all their water, especially when we start having more and more sea level rise and saltwater intrusion on drinking water sources. And then all of a sudden, the water that Florida ecosystems and drinking water sources depend on all of a sudden dwindle. You know? And that's the same thing when we talk about nutrient loading from farmers in Iowa and Illinois down the Mississippi and out into the Gulf of Mexico, where it's impacting shellfish, farmers, and fisheries. And I think that, unfortunately. I don't have an answer of how to get, you know, a farmer in Iowa to care about a shellfish farmer in Louisiana, except other than let them meet each other.

**Julie Kuchepatov** [00:17:55] Yeah. I mean, there's a lot of power in that, right?

**Tracy Fanara** [00:17:58] Yeah, because empathy is something that we are completely capable of. It's really easy to ignore things when they're not in your face.

**Julie Kuchepatov** [00:18:06] Yeah.

**Tracy Fanara** [00:18:06] But if they heard the stories. But then it comes down to economics, too. We need to innovate ways to make it beneficial economically for change to happen. You know what I mean? So, we need to figure out ways to allow farmers to still make the same amount of money using less fertilizer. Or new ways to keep the fertilizer that they use on their land and time release, things like that. So, whatever it is, you know, making it economically beneficial to them to do these things that would then positively impact downstream. That would be the best way to go about everything so that we don't need additional regulations.

**Julie Kuchepatov** [00:18:57] Yeah. So, I mentioned I do a bunch of research on the people that I speak with. And so, I also read that this is a little bit of change a topic, but it'll come around, you'll see. So, I read that when Space X launches its first civilian mission to the moon in 2023, which I'm not even sure that's on time, on target.

**Tracy Fanara** [00:19:17] Definitely not.

**Julie Kuchepatov** [00:19:19] I was going to ask you about that. I read that you might be on board. I also read that you work with NOAA to design aquaponics for space and algae-based systems for carbon fiber building material production on Mars. You're working on some stuff that can go up into space.

**Tracy Fanara** [00:19:36] Yeah, I'm am.

**Julie Kuchepatov** [00:19:37] Algae based systems, so I need all the details of this because honestly, if I was in the running to go into space, that's probably the first thing you would know about me, so please tell me what's the status? What's going on?

**Tracy Fanara** [00:19:48] Well, I was a finalist.

**Julie Kuchepatov** [00:19:51] Wow.

**Tracy Fanara** [00:19:53] However, I was not chosen. They chose Steve Aoki. The DJ.

**Julie Kuchepatov** [00:19:58] What?!

**Tracy Fanara** [00:19:59] Over me, which I think was a poor decision, but they were looking for a diverse group of artists. And right now, you know bringing influencers to reach more people is what seems to be the thing to do. More people know Steve Aoki than know me, that's for sure.

**Julie Kuchepatov** [00:20:18] Well. Mm hmm.

**Tracy Fanara** [00:20:20] But it was very close to going to the moon and it was such an exciting process and I'm really grateful for it. And before that, you know, most of my life,

being an environmentalist, I was like, Why space, when Earth? I was one of those, I was like, Why are we putting so much effort into space? And part of me still agrees with that when it comes to human space travel. But if you really look at it, so back when I was at Mote, I had an intern. He was working with me on looking at the cycling of nutrients of oysters, mussels, clams, different bivalves. And we were looking at the filtration rates for Florida Red Tide. And he was like, you know, NASA's doing this. And he connected me with someone at NASA. My mind was opened up because what he said is, okay, so we're trying to put aquaponics in space for an energy source and also to clean wastewater, which as an environmental engineer is a dream job. Yeah, going and cleaning water, like being one of those people that might help, you know like us get to another planet. But what I realized is that research was inspired by water quality in the Indian River Lagoon and wastewater problems worldwide. Unsafe drinking water is one of the world's leading killers among children. I sort of realized that the reason why we don't have true sustainability and why things are the way they are here on Earth is because we've had the opportunity to waste. And when you're in space, you cannot waste. You don't have that opportunity. You're limited to exactly what you bring aboard. So, you have to reuse everything. And that's every single drop of water you have to reuse. And in doing space research and in realizing that you have to be completely sustainable and all of the work that's going to accomplish that, you start to realize that that's where the most effective like, most bottom line and fastest way to get to true sustainability, that research is being done for space. And so that's what got me into space research, working with NASA.

**Julie Kuchepatov** [00:22:53] That's amazing. And we could probably spend more than an hour for sure just talking about that. So, you know, I think that's really interesting what you said about the influencer. And I'm sorry you didn't get that job because I think that would have been amazing. Like, oh, my gosh! But I think you're a genuine influencer, you know, through your Inspector Planet platform and you've made appearances on Science Channel's Mythbusters and What on Earth and National Geographic's Shark Week, solving mysteries of shark bites and etc. And you're on Weather Channel's Weird Earth and Fox Weather or CBS Weather and in Marvel's Unstoppable WASP. So how do you do all this? I mean, you are influencing a lot of people, especially, I'm sure, young women.

**Tracy Fanara** [00:23:34] Well, when you read it off like that, it is a lot. And I run a STEM camp for kids.

**Julie Kuchepatov** [00:23:41] Oh.

**Tracy Fanara** [00:23:42] We just had our first camp this summer, the past three days, and then we have the five-day camp next week. So, I'm really just honored to have the opportunity to influence these young middle school girls. As they start to think about their future and their impact on the world. But really, I don't have much of a personal life and I think that that's why I'm able to get all these things done.

**Julie Kuchepatov** [00:24:10] Yeah.

**Tracy Fanara** [00:24:10] But seriously, my work isn't just work. It's my passion as well. And I feel like we need more scientists to really talk about science, because think about it, 0.1% of the population are scientists and we know more about how the world works than anyone else. If we're not sharing it, then who is sharing this information? You know, like, it's a responsibility of scientists to communicate and I feel like because so many scientists choose not to, I feel like I have to make up for it.

**Julie Kuchepatov** [00:24:47] Yeah.

**Tracy Fanara** [00:24:47] And I know that that's terrible. And it's not my responsibility. But at the same time, I'm so passionate about just a scientific literacy and environmental literacy among the general public that I just can't not do it, if that makes sense.

**Julie Kuchepatov** [00:25:07] Yeah. You can't stop yourself.

**Tracy Fanara** [00:25:09] Yeah, Literally, it's all I think about.

**Julie Kuchepatov** [00:25:13] That's awesome. So, I read another quote from you, quote, "I hope that my successors will show everyone, especially women, that they can excel in science and that my journey will show that the path to every dream will come with obstacles, closed doors, and people will tell you 'No'. But those obstacles are just challenges. There's some C-4 for every closed door, for every river to cross, a cardboard boat, for every doubter, an ejector seat, and every 'no' an opportunity to rise above it and be one step closer to your goal. You can achieve any dream, just don't give up." So, what else do we need to succeed? What other advice do you have for us? Because that's a great quote.

**Tracy Fanara** [00:25:53] Thank you very much. There's a lot that went into that. I mean, it was an off the cuff quote, but it was after Mythbusters. So I was on a season of Mythbusters where they're picking the new hosts. And I was only one of three women on the show, and one got eliminated right away. And the thing is, with Mythbusters, it was all about building. And I was constantly doing stuff that I'd never done before. And my mind was completely open to what really building the world that you want to see could be. And that ejector seat, the cardboard boat, and some C-4, those were all episodes in the show.

**Julie Kuchepatov** [00:26:35] Oh.

**Tracy Fanara** [00:26:36] And that's where that came from. But, you know, I think that I'm just really grateful that I found my passion because it has made it easy to overcome challenges and mountains and obstacles. Because like I just said, I can't not. I'm really, truly passionate about it. And I think that finding that passion is something that everybody says. And I feel like it's just so cliché, but truly finding what you care about in whether it's your day job or your side job. If you're going to advance and grow in anything, you're going to have to do things that you've never done. You're going to have to overcome obstacles. You're going to have to put yourself in situations where you're not the expert, where you're quite the opposite, or you fail constantly. And if you're not okay with failing, well then, you're okay with not winning either.

**Julie Kuchepatov** [00:27:38] Yeah.

**Tracy Fanara** [00:27:39] Because it's literally the only way to get to where you want to go is by failure.

**Julie Kuchepatov** [00:27:47] Yeah. If you're not into failing, I got news for you.

**Tracy Fanara** [00:27:51] Yeah.

**Julie Kuchepatov** [00:27:52] I fail all the time. So that was actually really helpful context about that quote because I thought it was so great and I didn't realize that it came from

that. And I didn't realize that you were in the running to host that whole thing, which is amazing.

**Tracy Fanara** [00:28:05] Yeah. Yeah, it would have been really cool because they chose the wrong people. It only went on for the next season.

**Julie Kuchepatov** [00:28:12] Well, there you go.

**Tracy Fanara** [00:28:13] No, I'm totally only kidding. I mean, that's true, but I'm not saying that they picked the wrong people. I'm just saying. Yeah. Yeah. It's just funny to say. The two guys that they did choose did a good job.

**Julie Kuchepatov** [00:28:26] Well, your life would be probably different, right? And that's another thing about failure is that you recognize, okay, this wasn't my time, this wasn't my thing. And so now your time and your thing is around the corner.

**Tracy Fanara** [00:28:37] You're exactly right. Whenever I fail or whenever everything falls apart, I get a little excited because I know what's coming next is going to be awesome.

**Julie Kuchepatov** [00:28:45] Yeah.

**Tracy Fanara** [00:28:45] And the thing is, even if I got that job with Mythbusters, I would have had to quit my job.

**Julie Kuchepatov** [00:28:51] Yeah.

**Tracy Fanara** [00:28:51] And then the series would have been canceled and then what?

**Julie Kuchepatov** [00:28:56] Yeah.

**Tracy Fanara** [00:28:57] There's always some light at the end of the tunnel with everything that doesn't work out.

**Julie Kuchepatov** [00:29:02] Yeah, you're right. So SAGE is about building gender equality and empowering people in the seafood industry and your work, you know, as we've discussed here, straddles a lot of different industries. So marine conservation, whether scientific or space, television. So, can you share one or two aspects of any of these industries that may contribute to inequality in these sectors? And what are some of the things that these industries could do to lessen these inequalities in your experience?

**Tracy Fanara** [00:29:29] Yeah, I mean, I think with engineering, it was just a societal thing for so long. And it was, you know, women for a very long-time years ago, didn't work when they got married, that's it. They were getting married. They were having kids. They were taking care of the household. And so careers like engineering and math and science and technology, those things weren't really seen as jobs for women. But we've come a long way from that. And every single year, with all of these efforts to get women in STEM, to talk to girls like, for example, the camps that I run, there's so many other scientists doing similar things and talking to classrooms, and there's so many more programs like Mission Unstoppable on Saturday mornings for kids to see women in science and engineering. And I think that that's really changing. I mean, we have seen the percentage change from 20 years ago for sure and I truly believe that that will keep on happening and we'll start to get more diverse and have better ideas moving forward, as science has proved a diverse



team does. And when it comes to TV, that's still a thing that's tough, right? Because even when I was on Mythbusters, if you watch it, I mean, pretty much all I say is "awesome." You know, like, I'm excited awesome girl. They gave everybody a background. They did not give me a background on the website. A guy that was on the show also had a Ph.D. and they put doctor in front of his name. Did not put doctor in front of mine.

**Julie Kuchepatov** [00:31:13] No.

**Tracy Fanara** [00:31:14] You know, that was really frustrating at that time. That's why I'm never like, oh, go watch Mythbusters: The Search.

**Julie Kuchepatov** [00:31:21] Yeah.

**Tracy Fanara** [00:31:22] Because I can say awesome to you 10,000 times. But there have been recent female hosts on TV, not many, but some. And I do see a change. I see that people have really broken that barrier down and things might change in the future, but the big thing is that people aren't watching TV as much. Now there are all these options for content, and we don't need the people at the networks to see something special and put us in as the one leading a show or educating people. Now we can do it on our own.

**Julie Kuchepatov** [00:32:05] Yeah.

**Tracy Fanara** [00:32:06] And I think that there have been some people that have really just doubled down on that, like the physics world does a great job. My friend Emily Calandrelli also does a great job. They do that full time and they have made it so they are, you know, the ones communicating science. I mean, there's still, you know. I would say ten male influencers for every one female that's really done well. But at the same time, I see things changing.

**Julie Kuchepatov** [00:32:42] I do too. And I think you're right about the new channels of information sharing, you know, that we have. And there's just going to continue to grow more diverse voices, I think, on these channels.

**Tracy Fanara** [00:32:53] Yeah, for sure.

**Julie Kuchepatov** [00:32:56] So, are you a climate optimist?

**Tracy Fanara** [00:32:59] Yeah. I mean, you wouldn't know it hearing me talk about climate change, but absolutely. And it's tough because, you know, whenever I talk about climate change, I do the same thing that I do with any other topic I talk about. I really want people to have an earth systems look on everything and see how everything is connected and realize that they are not in a bubble. No one is. There is no, you know, air and water, they have no boundaries. It doesn't matter, you know, state boundaries, county boundaries. These are earth phenomena have no boundaries. So, everything is connected. And of course, that means that our human activity is connected as well. We know on a local level that we can change the environment, that we have put chemicals into water that have caused cancers for people could get really sick, birth defects, we know that on a local level. But getting people to understand that it's not just local, you know, like, why would that line be drawn there when we're putting all this stuff into the air and water that obviously is connected to everything else? But the reason why I start with, maybe, the pessimism, is only to explain everything going on. And I think it's really important not to get too pessimistic because then people think, well, you know, if this is where we are right

now, then what can I possibly do? What can anyone possibly do to change anything? I might as well just live life how I want to live because, you know, there's no hope anyway. And that's absolutely incorrect. You know, there are things that everybody can do on a regular basis. Even when we think about, you know, algae blooms and nutrient runoff. If we can retrofit our own homes to build rain gardens and cisterns and keep nutrients at the source and prevent algae blooms, then why wouldn't we be able to do a little things like conserve water, turn off our lights, carpool when possible? All those things. Why wouldn't those make a difference, too? And they absolutely do. And having a domino effect of change, living that truth, and sharing it with people so you can influence the person next to you. There's so much hope. It's just that we have to take it seriously in our work together.

**Julie Kuchepatov** [00:35:31] Yeah, I love that message. So SAGE is about uplifting and amplifying diverse voices in the seafood industry and sector and this podcast is one of the main ways we do this. So I'd love to give you the opportunity to uplift someone. So, who would you like to uplift and why?

**Tracy Fanara** [00:35:46] Oh, gosh. Well, if I wasn't here, I would say The Conch podcast.

**Julie Kuchepatov** [00:35:51] Woo woo!

**Tracy Fanara** [00:35:52] I think what you're doing is really important. The seafood industry is one of those industries that have been predominantly male. Is that correct? Do you agree with that?

**Julie Kuchepatov** [00:36:04] Yes.

**Tracy Fanara** [00:36:06] And having more diversity in that industry can only innovate us further with so many people getting their food from the ocean, it being, you know, billions of dollars economically, all of these things, having diversity in aquaculture and in fisheries is absolutely essential for us moving forward in the speed that we need to move forward. So, I would say you and there's so many women doing amazing things like Minorities in Shark Sciences. Jasmin Graham is doing such great work over there. They're doing very similar things to what I did this past weekend. They're building camps and they're getting students involved and they're getting things funded so these kids can join efforts for free.

**Julie Kuchepatov** [00:36:57] Yeah.

**Tracy Fanara** [00:36:59] So those are the two that come to mind right away. But there are so many amazing women that I can mention right now, and I just don't know where to start.

**Julie Kuchepatov** [00:37:10] Yeah and we don't have a lot of time.

**Tracy Fanara** [00:37:12] Right.

**Julie Kuchepatov** [00:37:13] Unfortunately, I mean, we could just have a whole hotline for people to call in and say, I'd like to uplift this person and that's actually a good idea. Maybe I'll think about doing that in the future.

**Tracy Fanara** [00:37:22] So I'll definitely contact you with names of people that I think that you should definitely talk to.

**Julie Kuchepatov** [00:37:28] Absolutely. I love that. I love that idea because, you know, while we do cross, maybe intersect at certain points, I just learn so much from people who actually aren't just in the immediate seafood sector, so that's why I'm really happy and honored that you came on the show. And, you know, we met that one time, and it was a really great conversation. And I'm just fascinated by you and your big brain, I think, I want to say and just super eloquent and smart and just a real trailblazer. And I really, really appreciate you coming on the show. And I can't wait to, you know, continue our conversation sometime in the future. So, thank you.

**Tracy Fanara** [00:38:06] Oh, I'm honored to be here. Thank you.

**Julie Kuchepatov** [00:38:09] Thank you for tuning into The Conch podcast. It would be amazing if you could take just 2 seconds to leave a review and share this podcast with your ocean loving friends. Thank you!

**Crystal Sanders-Alvarado** [00:38:22] The podcast is a program of Seafood and Gender Equality, or SAGE. Audio production, engineering, editing, mixing, and sound design by Crystal Sanders-Alvarado for Seaworthy. The theme song "Dilation" is written and performed by Satan's Pilgrims. Funding for The Conch podcast is generously provided by the David and Lucile Packard Foundation and Builders Initiative.