- Q: [0:00] Great. We like to start by asking, how do you like to introduce yourself?
- A: [0:05] My name's Erin Adams. I use she/her pronouns, and I am the co-founder and CEO of Ocean Farm Supply.
- Q: [0:16] Tell me a little bit. What does Ocean Farm Supply do? What is the mission of the company?
- A: [0:22] Yeah. We're Maine-based here, and it really was born on an aquaculture farm, an oyster farm, in Freeport, and we developed, and we now sell a plastic-free home compostable mesh bag for shellfish harvest, and also have a line for produce harvest as well. So, really, the mission is trying to divert and interrupt that single-use waste stream that is generated on shellfish farms.
- Q: [0:48] Wow. We're going to have a whole bunch of more questions to dig into that some more. But to start with a little more, some background about you, what you were doing before you started this company, can you go all the way back and ask you to tell me where you were born?
- A: [1:02] I was born in Worcester, Massachusetts.
- Q: [1:05] What year was that?
- A: [1:07] 1983.
- Q: [1:09] Can you tell me a little bit about what it's like to grow up there? Is that where you spent your whole childhood?
- A: [1:14] Yeah, I grew up in Holden, Mass., a suburb of Worcester there. Grew up on a cul-de-sac. And a really, really nice childhood. Yeah, just great. I went to Wachusett High School. My mom worked in the airlines. Well, she was at home for a while while my brother I have an older brother we were growing up a little bit. Then she went back to work, to work at the airport in Boston. She was a flight attendant before we were born. My dad's an electrician, so worked with his father. That was a pretty standard New England grow-up time, a lot of riding bikes and woods, and all that.
- Q: [2:00] You said you have an older brother. What does he do?
- A: [2:03] He works in software systems with Woods Hole Oceanographic Institute. He spent most of his career at UMass Dartmouth doing a similar thing, working with IT. This is his third year there at WHOI. But he mostly works from home in that capacity.

- Q: [2:22] Do you have any history it doesn't sound like your parents were employed this way, but any history of your parents or more extended family that have any history in the fishing or aquaculture sector for work?
- A: [2:32] Nothing that I knew about growing up. On my mom's side, I've heard that my grandfather or someone on my mom's side was [a] merchant mariner or shipped out, but that wouldn't have been anything that I would have learned growing up. It's just something that came to light as an adult after being on the water and being more on boats. Yeah, so nothing tied to the water growing up.
- Q: [2:58] Or related, like fish processing, marketing, bait, gear? None of the related industries either?
- A: [3:05] No, no.
- Q: [3:07] Interesting. You said a little bit about where you went to, I think, high school. But can you describe your educational background and trajectory?
- A: [3:15] Yeah. So, I went to Wachusett High School. I graduated there 2002, and then went well, started at George Washington, did a year there, and then took a break. Wasn't quite ready for college at that point. So, took a break, lived abroad in Ireland for a year, got my head on straight a little bit of what I wanted to do. Then, ended up at UMass Dartmouth in Massachusetts, in Southeastern Mass, really because of the interest at that time, I did have an interest in marine science and marine biology. It was just kind of a curiosity. That was an option. They had a major there. Then, also, my brother was there too. I think that I have to give that credit a little bit, even though, I think at the time, it was not conscious, a conscious decision there. But I think that was definitely something that, after floating around a little bit, was a nice way to come home.

So, I was at UMass and was doing biology track. It was, again, just following a little bit of curiosity and an opportunity. I was looking for a job my second year there. It would have been 2006. Is this 2006? Yeah, 2006. This guy that I was just studying chemistry with in a study group – I had just, off the cuff was like, "I'm just looking for a job. Have you heard of anything?" He was working in this fisheries lab and said that they were hiring. I pursued that, interviewed, and got that job. That was in Kevin Stokesbury's lab at UMass with the School of Marine Science and Technology down there in New Bedford.

The bread and butter of that lab is doing a video survey where we work cooperatively with fishermen, go out, and drop a video camera – at the time, it was four cameras and eight lights, and it was a live feed from a third wire. We load all this up on boats and worked cooperatively with all the scallopers. While the bulk of the job as a digitizer – was kind of the title – was working in the lab and going through the images that we would collect because we would go and we dropped this apparatus every three nautical miles for the whole entire continental – the fishing grounds on the western continental shelf here.

That was a huge turning point or a way that – it was amazing – I was actually just talking to Kevin earlier today on a project that we might potentially be working on. That was just pretty pivotal. Looking back, when you look back at the arc of your life, I think that was a pretty pivotal decision and opportunity that I had there to do this work, work in this lab with those people, but then also work directly with the fishermen, go on the fishing boats and see how they were connected, the research that we were doing, how it was filling in and aiding in the stock assessment, and following that data all the way from collecting it to where it's being used, locked in, clicked – this is what I'd like to pursue, doing something like that.

- Q: [6:39] From there, you graduated?
- A: [6:41] Yes.
- Q: [6:44] Did you go into the industry? How'd you get up to Maine?
- A: [6:46] Yeah, yeah. It's kind of a long I can just go through it, I suppose. A lot of different stepping stones. So, graduated, worked with SMAST and Kevin until graduation, and then didn't want to go right into grad school with the fisheries lab there. It's an academic place, so it was an option to go right into if I wanted to, but I wanted to take some time. I went out to Alaska to be an observer and worked with Alaskan Observers, Incorporated out there. I went out, I think, it would have been in December 2007, and did training in Seattle. Then, I remember flying out to Dutch Harbor on Christmas Eve. It was a very sad Christmas because I was the only one in the bunkhouse there. But then, yeah, joined a long line boat there the day after Christmas, and I observed for about a year and a half, did about four contracts.

Then, for those who have observing experience, it was really – I think, again, working with fishermen, I learned that if you just work hard, that you're going to be respected, didn't really matter – because everyone on those boats are from all different backgrounds and different places. It doesn't matter when you're out there. You have to make work a little bit easier for the people that you're working with. That was my biggest takeaway from that. That chapter came to an end, wasn't interested in continuing that, and so was looking for other opportunities, and then, at that time, was ready to go back to school.

So, ended up back at Kevin's lab doing a master's at SMAST. It took me a while. I was doing part-time master work and schoolwork, and then also working in the lab, doing similar stuff and some other video work with the yellowtail. We did an open cod end camera survey that's still operational right now. I finished up my master's in 2015. Yeah.

From there, didn't want to go right into a PhD, so it's very slow. (laughter) Always need breaks in between all the different transitions. It was like, "OK, what do I want to do?" So then, at that time, I had heard of Sea Education Association. It's based out of Woods Hole. "OK, this sounds great. I want to get out. I want to have a sail. I want to teach. I want to travel." And so was able to really volunteer with SEA just to start, and took some time, saved up a little bit. Took some time to see where I wanted to go, and it worked out to become an assistant scientist with them. I worked with them full-time for four years. To really supplement that as well – because it's wonderful. It didn't pay very well for what I needed. So then, to keep that going, I fished in Alaska, in Bristol Bay salmon fishery on a gill netter up there.

That's really, I think, the biggest one of – again, finding the Stokesbury lab and then finding SEA, I think those are what has curated or shaped my current – it's kind of funny seeing that thread. But with SEA, a lot of my community is shipmates from SEA. Two co-founders, business partners with Ocean Farm Supply, I met on SEA – Eric and Willy – Eric Oransky, Willy Leathers. Really, that's when first started to understand the plastics in the water aspect because it's something, too, when you're on the water sailing or on a boat, you don't see plastic in the water. You'll see some big stuff every once in a while, but you don't see what they would think of as a garbage patch going through those waters or the different gyres. But when you put a net through the water, then you're going to see all that stuff at a more micro scale, and actually counting it and collecting it.

Being in really remote waters, going from – I remember we had student projects with SEA, and we went from New Zealand to Tahiti. We went really remote waters. We didn't go the straight route. I think we found microplastics in eighty-something percent of our water samples. That exposure is what made me – it really sunk in. Then, coming back to Maine, or coming to Maine – what brought me here was I had a free place to stay in Freeport. (laughter) That was really the biggest – I think when I first started, people ask me – "Oh, yeah, I spent time in Maine. I worked in shipyards in Belfast and Freeport." And then I was like, actually, what made it happen was because my best friend's parents had a house that they weren't currently occupying in Freeport, and so let me have that access.

So, moved there in 2019. I was done sailing, wanted to put down some roots, and wanted to explore a new area other than New Bedford, even though I love New Bedford. Just one of those things – a new place. So, didn't have a job coming to Maine. Then, started to – fresh start – see what happens there. Eric and Willy, who are my business partners, were living here already. They already had Maine Ocean Farms, which is the oyster farm that they started in 2017. 2017? 2016? There wasn't really – I did go out on the farm with them. They were, at this time, formulating the foundation of Ocean Farm Supply and looking into different things that they could use instead of plastic on their farm for harvest.

Concurrently, while they were doing that, I was getting set up here in Maine, got a job at Patagonia, started teaching tissue biology at SMCC. I worked with Net Your Problem, which is a fishing gear recycling company, and they're based – Nicole Baker – they're based mostly out in Seattle and Alaska. They just finished up a project right now in Bristol Bay, collecting gill nets, the nylon, all the mesh, which was a really cool – there was a great – we're connected through a network. It was a really good way for me to get back working somewhere in fishing, in fisheries, in plastics, and trying to learn more about that.

On the whole, I was hired as the New England representative/coordinator. So, starting using pot warp and trying to find a way to take all of the old line and rope and repurpose, whether it's for artists – created a little rope depot in Freeport. I remember going up to Stonington a lot to their rope pile and filling it up and just trying to figure out, what are the economics of how do we get this stuff out of – the end-of-life material. How do we keep that in use in different ways or send it for recycling?

So, did that for a couple years, and then the opportunity to - Eric and Willy approached me with Ocean Farm Supply to see if I would like to come work with them and build this business, and it aligned really well, and we align really well. Yeah, they're just great to work with. So, that's kind of the road.

- Q: [14:31] What year did you join the company, or did the company form (inaudible)?
- [14:35] Yeah, the company formed in late 2020, and I would have joined March A: 2021. Eric and Willy had done the process of finding the manufacturer and working with them on a product that they were just making sure on their farm to see if it's something that would work on their farm. So then they could put more effort into having that be a solution for other farms, too. I think because of COVID, too, it delayed things in terms of – things took a lot longer to grow, but at the same time, it gave us the push of – the market for ovsters dropped out. So, the guys were like, "How do we adapt? How do we diversify? What are we looking for? What auxiliary businesses can we do to support our industry?" Especially since it's such an environmentally beneficial organism, let's take a step back and look at the big picture. How do we make it even more environmentally beneficial or environmentally neutral? That's where that thought process came from. They were all on board as well, seeing the plastics research. That's what I think is a low-key influence for them. Maybe "low key" is the wrong word – just a straight influence, yeah.
- Q: [15:55] Yeah. Just going back to background just for a minute, and then we'll circle back and have even more detailed questions about your role in the sector. Are you married? Do you have any children?
- A: [16:08] No, I'm single and no kids. No pets. (laughter)

- Q: [16:11] You've told us a lot about your trajectory now, but just to ask another way, perhaps, how do you like to describe your role in the fishing and aquaculture industry in Maine?
- A: [16:24] Yeah, I was thinking about that. How do I describe my role? Because I hold Ocean Farm Supply. And then there's also I've had the opportunity to become more involved in workforce development as well with there's an apprenticeship program that GMRI and Maine Aquaculture Association received funding for. This is their second year doing that. I had the opportunity to work with them to run their initial boot camp in April. I really enjoyed that. I see myself not necessarily I'm not on the farm at all this summer, actually. What I would like to see myself continue to work in is in support and education and workforce development, looking towards the next steps in the future of aquaculture here in Maine.
- Q: [17:46] Great. Do you also see it as the plastic-free gear alternative as well as part of -? I mean, that's definitely part of what you currently do, but as part of how you see your future role.
- A: [17:55] Yeah, definitely. Yeah. I think that's the backbone of it for holding these different interests that do connect. I think having to be solutions looking for solutions and keeping it people-focused as well as environmentally-focused, I think that's the questions I ask myself. That's what drives me as well. How can we create a solution that reduces the amount of plastic that we're just habitually reliant on? Then, through that, that will hopefully help the environment, and then also, at the same time, as we grow as a sector, what does that look for? I don't have the answers for that. I think I just like being I really enjoy being a part of this industry and wanting to support it as it grows as much as I can.

So, trying to find those avenues, too, of – OK, so everyone who works in the water has – that's the foundation. That's what we need. That's what we're trying to support. But there's all these other facets. How do we keep all of that going? Where can we make things easier? So, I guess I don't know if I have a succinct role that I could be like, "Oh, this is what I want to fill or what I feel like I fill." I just like being in the game. (laughter)

- Q: [19:34] It sounds like you have participated directly in commercial fishing in the past. Do you currently hold any commercial fishing licenses or leases?
- A: [19:42] No, I have a 100-ton captain's license and 200 near-coastal mate. I work currently as well part-time as one of the captains for Lucky Catch, which is a lobster tour boat. We go out. We haul traps. We have three boats. Two of them commercial license, so I don't haul those traps, but we have a demonstration license that potentially I can haul those traps, just those catch and release. Yeah, working on those vessels, and that's more of an educational folks from out of town coming in, and we go fishing. It's like a public charter, in a way. We talk about the

industry, and that's a great way – I've had a lot of good conversations about people asking about whales or windmills or just trying to really understand the industry more, which is really a great opportunity just to talk to a lot of different people from all over and also hear what people's perceptions are, and what questions they ask.

- Q: [20:49] I imagine, wow. So, I have a series of questions. You have a lot of different experiences over time. I think we've captured a lot of that through the narrative of how you got here. But I'm going to give you some specific prompts just to see do you have experience in this and go through a few. Do you have any ? Well, do you have any experience in bookkeeping, bait, or gear?
- A: [21:11] Gear through recycling. Gear through I built nets in Alaska for gill nets for the salmon drift fishery sockeye fishery. Bait, no. And the other one was –?
- Q: [21:31] Bookkeeping.
- A: [21:33] Bookkeeping with Ocean Farm Supply.
- Q: [21:35] Yeah, and Ocean Farm Supply on the gear development side.
- A: [21:39] Yes. Yeah.
- Q: [21:41] Great. And then, in terms of seafood, post-harvest processing, marketing, or trade?
- A: [21:47] No, maybe some promotional events, but nothing direct.
- Q: [21:56] In advocacy, education or community-based organizations related to fisheries?
- A: [22:02] Yeah, yeah. When I was at SMAST, I was the community outreach coordinator, volunteer coordinator something like that. Then, education through the apprenticeship program with GMRI and Maine Aquaculture Association, working with them on their workforce development, and that's through SMCC as well. I forgot to mention them. I suppose Lucky Catch is also educational. I do still teach at SMCC but in more of a general bio. I don't really talk about fisheries stuff in my class.
- Q: [22:35] SMCC? What's the acronym?
- A: [22:38] Pardon me. Southern, Maine Community College.
- Q: [22:42] I was guessing, but great to have on the record. Do you have any experience in research and development side of the industry?

A: [22:50] Yeah. So, research, working with SMAST, cooperative research with their scallop video survey and yellowtail and cod video survey down in New Bedford, and then doing oceanography field science through Sea Education Association, where we would do water quality, water parameters, (inaudible) for phytoplankton and zooplankton composition and temporal and spatial composition.

Right now, currently working on a project with Hurricane Island with Ocean Farm Supply. We received a grant, one of the SOAR grants, and it's using our mesh as a sacrificial sleeve around scallop lantern nets. So, thinking about – there's a lot of stuff that's going to grow on a net that's in the water. How do we mitigate that labor? How do we basically either create less of that issue or make labor dealing with it less? This is a two-year project. We're about halfway through the first year. We just completed our second trial, and so we have a number of treatments that we have out in the water for a month and we had for May, July – we'll have another session in September, and then we'll do the same thing next year. Yeah. So, that's the current research right now.

- Q: [24:18] So interesting. Do you consider Ocean Farm Supply generally I know it's a business, but do you consider it on the research and development side of gear alternatives? I wonder.
- A: [24:27] Yeah, definitely. I think coming at it from my background's in science and working on the water, so that's always going to be my bias, trying to bring as much into that as possible, and also just following where the interest is. I should give credit to Dana Morse, who is with Sea Grant, for really planting the seed a couple of years ago, introducing this material, and talking to him about the ocean harvest bag, which is the mesh that we sell. He was like, "Oh, this could be a really interesting application with scallop lantern nets." I want to make sure I give him credit for that because that was a seed planted. He's such a connector and such a valuable asset to our industry. Then, thankfully, the opportunity came for funding and for partners with Hurricane Island, and it's cool how that happens.
- Q: [25:18] I was going to ask that, thinking about there's so much plastic in fishing. How did your company decide to focus on the mesh bag?
- A: [25:28] Yeah, so thinking about the single-use, I think that was something we used floating bags on our farm, which is HDPE black plastic. But that can be used year after year after year. I think we're just maybe we don't really retire that gear. Every year, we're able to use it. Line. We use a lot of line. So, that's something that could be a potential thing that we I think we replace the most line and bungee and small twine. I think that's stuff that we do replace as needed for maintenance throughout the season. We're always checking for chafe and all of that.

Really, for us, it was stark because we would harvest, and in the beginning, we were still a very small farm, but we would just deliver in the Portland area. We would put stuff in a plastic bag and then deliver forty-five minutes later, and then two

hours later, that bag might be thrown away or something like that. That's an extreme timeline, but not far off; within days, that bag is then – it was a very inyour-face thing for Eric and Willy to be like, "OK, we are just using this to throw away."

Then, both of them, but Eric, I think, was the one that initially found the manufacturer that we were able to partner with who were using this material, this cellulose material that's derived from European beechwood, and work with them and develop that relationship. He's very tenacious in terms of when he has – the way his mind works is problem-solving and trying to figure out how can we make this work and really get into the details of things. I think that was how it all really started – it was founded on here's a problem, and actually, we can figure out a way to make a solution that will work for us, and then, if it works for us, hopefully, be a solution for other people as well.

- Q: [27:40] Yeah. So, the mesh bag is for delivery to the customer side (inaudible)?
- A: [27:44] Correct, yeah. Harvest.
- Q: [27:46] I don't know what they call that. (inaudible)
- A: [27:49] It's just the polypro. I call it onion bag.
- Q: [27:52] Yeah, exactly. (inaudible)
- A: [27:53] It's just that onion/potato bag, whatever. Yeah, I'm just using that instead.
- Q: [27:59] Great. Then you guys are currently research and development of it as sort of a biofouling to absorb some of the biofouling for the scallop?
- A: [28:07] Yeah, for scallops. We're not involved with this, but people have purchased it for using it for reefs, for reef restoration, finding it probably does break down a little bit too quickly for that. People would like it to be in the water for a year or so when it does break down within two months in the water, which is great. It's kind of what it's designed to be. Also, thinking about what coatings. I know you've talked to Katie Wheeler, and so working with her and her company, Viable Gear, on different coatings that still maintain the biodegradability and the environmental sensitivity to where we're putting it, but then actually prolong life. just trying to find those innovations.

There's always, again, thinking about ways – we have a new weave of our material that's proving to be a bit stronger with larger quantities of oysters. Of course, we started with oysters, which have the sharpest shell. So, it's kind of like, oh, OK. (laughter) Then, thinking about, "OK, well, that's a good challenge." If it works for oysters, it's great. Then, thinking about different weaves so that you can have it be a solution for larger quantities, for large-scale or long-scale shipping, stuff like that.

- Q: [29:22] I looked on your website. Are you also looking at applications for terrestrial food, like farms?
- A: [29:30] Yeah, yeah. Our manufacturer produces a produce mesh. We have that available as well. There's a large market for large grocery stores use that, like Lidl and Aldi and Carrefour over in Europe, and also in New Zealand, like Countdown in New Zealand, and Costa Rica is a large market for them as well. So, just trying to be like, "Hey, this is ..." There's no one yet using this in the States, and so there's a first mover advantage, and there's some what I've learned is the industry has designed itself around plastic. Plastic is great, right? There's a reason why plastic is everywhere. It is. It's a great thing to work with and fairly cheap. We've come to rely on it too much. In produce packaging, or packaging in general, because of the heat-sealing capacity, you just melt plastic to each other. All the machinery uses heat sealing, or a lot of it does. This material, you can't heat seal it. It has to be clipped or sewn or something like that. This is a change. It's a bigger change for some industries than just being like, "Hey, you can switch it out."
- Q: [30:49] Do you feel like, I guess, at least in Maine, oyster farming is not such a long-running industry? Do you feel like it's easier, potentially, to get people to adapt or pivot? Because it's not like they've been doing it this way for 50 years here.
- A: [31:02] Yeah, for sure. I think Maine is such a the independence and the innovation that everyone needs to have here has helped with that as well. It's just kind of built-in. But, yeah, it's a young there's a lot of young farmers. A lot of those farmers are looking for our material for their farm, which is awesome and great. It's also cool to talk to the folks that have been around for decades and have them try it out and switch. I think it's been a great spot. I think being in the industry as well, that's most of our accounts are here in Maine, and I think that is a testament to the fact that we're like it's our community, and that's our network, and it is who we are around. I think that's been it's just been a really warm welcome, and we've received great feedback. It's not all great feedback. This is the ways we can improve, or this is how it worked for us. How do you use this? There's challenges in introducing a new product. Thankfully, it's been a really safe and wonderful space in Maine, a kind space, too, to start this business and mentorship for the business side of things, but it's been a really fun journey.
- Q: [32:33] That's great. Just to go back and finish the list of the different ways you are participating in the sector, do you have any background or work in hatcheries?
- A: [32:44] No.
- Q: [32:45] Then in terms of seafood on the food service, like food preparation, customer interface side?

- A: [32:50] I worked in restaurants, so I think, yeah, as a waitress.
- Q: [32:57] Then, just for me, I guess, to clarify, your partners own an oyster farm. And a lot of the gear you all – the gear that Ocean Farm Supply has developed in partnership with the farm. You have worked on the farm, or do you have a – what's your relationship to the farm?
- A: [33:14] Yeah. So Eric Oransky and Willy Leathers. They own Maine Ocean Farms, and they also own Ocean Farm Supply. So, Maine Ocean Farms is the oyster farm in Freeport. Ocean Farm Supply is the bag business, the mesh business, gear business. I am one of the co-founders and CEO of Ocean Farm Supply and have integrated into that business. I am an employee of Maine Ocean Farms. I think my role is actually not really working in that role right now too much, but I'm also the scientist with Maine Ocean Farms. So, developing a science plan there of what does that look like? That's also what is helpful for farms. What do we need to look out for? What questions? We're kind of facing this right now, but what questions do we need to answer to have answers in place for as we grow, as climate changes, as water parameters change, as different viruses and bacteria come into our waters, all of this stuff? I think I went on a tangent. (laughter) So, they own both. We talk all the time about it's one big thing, but that's the delineation.
- Q: [34:49] Great. Thank you. That's helpful. This is often a challenging question for folks who do this kind of work, but if you don't mind talking us through what does an average day of work look like for you in your roles?
- A: [34:59] Yeah. I check email first thing. I know I'm probably not supposed to do that, but I do. I wake up, and I check email. I have four different email accounts. (laughter) So, go through that, see if we have any orders for Ocean Farm Supply, double check if I have any meetings that day. There's summertime versus wintertime. So, summertime, if I'm not on the water that day being on the water right now is working with Lucky Catch. Even so, this is still what will happen. Check emails, see if we have any orders, any calls I have to make, any meetings, and then do what needs to happen.

Right now, this time of year is pretty reactionary in terms of doing things that have been put in place in the wintertime. So, I'm not doing a ton of – right now – looking for grants or writing or creating much, which is something that's always on the back of my mind. I'm like, "OK, let's think about what do we have to do?" Right now, where the business is, we're just putting everything back into the business right now. As that grows, still need to continue to generate revenue in a different capacity, and so that's where that time – trying to maximize time and make sure that I can work a bunch in the summer so that in the winter, I can focus more on Ocean Farm Supply and other projects that aren't generating the revenue right now, or the income, I should say. Not revenue as much as what I'm actually taking home. Yeah.

- Q: [36:50] How do you feel your background or identity shapes your work in the fishing sector, including how others may perceive or treat you? That could be about past roles as well as current roles if you have any different observations you want to make.
- A: [37:07] I was thinking about this because I've always been coming at fishing, working in the fishing environment from the science point of view, versus going in as a commercial fisherman, I've always been the minority on the vessels that I've worked on, except for sailing. SEA, primarily, there's more women or women-identifying, or queer. More diversity there for SEA. But for fishing, it's men and then just me. Sometimes, I was just the only woman on a boat, and there's, like, 50 guys.

I have a hard time thinking about how me being a woman has – how my experience would be different if I was not a woman. At the same time, thankfully, I've never been unsafe situation. I've always felt respected or, at the very worst, ignored, which is fine. I mean, there are definitely times you do get more attention. In that environment, I didn't receive more attention identifying as a woman. Would you repeat the question just to make sure I don't go off on it too –?

- Q: [38:53] Yeah. How do you feel your background or identity shapes your work in the fishing sector, including how others perceive or treat you?
- A: [39:09] Yeah, now I think, because of my experience, I have a lot of confidence in my experience working on the water, and I very much hold that capability as part of my identity. I do think a lot about or I can be very hard on myself with making mistakes. Whether this is perceived or not I think, I feel like I don't have too much room for error. Because right now I'm in a position where I do want to work on the water and work as a captain in a different capacity and grow up and continue to be a good boat driver. That's one of my goals is to be a really good boat driver. There are more women voices on the radio and on the waterfront, which is great, but then I do worry about if I make a mistake and that opportunity is going to go away. I'm sure men think this as well, so I'm curious. I'm curious. I don't know if they think that. That's something that does cross my mind. If I make a mistake, or when I make a mistake, then that's going to set me back, and I'm not going to get that opportunity. Yeah. There was once that I was I docked the boat, and people clapped, and I did not like that. (laughter) It's like, "OK, all right."
- Q: [40:47] Indicates a low expectation.
- A: [40:48] Yeah. Just like (inaudible). Yeah. It's that mix of I don't want to look too much into it, but it does I very rarely think, "Oh, I'm being treated differently because I'm a female."

- Q: [41:03] You mentioned being the only woman on a boat with 50 men and also with a science background, too. Obviously, that must have been a factor on some level. Do you have any observations about what that experience was like?
- A: [41:20] Yeah. This was up in Alaska. I acted differently in that role. I'm pretty friendly and outgoing, but I learned quite quickly that if I was just myself and friendly/outgoing, then things would get amplified, and some folks would think that I was flirting with them or engaging a little bit too much. So, there was this friendliness, but also shell and this wall that I found that was helpful for me to have in those circumstances. And also, dress. I recognized that you are being watched. You are looked at. So, wore baggy clothes. There was no reason to wear makeup and no makeup, or anything like that. So, I downgraded, and I dimmed, for sure, in that to just focus on the work and take away standing out as much as other or a woman.
- Q: [42:45] What about compared to your experience (inaudible) capture fisheries in Alaska, but with aquaculture in Maine, if you feel like there are any differences in terms of how you present yourself or how you feel others are perceiving you?
- A: [42:59] Yeah, now I feel very confident and am very much OK and hoping not looking poor, but hoping very much being like, OK, I'm trying actively not to dim. Thankfully, I work with men who because I'm the only woman on the farm, but I work with men who amplify and are so supportive and so respectful and treat me as an equal. I can feel myself that's part of why I love working with them so much, is because they do create this environment that actually it's not an issue that I'm a female at all. Not that it was ever, but just having it's a really healthy work environment for me, and I think that's transferred to seeking out and hopefully holding different leadership roles, whether in workforce development with Ocean Farm Supply, working as a captain on a vessel. I feel much more confident in taking up the space now, which is great.
- Q: [44:34] How does your role in the fishing sector work with any family or caregiving responsibilities you may have?
- A: [44:42] Right now, I have aging parents, so I think that's the but at the same time, they're down in Massachusetts. My responsibilities will increase in those scenarios. But currently, no, I don't have really any caretaking of others that are day to day.
- Q: [45:13] Then, shifting now to observations you might have about environmental changes that impact your work. Can you describe any changes in the marine environment you've noticed over your career working on the water, particularly here in Maine, but if you want to make any observations about your past work as well?
- A: [45:35] Yeah, I don't know if I could say I have enough experience. I've been in Maine now, working on the water for about five years. I think that's too short of a

time for me to be like, "Oh yeah, this is what it used to be like, and this is what it's like now." I'm biased from what people tell me from working on the water, like the guys I work with. I can't say anything from my own perspective on that for working in Maine in terms of how the water is changing or how the fisheries are changing. I think more in a fisheries way of just how fisheries are changing from when I worked in fisheries science in New Bedford – so, this would have been like 2006 through 2015 – worked in New Bedford with scallopers.

Then now, seeing a change in the stock in terms of – there is uncertainty of the number, how the resources are doing, and the shifting of species in different spaces, or recruitment, or where those boundaries – with crabs moving north, or crabs just being here, green crabs versus blue crabs, and black sea bass moving north, and then shell disease and lobsters and learning more about the egg viability within settlement changes with different circulation changes in the Gulf of Maine. But a lot of that is from reading and talking to people versus actually seeing it with my own eyes.

- Q: [47:37] What about in terms of I guess your business partners started their farm a few years earlier, it sounded like. Maybe you haven't seen the year-to-year change, but in terms of having a relationship to that farm, have you heard them talk about any year-to-year variability or a trajectory or change over time that's impacted their work on the farm?
- A: [47:58] Yeah, I think the thing that comes to mind first is in the wintertime in Recompense Cove in South Freeport. Eric, who grew up in Freeport, has mentioned that it has frozen over, and he has walked over to Bustins Island. Now, yeah, it hasn't frozen in years. What that looks like for the farm is that we do sink our gear, and we're sinking later and raising earlier in the last few years because of worry of growth while the we don't want to smother the oysters if it gets too warm and they want to start feeding. That's something that we have that is a change. We are working, this past year (inaudible) there's some other variables that influences, but we did harvest up until January, and then our last cage, we sunk. We sink because oysters we're able to harvest everything and sell everything of our market size every year. Then, sinking oysters go dormant, so there's no growth in the wintertime. Sinking also allows us to protect against any storms and then also gives everybody some time off.
- Q: [49:22] And the choice of when to sink and raise is based on the temperature.
- A: [49:25] Temperature.
- Q: [29:26] This is also a response to the ocean temperature changes.
- A: [29:29] Correct. Yeah, yeah.

- Q: [49:31] Do you guys have any sense of if it's leading to a faster-growing oyster because they're spending less time being dormant?
- A: [49:39] Yeah. So, it depends. There's different variables that go into that growth. But yes, you would think that one does lead to another. The warmer the water, the faster the oyster is going to grow. Yeah. So, that's what they see down south. They'll have yearly – oyster grows to market size in about a year.
- Q: [50:10] How long does it take you guys to (inaudible) oyster?
- A: [50:12] Three years. Yeah.
- Q: [50:15] You talked about the lack of sea ice and the temperature staying warmer later and then warming up earlier means you guys have altered when you lower and raise your cages and leaving them dormant for less time. That's been one response or adaptation you guys have made. What has made that possible for you to make that adaptation? For example, are there any resources, relationships, knowledge, training, or organizations that you guys drew on in coming up with this response, or was it from something else?
- A: [50:46] Yeah, I think it's just noticing the water temperature. The resources we have, I think, are really helpful on our farm in terms of we have a boat with a hauler with a winch, and we have guys that have been with us for three years, and so have that knowledge, that institutional knowledge, and run the farm. They're the ones that can be like, "Hey, OK, let's sink all the stuff." They actually create the plan. So, having those folks on the water every day, and seeing that, I think that's been our best asset, and then also having the tools to put in to make that change quickly. Like, "OK, all right, we'll start sinking things," or "We'll sink things later," or "We'll hold these to harvest. I think the nature of that we have the flexibility in our own I mean, I think any farm would also the boat does help us a lot. I think that's growing or not growing.

We have started to collect more data and starting to develop more of a program, a scientific program for data that we collect. We put in a grant for a sonde to collect temperature, salinity, pH - no pH - some other sensors in there, yeah. Before that, we borrowed a sonde instrument from the Darling Center. They let us borrow for a month just to see what it looked like, in terms of – they gave us a little training of zeroing out the instruments and calibrating the instruments, and then how to turn on and how to download and all that. That's been really helpful.

Then, Friends of Casco Bay have been people that we've met with as well. They collect a lot of data in Casco Bay, and so making sure that anything that we collect on our farm, the data can be integrated into other databases, and so it can be used. We're not really implementing too much there. We have temperature loggers. Evan, one of our guys, has been a huge driver in actually getting the stuff. He

comes from a marine science background and is on the farm every day, so can take salinity. He's been taking some water samples and looking under a scope for some phytoplankton and seeing the different chemical tracers and stuff. It's been cool. It's been cool. That data hasn't led us to make any changes other than setting ourselves up to be like, "What data do we need to help us in the future make changes?" That is something that's very much on our mind.

- Q: [53:46] You mentioned sinking cages in the wintertime is obviously partially also to protect from winter storms. I'm just curious. I think you mentioned something like harvesting into January. We had those winter storms this year. I'm just curious if you guys experienced any impacts from those on the farm.
- A: [54:01] Thankfully, no. Yeah, that was fine. That's great.
- Q: [54:10] Do you feel that in your work on the farm, as well as if it feels relevant to your gear work or other roles in the sector do you feel like you are able to make the kinds of adaptations and changes you want, or are there sort of adaptations you wish you could make, but haven't been able to?
- A: [54:28] Yeah, I can't speak to say if there's been adaptations that we've the specific adaptations that we want, but there are limitations within the regulations with the state of Maine, when you get your site, you need to specify what gear you're going to use and the organisms you're going to grow, and everything has to be kind of laid out. That's all part of that. Any changes to that is extremely difficult. The adaptations that we might if we did want to use bottom gear or similar to (inaudible) gear, in the current system, we would not be able to. I'd have to make an amendment. I'm not actually sure what exactly would need to happen. That is a challenge. If we wanted to bring in other species, I think we do have I think it's advantageous, and we did list a number of species that we could maybe grow on our farm just in case we wanted to. That comes to the case for new farmers, making sure that you add that flexibility into your lease as it allows so that you can adapt.
- Q: [55:47] You did also make a brief mention of green crabs and blue crabs, neither of which are native to this particular part of the country. Do you see any impacts of those on the farm, or is it just something you've heard about in our observations that they're around?
- A: [56:05] Yeah, for us, because we use floating bags during the season, no. We see a lot of green crabs. This is, again, something for the guys that are on the farm every day. But when we're raising the cages, there's thousands, thousands of green crabs that come up over the course that.
- Q: [56:25] On the cage or in the cage?

- A: [56:27] Yeah, it's in the cage in a way. It's all in there. If you think of it, it's like lobster trap material. It has six slots that we take the floating bags the floats off of them, and we can slide them in. Then, it's like this little motel, and then we have a little it's on a little stand. It's like this big cage kind of thing. There's a lot of different levels that the green crabs can all be within. We see a lot of those. We don't see mortality at a certain size. We do worry about smaller oysters with the green crabs, but we don't worry we haven't seen mortality at a larger size, significant mortality, that we've pinpointed to the green crabs.
- Q: [57:10] And then a big-picture question. What is your biggest concern about the marine environment for the future of Maine's coastal fisheries and aquaculture industries?
- A: [57:20] Yeah, for fisheries, I think we're so vulnerable. The lobster fishery is so vulnerable. All of these industries, it's a single species that people specialize in, whether it's lobster, the Eastern oyster, mussels, clams I think we've been you have to specialize. You have to focus. For financial reasons, for regulation reasons, it's efficient. You have to make that decision for the most part. But lobsters? Our circulation is changing. The larval settlement is going to change. What does that mean for the inshore fishery? Offshore fishery? What are the implications of offshore wind, which is going to come. That's what happens to our working waterfront there. How do we protect the infrastructure there?

I think all of that – I think that's one huge thing that impacts everything, is making sure that we keep the docks, we keep the access to ice, increase the access to ice, increase all the infrastructure there, or make it more efficient, something that, as the fishery changes, we can make those adaptations, which I don't necessarily know – I think some entities are looking into that. But it's like, how quickly can we adapt? How proactive can we be? It's a really hard thing for humans, I think, societies to be really proactive in these things in these kinds of circumstances.

For aquaculture, yeah, I think it's similar. I think there's vulnerability in it being single species. I worry about – I know the state are making moves for this, but as we grow, making sure we have enough seed capacity for that and redundancy in that so that if we have a seed failure, that trickles down to all the farms. Workforce development in terms of keeping all this skill on the water. If that means shifting from lobstering to – what Atlantic Sea Farms does is phenomenal in terms of having people grow kelp. Does that mean having people start working for the wind farm? It's a scary thing for me to say (laughter), whatever people's thoughts are there. But yeah, servicing the wind farm. I know there's other projects in the water – having people that know how to safely work on boats who have the vessels. How do we keep them in the water? What does that do for our culture?

Yeah. There's a lot of unknowns. I know there are a lot of good people working on the road map going forward, but I think that's what I think about. What options? How can we communicate options to people so, as something shifts, they don't feel helpless, and they can have something to work towards and work with to maintain their identity, even if it has to shift a little bit? What does that mean? What are the core values? How do we keep our waterfront working and keep the fishery – keep the animals and the organisms healthy so that we can continue to harvest them?

- Q: [1:01:33] As a follow-up to that, if you could tell policymakers in Maine what the biggest priority should be to help people adapt to these changes that you're describing, what would you tell them?
- A: [1:01:45] Again, I'm going to take this I guess this is my perspective. I feel a little bit removed from the farming situation right now. Yeah. I think it's continuing to invest in leasing and in the permitting infrastructure, in the site selection, in actually really supporting and continuing to support because there's a lot of support, and they're in there hiring people, and this is something that they know as well. They just hired a pathologist, so we can maybe bring in seed from other states or just really putting an investment into what needs to be invested in, in terms of permitting and the science to be like, "OK, where are we vulnerable to viruses?" to run different scenarios. If this outbreak happens, what are the steps that need to be in place? How do we know that we can then serve our shellfish safely again? What needs to happen there? I think that's something that's going to keep the economics running is actually just keep people working. What do we need to do to keep people working?
- Q: [1:03:22] Have you participated in any climate resilience or adaptation trainings or programs for the fishing industry?
- A: [1:03:27] No.
- Q: [1:03:30] What strategies do you think would be effective in building resilience against climate-related impacts on fisheries and aquaculture?
- A: [1:03:36] Would you repeat that one for me again?
- Q: [1:03:38] What strategies, training, or resources do you think would be effective in helping people adapt to climate-related impacts and fisheries and aquaculture?
- A: [1:03:49] So, climate-related impacts and fishing. What was the last part? Culture?
- Q: [1:03:56] Aquaculture.
- A: [1:03:59] Aquaculture, pardon me. So, what strategies? I think continued preparation and develop more work put things in place for workforce development, for contingency plans of if this happens, what can we do? What will happen now? If something happens, and all of a sudden, we can't lobster anymore, what happens to the 4500 commercial fishermen? What happens? And all the trickle-down there. This is probably out there. I'm not sure the full literature of all

things. Yeah, contingency plans, educational programs, going to where people are, and keeping people empowered through the integration of those resources and making sure that people can understand – yeah, have it be accessible.

I mean, these aren't really strategy – I don't know. These are more like this would be good whatever strategy is decided upon. So, training opportunities, communication, understanding of how do we reach those that need to be reached to prepare for the changes that will happen? Changes are going to happen. Then, offering tools and agency, I think, especially in Maine. People want agency and information. So, it's like a hub. I don't know. I think (inaudible) more conversation.

- Q: [1:06:35] Great. Thank you. Are there any other types of changes so maybe not environmental or not the ones you mentioned so far that are impacting your work, either on the farm or with the gear work that you'd like to tell us about?
- A: [1:06:46] Any other changes, not necessarily environmental?
- Q: [1:06:48] Yeah. Not necessarily environmental. It could be social, economic, or just other tech-related ones.
- A: [1:06:55] Oh, yeah. I'm blanking. I talked about us wanting to learn more about our own environment so that we understand changes that are in there for us to then adapt as but that's climate. We're impacted by regulation. The Vibrio stuff didn't impact us. We've been icing for many seasons already. So, I think that's – yeah, I'm so sorry. I'm not really thinking of anything specific.
- Q: [1:07:41] That's OK. None is a great answer.
- A: [1:07:42] OK. (laughter)
- Q: [1:07:45] Can you tell me about any opportunities or positive changes you've experienced or noticed in the industry during your time? This could include going back from earlier work in Massachusetts and Alaska. You have this longer perspective. Are there any we've been talking about a lot of changes, perhaps, many of which are negative. Are there any positive changes you've noticed?
- A: [1:08:08] Yeah. Speaking to what I'd like to see more of in terms of workforce development, I find that personally, there's been a lot of opportunity for me with being on the water, working on the water, hearing more female voices on the radio doing security calls. I'm in Portland Harbor, so that's potentially that's where we are versus other ports. And seeing more having some really good conversations and questions from folks that come out and giving them access to the water that's a positive. The training that Maine is doing in terms of apprenticeship programs. I first got into gosh, I should have mentioned this. I first got into aquaculture through the Shared Waters program.

In addition to knowing Eric and Willy, we weren't really working together at that time, but it was the Shared Waters program. When I first moved to Maine in the winter of 2020, right before and right at the beginning of COVID, we were meeting at CEI in Brunswick and met a lot of the players that are currently on the water now. That was a really significant and great opportunity that I was able to receive. It was free, yeah. It was just Tuesday nights, and you just drive. I was living in Freeport at the time. You just drive over, and then it turned to Zoom, which got messy because we weren't quite good at Zoom at that point in the beginning of the pandemic. That was a great access.

Then, thinking about business opportunities in terms of Ocean Farm Supply, which has helped us with our research development – so, mentorship programs. We've been a part of the Dirigo Labs Accelerator, Top Gun, FoodTech, which is through the Maine Center of Entrepreneurs. We have been a part of the inclusion in the blue economy offering. We had a desk at the New England Ocean Cluster for six months through that, and that connection has been wonderful. It's one of those – the environment that I find myself in – that we find ourselves in – the company and the farm and everything – has been really positive.

I think that there is – even though you can say – of course, you're always going to want more money and more resources in your industry to help it meet its full potential in a faster way and effective way. But I think that there has been a lot – there is a lot of opportunity in Maine in aquaculture and in business, and we've really benefited from that. I personally have benefited from that. I've learned a lot and have been paired with mentors that I know now – even if I don't know the answer, I know who I can go ask.

- Q: [1:11:29] You touched on this with hearing more women's voices on the radio. But as a follow-up, have you noticed changes in women's presence, participation, or status in fisheries or aquaculture over time?
- A: [1:11:40] I think, yeah. I've been in aquaculture for five years. I think there's always been a female presence. There are women-owned farms women-run farms. I think Lady Shuckers does a great job of amplifying those farms. That's Casco Bay. And then you have Abby Barrows Have you talked to Abby Barrows? Yeah, great up in Deer Isle and Bar Harbor Bar Harbor Blondes. What's her name?
- Q: [1:12:22] Joanna.
- A: [1:12:23] Joanna. Yeah.
- Q: [1:12:24] We talked to her, too.

- A: [1:12:25] Yeah. So, I think aquaculture relative to fisheries, I think there's many more women than men in New England anyway. Many more women. Let me rephrase that. There's a larger female presence in aquaculture, in my experience than from what I experienced in fishing.
- Q: [1:12:54] Great. What is your hopeful vision for the future of Maine's coastal fisheries and aquaculture?
- A: [1:13:13] My hopeful vision. Ideally, we don't experience the climate impact that seems to be coming our way from changing waters, that societally we're kind of able to make the changes needed so that we can continue to have a robust lobster we didn't even talk really about finfish or groundfish fishery. I think for aquaculture I don't know what this will look like but expanding the aquaculture Maine has such a premium product, and the waters here are just so nutrient-rich. From the bottom up, that's what makes it so beautiful and all of our food so delicious, all of our seafood so delicious, is because we have that primary productivity. So, protecting that so that we can continue to have a robust shellfish industry.

Then just creating more farms that create that Maine brand of shellfish that folks can still work on the water, have that agency, do what they want to do, but then are supported through the state, supported through the public, to still keep that access there, the premium quality there, and then just continue to grow and have the best oysters in the world. Nothing big. (laughter) Also, lead the innovations for – continue to lead innovations, thinking more about gear and processes – within that structure, within that support, having new processes, new gear, that reduces our reliance on plastic, creates robust local logistics and logistics for food safety and food transportation. I think there's a lot – I think that's where we actually have a lot of power in Maine is having that innovation. I think there's a lot of support there.

- Q: [1:16:19] Yeah, I was going to ask, actually we've spoken to quite a few people that are involved in alternative gear, either on the development or the experimentation/implementation side. I just don't have a sense in terms of the whole country there's oyster farming happening in a lot of places. Is Maine a concentrated place where this research development and product development and companies are happening, or it's happening everywhere? It's happening on the West Coast. It's happening in the South in terms of plastic-free gear.
- A: [1:16:47] Yeah, I'm super biased, but I think for plastic free stuff, I think we're really on the forefront here. We got Abby. We have Ocean Farm Supply. You have Katie. There are folks doing seaweed cellulose for other cutlery and stuff. I have to say I'm super biased because I'm here in Maine, I'm in this environment, I've been in the rooms with these people. So, that seems like what I've experienced. We were the first state in the country to pass the Extended Producer Responsibility law. We're getting that going. Abby's definitely on the forefront. Sue Van Hook she's in New York, but she's doing the Myco Bouys. That's a huge asset to us.

You have Adam on North Haven with North Haven Oysters, who are doing plasticfree gear. I've heard of people (in pass?) working on things in the West Coast, but nothing really stuck because it's a passion, and it does take that R and D and the trial and error. So, yeah, Maine's on the forefront.

- Q: [1:18:11] Is there anything else you wanted to share with us in this interview?
- A: [1:18:16] I don't think so. I don't really know what I said. (laughter) I said a lot of things. Yeah, no, thanks.
- Q: [1:18:23] Great.
- A: [1:18:25] Thanks, guys. I talked way too much.

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