Q: [0:00] We are recording. The first question we'd like to ask is how do you like to introduce yourself?

A: [0:08] I'm Teagan White.

Q: [0:12] What year were you born?

A: [0:14] '95.

Q: [0:17] Tell me a bit about where you grew up.

A: [0:19] I grew up in Vermont, actually – central Vermont, in an area that was a really tiny farm town historically. That's kind of starting to shift now. But my elementary school/middle school, I was part of a class of nine kids that all graduated together. And there would be no reason to know anything about my town except that we are the home of the Tunbridge World's Fair, which is like our Common Ground or Blue Hill Fair, only bigger and better and older. So yeah, we get a bit of fame that way . But really small.

[1:03] My dad was from Woods Hole, Massachusetts – the Cape – and he grew up in a town on the waterfront where he grew up rowing boats and building boats and traveling out to these islands and having a fun time. And then he met my mom, they got married, and she was like, Jesus, you know what? I want to move inland to farmland, like get away from here. So they left.

[1:30] Now, once a year, our family gets back together on the Cape, and that's how I fell in love with the ocean. And when I was looking for colleges, I wanted to go back to the water somehow. I found College of the Atlantic, and that kind of started the whole trajectory.

Q: [1:47] Either of your parents or your dad ever been involved in harvesting off the water?

A: [1:50] Yeah, actually, my mom – even though she's not the one that I associate with the ocean, which is perhaps not fair, but she briefly worked at an experimental scallop farm, believe it or not. I think her job was to harvest rockweed for some reason. There's picture of her in our house with a rake shoveling rockweed. It had something to do with the process for getting them to spawn. I'm not exactly sure how that worked, and she's not exactly sure how that worked, but she did it, which is cool.

Q: [2:27] How did she get involved with that?

A: [2:28] I don't know.

Q: [2:29] Do you know how long she did it?

A: [2:30] Not very long. Most of her time there, she was landscaping and gardening and things like that.

Q: [2:36] Do you have any other history of fishing in your family at all, any grandparents?

A: [2:40] No, military granddads – well, one of them worked in the paper industry. Grandmothers were like – well, so my dad's grandmother, she was a librarian, I believe, for the bio lab in Woods Hole, because they have WHOI, the Woods Hole Oceanographic Institute, and their own bio lab, which are pretty big deals in the research world. So she worked there as a librarian, which was cool.

Q: [3:12] I see. So beyond fishing, no family history of bookkeeping, processing, marketing, or bait and gear?

A: [3:21] No, not within my living generation.

Q: [3:26] Do you have any siblings?

A: [3:28] I have one half-sister.

Q: [3:30] Is she involved in fisheries at all?

A: [3:32] Oh my God, no. (laughter) I took her and my dad out in a rowboat one time when they came up to visit me at college, and it was kind of choppy out and not ideal, and my dad and I were like, woo hoo! And my sister was like, this is the worst thing ever. I hate this.

Q: [3:53] You already kind of delved into it, but if you wanted to describe your educational background, what did you do while you were here at COA?

A: [4:03] Yeah, I loved COA. It was a really great fit for me. Started with marine biology when it was taught by Chris Petersen and just loved every second of that, especially his teaching style, because I was starting to realize that classic learning wasn't my strong suit, exactly. So Chris was the first person to allow me to pace in the back of a room during a lecture, which was huge for me. And his final exam was fantastic. It was all of these fish tanks set up with different species in it, and you had to go to each tank and you had to say what was in there, and you had to say what its relationship was to other things, what it ate, what ate it, things like that. So that was great.

[4:49] And from there, just kind of skipped to the next marine class every time that I could. So I took Todd Little-Siebold's History of Oceans and Fishes and Sean Todd's marine mammals class, which took us out to The Rock. That opened up a whole other chapter – love affair in my life. That place is amazing. Everyone should go.

[5:17] So yeah, spent some time out there, which led me to do an internship with Allied Whale, so worked on the whale watch, spent more time out on the rock, which connected me with Chris Tremblay, because the year that I did it was really lucky for me, because he was doing his master's project, which was comparing acoustic data for this new hydrophone that had just come out and matching it up with observations. I don't know if it was a NOAA grant or – it was something impressive like that, so he got access to what was called the Big Eyes, which was the most gigantic pair of binoculars you've ever seen in your life. They get bolted into the top of the lighthouse, and you all take shifts doing observation work out there. So got to see a lot of whales, and there were still a lot of whales out there, and got to see a basking shark breach, which was awesome. Yeah, that was just a really great time.

[6:21] So I did that, and at that point, I was starting to run out of marine classes, but then they started a whole new chapter called Mapping Ocean Stories, which you guys are familiar with, and the Fisherman, Fishing, and Fishing Communities course, which is very similar. Those were fantastic. And at that point, I started to feel like, OK, fishing communities are amazing. I love it. The whole lobster/whale interaction is a major bummer, to put it lightly.

[7:02] Also, I was just starting to feel whale research wasn't exactly where I wanted to be. I wanted something a little bit more hands-on. So we had started talking about aquaculture, and it was time for me to think about a senior project. I decided that from what I knew, if I applied for a small limited purpose application for an aquaculture lease, that would be a perfect 10-week project, and it was. So I did that for my senior project. I applied for two lease spots for the school from the state and got them before I left, which was pretty cool.

Q: [7:43] Wow, I did not know that we had that.

A: [7:44] Yeah, they're not here anymore.

Q: [7:46] They were here when I first got here. Yeah, they're right off the pier.

A: [7:51] Yeah, there's two right off the pier. But the problem with that project is that it's one of those things that just completely has to be run off of student interest. Sometimes it's there, and sometimes it's not. So yeah, there was a couple people that did some stuff with it. I think one girl was working on seaweed for a little bit. But it turns out it's a bad spot for seaweed because it's so shallow, and there's so much wave action and everything. And then two guys tried out scallops for a little bit, I think.

Q: [8:22] Did you end up using it, or did you just –

A: [8:25] No. By the time we got the lease, I was into summer and out of COA.

Q: [8:32] We'll touch on this a little bit more later, but since it's up, do you currently have any licenses or leases?

A: [8:39] Just recreational ones, yeah.

Q: [8:42] OK. A few more identity questions. Are you married?

A: [8:45] No.

Q: [8:46] Do you have any children?

A: [8:48] No.

Q: [8:49] If you were to have children, would you want them to go into the fishing industry?

A: [8:54] No, I'd want them to do whatever they wanted.

Q: [9:00] How would you describe your role in the fishing or aquaculture industry in Maine?

A: [9:05] Basic. (laughter) I worked as a farmhand on the Bar Harbor Oyster Company farm for seven years, and I did a lot of different aspects of that. I was a basic farmhand, so raising gear, tending it, sinking it, selling oysters – well, harvesting and delivering oysters, shucking oysters at catered events. Jay Friedlander is part of a group that does the – it's called a business boot camp. I don't know if they still do it, but – OK, they do. So the Bar Harbor Oyster Company participated in that, and I helped with that.

[9:54] Last year, the state just started implementing these *Vibrio* regulation controls, which affects a huge amount of how you sell oysters, basically, for the chunk of the summer where the water is regularly pretty warm. So last year, we had to figure out how to handle that, like how to get an ice machine set up that can handle the amount of ice, because you now have to harvest all of your oysters within two hours, and they need to be in an ice bath, and there's all this extra paperwork that goes with it and all that stuff. So I was there for that, but then just had – my last season was last year. I left in October.

[10:37] So typically I've been doing that in the summers, and then working with Diver Ed, Eddie Monat, scalloping in the winter. So for that, he's got the commercial dive license, and I'm his tender, which that's a super-easy license to get. You just need first aid and CPR. So basically I'm on the boat all day, and I help him gear up. He goes in the water, hand him a bag to fill it with scallops, and then when he fills it, he'll come to the surface, get a new one. I'll take his old one, dump it out, measure the scallops. He is a bit unusual, because he doesn't want the scallops to be shucked until the end of the day. So they'll pile up on the deck, ideally. Oh my God. Ideally, I hope they pile up. And then when he's done – he likes to do four tanks a day – we'll shell them out and then – yeah. And he likes to sell to individuals, which is great, because that means that we have a lot more control over the price, which is fantastic.

Q: [11:41] How did you get into that work working with both of them?

A: [11:44] It was all COA, baby. (laughter) Yeah, John Anderson had heard about my senior project, and I don't know if – Joanna Fogg, one of the owners of Bar Harbor Oyster Company, was also a COA alum, and I think he was either her advisor or they were very close, and he knew that they had just started this oyster farm, and they were at the stage where they needed workers now. So he put me in contact with her, which was just beautiful timing. And then Toby Stephenson knew that Diver Ed needed a tender for his scallop season and put us in touch. So yeah, it was fantastic. Very little effort on my part.

Q: [12:25] Do you own your own boat?

A: [12:26] I do not. Well, I own a rowboat, but that's it.

Q: [12:33] Do you have any experience in industry beyond directly fishing or harvesting itself – for example, in bookkeeping, bait or gear preparation?

A: [12:41] No.

Q: [12:43] In post-harvest processing, marketing, or trade?

A: [12:46] Yeah.

Q: [12:48] Yeah. In advocacy or community-based organizations related to fisheries?

A: [12:55] No, not in a formal way.

Q: [12:59] In an informal way, perhaps?

A: [13:02] I go to the Fishermen's Forum. I have logged in and gone to Augusta one time to speak at hearings on different bills that have been going around for aquaculture mainly. They've got the Aquaculture Association that's really good at organizing lots of people to show up for them.

Q: [13:27] What was it you were doing with MOS and (inaudible) particularly? What was it that you were doing that drew you to the community?

A: [13:37] Well, I grew up in one – like a really tiny community where everybody knows each other and everybody's got ridiculous stories about each other. So yeah, it was just re-experiencing that, I think, and experiencing it on the water, which I'm a sucker for. So it was like there's communities everywhere around here that all love the same thing that I love and each other. What's not to dig about that?

Q: [14:11] Do you have any experience in extension related to fisheries and aquaculture?

A: [14:15] Like the Sea Grant extension? I worked with Natalie Springuel a lot. And for part of my senior project, I did an independent study where I took the – it's Sea Grant and a bunch of other similar groups that put on their Aquaculture and Shared Waters course. That year, they were hosting it in Machias. So every Thursday for three months, I would drive down there, and that was hosted by Chris Bartlett. And I think he had some other folks come in, too. And then working with Mapping Ocean Stories – I did a little bit of that also outside of COA for a small stint. But yeah, they just seemed to be everywhere you could look in terms of – if you want to be working in fisheries and coastal communities, you're tripping over them.

Q: [15:11] I'm curious about doing Shared Waters. How did that inform your experience, or how does that impact you today?

A: [15:20] It was a really cool class. It is really a how-to that is so much better than YouTube. And yeah, it was just very straightforward, and it was really meeting people where they were at. I was kind of an anomaly in that particular course, because everyone in there was a fisherman except for one other lady. I can't remember what her story was. But everybody in there was a fisherman who wanted to expand what they were doing. So the class was really tailored to people who had put in the time and the sweat to know what they wanted and to just cut through as much BS as possible.

[16:08] Actually, it's funny, there was one guest speaker who came in, Jon Lewis. At the time, he was the diver who would come from the Department of Marine Resources and inspect your site if you wanted a standard lease. So his job was to look for eelgrass or anything sensitive that you shouldn't be putting gear on top of. And I remember at the time, he was great. He was like, look, guys, I know that you don't like working with the DMR because there's so much red tape. I know I see it, too, in my job all the time. But we're here to help you and to make it easier. I thought, wow, that's fantastic.

[16:46] And then I heard later he left the DMR and ended up working for this woman named Crystal Canney who has a – I don't know if you've heard of her. She's got an advocacy group called Fishing Families or something like that, which basically advocates against aquaculture, at least in big industrial senses. That group was behind one of the legislation pieces that I testified against years later that would have limited how big your lease – I think it would have limited lease size to something crazy, like five acres. You should definitely fact-check that. But it was something small and crazy, so that was kind of nuts. But aside from that, everyone there was great, and he was great at the time. Yeah, it was a fantastic class.

Q: [17:39] Do you have any experience in research and development related to fisheries?

A: [17:45] No.

Q: [17:47] In hatcheries?

A: [17:49] No.

Q: [17:52] In food service, food preparation, or customer interface related to seafood?

A: [17:57] Well, I deliver oysters. I have shucked them for people. And then I was there for the process of trying to figure out how we needed to keep harvesting and the ice process sanitary in terms of *Vibrio*.

Q: [18:17] So you are done working with Bar Harbor Oyster Company. Do you have any idea of what you're going to be doing in the future?

A: [18:28] I had this grand plan. I was going to go back to school for marine fisheries, and I had picked out this grant program that I really liked at the University of Maine. Then it lost all of its funding, and everybody I was talking to was like I can't even fund the students that I have now, let alone a new one. So I don't know. Right now, my plan is to just kind of coast and keep doing whatever rolls my way, which has so far worked out for me.

[19:07] This summer, I'm going to be working with Diver Ed on the Dive-In Theatre. So yeah, we'll see. And the other thing that I do for him, and what's been keeping me crazy busy right now, is that I also work with him for all of his commercial dive work. I got a certification as a rescue diver, so I'm there as his safety diver, which is an insurance requirement for a lot of the stuff that they do. So I've been doing that – basically been working with him on everything that he's got going on.

Q: [19:42] But with this program, what was your hope to continue on in the future? What is your idea for your role in the fishing industry five years from now, 10 years from now?

A: [19:55] Well, I really love the scallop fishery. I think it's got a lot of great strengths going for it and a lot of frustrating things, too. There's a lot of times where it just feels like, oh my God, why is this this way? And in particular, at the end and beginning of the season, the DMR has these sessions where fishermen can talk to the people at the Department of Marine Resources about how the population studies are going and how the season went, things like that. Diver Ed has stopped doing those altogether. He just feels really frustrated. There's new people every year who don't have any experience in the fishery.

[20:42] So I had this idea of, well, I have shucked a scallop before, and I would like to do something that's not so physical anymore. Wouldn't it be cool if I worked at the Department of Marine Resources and solved all the problems instantly? Which, you know, I'm sure – it's a state agency, so I'm sure everyone starts off that way. But anyway, that was the pie-in-the-sky idea, or at the very least – not the very least, but also I feel like there's potential for Sea Grant. I love the stuff that they do. Obviously, their work with the community has helped me immensely and other people immensely. Like we were talking about earlier, when their funding was taken away for a hot minute, everyone came together for that, because they help

everyone. And the Maine Center for Coastal Fisheries – love their work. They did a lot of the interview work to establish the rotational management zones that we have right now for the scallop fishery. Love that. So something in that line was what I was thinking.

Q: [21:56] What does an average day of work look like for you?

A: [22:03] Right now?

Q: [22:04] Or whenever you're working in the summer.

A: [22:07] Yeah. So in the winter in general, because it changes month to month, Tuesday through Saturday are scalloping days, which means the weather's going to be terrible. (laughter) I'm kind of kidding. That means getting to Eddie's house at 6:00 and ideally getting to fish somewhere along the island, depending on which rotation it is. This year, we were supposed to be doing Northeast Harbor, but they closed that before the season even opened for conservation reasons. So we ended up trying out the section that we were allotted in Southern Blue Hill Bay, and that didn't work great, so went to Eastport and Stonington, back to Bass Harbor, so all around chasing the scallops.

[23:00] And typically on average, you'll be done at 4:00 PM, really, and haul the boat out, because divers in particular in the scallop industry tend to work out of small boats that you can trailer. So trailer the boat home, unload everything, and Eddie will have an even longer day because he likes to go through every single scallop that we've harvested and clean it and make sure there's no guts left on it. And he has all of his individual orders from people, so he'll weigh out all the scallops and put them in bags and label them and things like that.

[23:37] Yeah, so those can be long, long days in the winter, but they can be really fun, and it's just cool to see what's out there. There's also a certain magic to going out looking for something and learning more about the bottom there while you're on the way trying to find it. I really like that. So yeah, that that's the winter for the most part.

[24:07] In the spring and fall, most of my time is doing odd jobs with him, whether that's commercial dive work or helping him work on his boats in the yard, or mooring work's about to start up soon, so things like that. There's really no typical day for that. In the past, we were spending a lot of time going to Eastport, so we'd drive to Eastport on the smallest tide of the month, because Eastport has the most insane tidal range. If you jump in the water there on a normal day, you'll just get swept into the Old Sow, which is a very deep whirlpool there – very powerful. So smallest tide of the month, drive the two and a half hours there, launch the boat, take out – this was a job for ORPC, which is Ocean Renewable Power Company, and they had a turbine there – a tidal turbine. So do work on that with a representative there and then come back. Or let's see what else – boat salvages. So the *Sudden Impact* that went down this winter, we went and helped bring that boat back up. Yeah, just random stuff.

Q: [25:37] You're the only person, usually, with Diver Ed on these boats, or is there somebody else?

A: [25:42] Yeah, most of the time, it's just me. Some of the time, especially if it's a bigger commercial job where he's going to have a full face mask and comms unit in, his wife, Edna, will come along. She has got the magic touch for understanding what he's saying through that thing. It's just like – oh my God, to hear some of the recordings, all I can understand most of the time is when he's swearing. She's a godsend for that.

[26:07] Also, the more important thing that she does is take pictures. Anything that Diver Ed does needs to be thoroughly chronicled through pictures – just through ridiculous pictures. So if you've got a family member who's eight to 10 who's like, Mom, Mom, look at me do this – take a picture, take a picture – that's exactly what this adult man is like and will be until his dying day. Also, a lot of my time has just been – so he has a group of friends called the League of Underwater Superheroes, so he organizes a lot of diving and snorkeling events that are just fun and silly, and that is all thoroughly chronicled by Edna. She's got a really important role taking pictures all the time of everything.

Q: [27:09] Is she going down as well, or is she on the boat taking photos?

A: [27:16] Yeah, she's on the boat. She comes most of the time. We've been doing a lot of snorkeling this spring, because all of the snow melt-off and the rain makes the culverts just bulge with water, so it's really fun to ride through them. And Edna's job has been standing on shore taking pictures for that.

Q: [27:42] How do you feel your background or identity shapes your work in the fishing sector and in the aquaculture sector, including how others perceive or treat you?

A: [27:55] Hmm. Yeah, I don't know. Hard to say. I don't know. I just kind of show up every day and try to interact and have a good time with the people that I'm with and learn how to do what I'm doing well and to the best that I can and, yeah, just keep doing it.

Q: [28:26] Do you think that you are treated differently because you're a woman, or has that interacted at all?

A: [28:33] I can't really say that I have. When I was thinking about what to do after COA, I thought about the observer program, because that is one route that most people take to end up in official fisheries management. And that I had a lot of hesitancy about, because you have no control over what boat you're put on and what the crew situation is. I'm sure that it's better than what it used to be, but I don't need that. And I didn't feel like the odds of ending up somewhere comfortable were super-strong. But in both cases that have been the majority of my work life since COA, which has been the Fogg family at the oyster company

and Diver Ed and his wife, Edna, it's both about who everybody is as a person – and they're really small, really tight families. You can want to strangle them some days, but that's not because of gender.

Q: [29:43] How does your role in the fishing sector interact with any family or caregiving responsibilities that you might have?

A: [29:52] Hmm. Well, I want to have kids. I really fucking want to have kids. I don't see how I could do that doing what I have been doing, which was part of the reason that I wanted to transition. Also, more so with working with Eddie, I don't know what I'm doing until the night before, because everything that I do is a gig that he has lined up. So someone might call him midday and be like, oh my God, I need you to come dive on this thing for me. Or with ORPC, he would schedule four days around every point in the month where the tide was the smallest for that work. And weather – you know, there's just so many different things that can change what your plan is from day to day. Like last week, he had a whole plan worked out for the entire week, and none of it happened how we thought it would.

[31:01] It's also just hard to do anything with your family in that scenario. My family's all six hours away in Vermont, so if I'm going to go see them, I'm at the point where I want four days to do that. I want two days to be dedicated to driving and getting there and being like, oh my God, is it dinner time? I just want to lie down. So yeah, it's hard to get that time when you don't know what you're doing.

[31:29] Also, there's definitely things that Eddie can do on his own, but there are some things where I need to be there for him to be able to do it. So if I have something that pops up where he can't go, I could also not only be taking away my day of work, but also his day of work.

Q: [31:49] Have you noticed a change in women's presence, participation, or status in the fisheries during your time?

A: [31:56] I think women are really prominent in the marketing for aquaculture. That's been crazy to me. Obviously, Joanna is huge. She's got a big role with the Aquaculture Association. But also Lauren Gray out on the Cranberries – she is freaking everywhere. And Abby Rowe (sic), who I overlapped with here, she's great. She got a Patagonia feature about her which is – obviously, that's mostly about plastic, but also I think there's an aspect of look at what this woman is doing in this industry. And Nonesuch Oyster – was it Nonesuch, was it Nauti Sisters? Anyway, there's a lot of Instagram accounts and features through this organization or that organization, and it just seems women are at the forefront of the public face for that right now in terms of small Maine farms, which is cool.

[32:59] In terms of scalloping, this was the first season – also, there's this to keep in mind. I see a very specific subset of scallopers. There are dozens of active scallop divers in the state, and there are hundreds of active scallop draggers. And within the past few years, the regulations have changed, so now we each have different zones to fish, and we don't overlap. We used to overlap one or two days of the

week, but now we won't see each other at all – which is good. That's a good thing. But yeah, the majority of the people who are scallop fishing I don't even see right now. And around here, there's two to three active scallop divers at this point.

[33:54] But I saw my first woman scallop dive tender this year in Eastport. Well, technically, it was in Whiting. But that was just bonkers, because they actually have a lot of scallop divers there comparatively, because – I think it's the salmon farms. There's just a lot more people that are dive-certified down there. I forget exactly what the number was, but there was at least six different skiffs all tending multiple scallop divers in this one mooring field, because the draggers will go out the first half of the week, and they'll drag up their limit, and then what they have left, they'll dump when they're shelling at the mooring. So then when the dive part of the week starts, the scallop divers launch their skiff, and they just go right down into the mooring field and pick up what is left over from the draggers. So there was a lot of us there all in really tight quarters, and there was one blonde chick out there, which was bonkers to me. I was very excited about that.

Q: [34:58] What is the reason why it's a good thing that you guys aren't overlapping?

A: [35:04] Yeah, so a couple of different things. One is just as a diver, you want as little boat traffic around you as possible. And when, say, Frenchman Bay was the zone that was open this year, it's pretty reliable that everybody's going to try to the Skillings River first. On the overlap days, if you're both in the same spot, the divers and the tenders are just more aware and more conscious about the safety of that – about not wanting a drag to come over the top of you – which Eddie has talked about, and I've never once seen, to be fair. But he's said that it's happened to him.

[35:45] And then also, in addition to that, there's just the logistics of what it takes to dive for scallops. It's freaking hard. It's really, really hard. I have a recreational scallop license, and I've gone out once this past season. Eddie went down first, and then I went down second. Eddie found six pounds of scallops in the course of 40 minutes, and I found six scallops in the same amount of time. So it takes a lot of skill, first of all, to recognize a scallop that's down there. That scenario was relatively easy to recognize a scallop shell, but it's not always that way.

[36:26] Last winter, we had Blue Hill Bay open, and these sea squirt tunicates are every-freaking-where right now, and they were covering the scallops. Somewhere, I have a picture of Eddie holding one. You can't even tell it's a scallop, because there's just so many tunicates on the top of it. Crazy. So it takes a lot to see them.

[36:45] And then there's how much you can even see in a day underwater. If you were to just stick your head over the side of the pier in the middle of the summer, you wouldn't see very far, because there's so much turbidity in the water. In the winter, that goes down a little bit, because there's not as much sunlight for photosynthesis and all that stuff, but there are storms that kick up sediment. So some days, you can see relatively far, like 10, 15 feet, and then some days, you can't even see in front of your face.

[37:15] And then you add to that that a person can only swim so fast, especially if you're in this bulky suit with a bunch of pounds of gear on, and the current can be pushing you in whatever direction. So there's so much effort that goes into picking up every scallop that you get. And if you're fishing next to a dragger, what they're doing is throwing a drag into the bottom and dragging it across, which is like, duh. But it means that this huge cloud of sediment comes up, and wherever the current takes it is where it's going to be. So if you're fishing downstream from that, you won't be able to see anything. Yeah, so for a lot of reasons, it was really good to have everybody separated.

Q: [37:59] So this is a great transition to – can you describe any changes in the marine environment that you have noticed – tunicates, anything else?

A: [38:09] Yeah, tunicates have been huge. When I came here in 2014, there was talk about pancake batter, but that wasn't something that fishermen were seeing out. And now, these tunicates are everywhere. It also has been seriously affecting the oyster farms, too. The past three years has been really prominent. If you don't stay on top of flipping your gear so that the sun dries out all the biofouling, the tunicates get to a point where it was too heavy for us to pick anything up – certainly with our electric hauler, but even then with the winch that we had on board, which I think is supposed to be rated to deadlift 600 or 700 pounds or something stupid like that. So it was just absolutely back-breaking.

[39:00] But yeah, in terms of scalloping, I am seeing a tiny little sliver of the cycle of the scallop industry, but I get to listen to Eddie talk about it, who started in the '80s. This was his 40th year scallop fishing. So what I've seen is, yeah, the tunicates have gone crazy, and this year in particular, it was just really hard to find them. I mentioned earlier that we were supposed to fish Northeast Harbor this year. We've got three different sections around MDI for scallop fishing, and you do one year here, which would be Northeast Harbor and Somes Sound and the Cranberries, and the next you would go to Frenchman Bay and Mount Desert Narrows and the Skillings River, and next year is Blue Hill Bay.

[40:02] So Eddie and I hadn't been able to fish Northeast Harbor since 2019. That was where I started my first year. Then we went a full rotation, and when we were about to go back into Northeast Harbor, the department announced they were going to split the zones for draggers and divers, and draggers were going to get Northeast Harbor and divers were going to go back to Frenchman Bay. So we made another rotation around, and they closed it before the season started, because they said it was a conservation closure, which is freaking crazy. That means that Northeast Harbor hadn't been fished for two years, but it hadn't recovered since then enough for the freaking two active divers to go fish it this year. That's just crazy, I think.

[40:46] And something you see a lot with scallops that people don't really think about is it's not just finding them, it's also finding quality meat. For a while, we tried this thing where – so we're in zone two for scallop fishing and zone one is south of us, and for a while, zone one would open before zone two, and we'd say

let's just try it. We'd go down to Belfast and fish there, and we'd find some scallops, but it wasn't worth it, because they all have really weak meats. When you're shelling out scallops, a lot of it is this art of stabbing the guts with your knife and kind of flicking them off, and you're trying to do that in the cleanest way possible so that all of the guts and intestines rip off, and the mantle, but the adductor muscle stays there. When the adductor muscle is really weak, it tends to split, so you're throwing away portions of the only meat that you're allowed to keep. So those meats were just – they were awful. And the term for that – and I don't know if it's just an Eddie term or a wider term – but it's called an old lady's armpit. So there was just armpits everywhere around there. It was not worth it. So finding good meats has been a theme for us over the years.

[42:11] This year actually was pretty good in terms of that, which was cool. We also didn't see as much shell disease, which is this crazy thing where you have the scallop shell, and it almost looks somebody blew a bubble gum bubble under the shell itself and it just kind of froze like that. It can be the same white as the rest of the shell, or it can be pinkish or purplish or greenish. And if you poke the bubble, it smells so awful. It smells like a sulfur kind of smell. It's really weird. That makes it difficult to shell out cleanly. So there was less of that this year, which was cool.

[42:50] But from what Eddie's said, from a bird's eye view, from his perspective – when he first started, scalloping was OK, but it wasn't anything you were going to get rich at. Then it got good, and a lot of people got into the industry. It was really strong for a while. And we're going back down into a dip.

Q: [43:18] You described the conservation closures as crazy. I'm taking that to mean that you don't necessarily agree with their decision there. Do you know how they came to that decision, and why do you disagree?

A: [43:33] Well, no, what I mean is crazy by that is that the rotational management was set up with the idea of farming to allow areas to lie fallow for at least two seasons to recover. They don't have that in Eastport, for example. They have their own zone. And a lot of that was, from what Eddie says, designed to kind of discourage fishermen from other zones coming down there. But anyway, they're fishing the same spots every year, and they will tell you that the last day of the season before, the scallops have been there, been there, been there, but now they're not there so much. And then the opening day of the next season, they're always better than the last day of the last season. This year, they said it started off exactly the same.

[44:27] So from the fishermen that we've talked to just around – there was one guy who said he did really well in Gouldsboro, but everyone else is like, there's something weird going on here. There's not as many scallops as there should be. They're really hard to find. Draggers are like, oh my God, it took us until noon to reach our limit – which is crazy for a diver, because we've reached our limit twice that I can think of since I've been doing it around here. Oh my God.

[44:58] But anyway – so, no, I do believe them when they say that there's not enough scallops out there. What's crazy to me is that it's been lying fallow for two years, and it hasn't rebounded. And what will be interesting to see is if they – so the draggers are up for that spot for next year. It'll be interesting to see if they open it or if it stays closed.

Q: [45:23] Is there any prevailing narrative among people about why this is happening, or are people just kind of confused?

A: [45:31] I don't know of one, really. Well, the fishermen in Eastport were saying we were allowed to go too hard for too long last year. There were two guys that we talked to that said that. But I don't know anybody that's like, oh my God, this is definitely because of this, this, or that. A prevailing narrative working with Eddie is all the time – this year in particular, he was so excited to fish Northeast Harbor. He loves that area, and he kind of thinks of that – even though he lives in Bar Harbor – he lives near the head of the island. In terms of scalloping, he thinks of Northeast Harbor as his home. So yeah, he was really sad to not be able to fish there.

[46:18] In addition to that, because we weren't able to do this established zone, the department gave us lower Blue Hill Bay to work with. Oh my gosh, great mapping exercise. That's the section that we don't really fish and other people don't really fish, so we were seeing where the lines are for the first time, and they're stupid, guys. They're so stupid. If you are a diver, what you really want is water that's 60 to 30 feet deep for safety, and the way that these lines are set up – say you want to go out of Bass Harbor and you want to fish around the islands there. All of the section of coast that would be appealing to you is cut off, because it seems to be like it's following this undisclosed conservation line or something stupid that nobody knows what it is. I'm not saying conservation is stupid, but this line doesn't dictate anything to anybody that is using it. So this line goes from just east of the Bass Harbor Light all the way out to Bakers or somewhere over there. It's cutting off this whole section of coast that is workable for a diver and leaving just a lot of exposed deeper water available.

[47:37] In terms of where we could work, it was just, first of all, incredibly limiting this season. And if there's any weather at all – the other thing – divers are in smaller boats, so you're more easily affected by the weather, or you get affected sooner. So there's just a lot of days where it was not really workable to be there. And I think the second day that we tried around south of Bass Harbor and around the Gotts, Eddie did one swim where he swam literally a mile. We tracked it – a mile. And he came up with seven scallops. So yeah, it's really difficult.

Q: [48:23] Have you noticed a change in severe weather, or has Eddie noticed a change in that?

A: [48:29] I don't know. I just kind of think of it as winter. It feels like bad weather waits until Wednesday, Thursday, Friday, Saturday to pop up. That's like how the

other lane of traffic is always moving faster. I don't know. This was a windy winter, but it's winter, so – yeah.

Q: [48:53] In terms of the tunicates impacting the scallop work that you're doing, is there anything that you guys have done to adapt to that, or do you think you could do to adapt to that?

A: [49:04] Not really. I think it just kind of relies on Eddie figuring out, OK, I have to look harder, and I have to take more time to really test out everything that is covered in tunicates. If it seems like it should be a rock, check it anyway, because it could still be a scallop.

Q: [49:24] Are there any other strategies that you would like to put in place or you think would be useful for you guys?

A: [49:40] Scalloping – or diving is such a small fraction of the state's fishery, and they are two groups of people that can butt heads in terms of how the fishery should be run. If you talk to scallop divers, they're like, what is stopping us from fishing for scallops in the summer? The winter is when they're reproducing, and we should be leaving them alone. The reason why the fishery is in the winter is because the state doesn't want the draggers and the lobstermen to clash with their gear conflict. But we would have no gear conflict in the summer, so we should be allowed to fish in the summer, which I'm sure would not go over well if you suggested it. But yeah, that's definitely something that's been on Eddie's mind and other divers' minds. And it would be so nice – you know, the sun sets at 4:00. You start your morning in the dark, you end your day in the dark, and it's freaking cold. And nothing works right in the winter. Especially air under pressure is really finicky in the winter. So getting his gear set up is just such a pain. Yeah, everything's a pain in the winter. There's just so many reasons that it would be really appealing as somebody who works with divers to work in the summer instead.

Q: [51:07] What has made it possible for you and Eddie to make these adaptations? For example, are there any resources, relationships, knowledge, training, or organizations that you drew on to respond?

A: [51:24] We've fished in Eastport a little before, but this year, we spent a lot of time there. That's a really long commute. What made it possible to put in a real effort this year was Eddie has been preparing for a long contract with the tidal turbine people for a couple years now, which included buying a small mobile home in Eastport so we had a place to crash, which was essential. And he's got a lot of friends there who also do scallop fishing, and some of them are urchin divers and hand draggers, so they all – I mean, talk about a community. Eastport has got a freaking community.

[52:14] So we'd get there and fish all day, and because we take so much longer than draggers, we'd get a call midday – OK, you've got to come next door to Gary's house for dinner when you wrap up. Don't dawdle. You've got to come. Gary got

a slushie machine, so the guys are just obsessed with cranberry vodka slushies. So you come over, and the first thing that happens is you're just hit with cranberry vodka slushies and whatever he's been cooking up, which was venison chili or mac and cheese or whatever he's making. His favorite thing is to just stuff people with whatever they can fit into their stomachs. Everybody is just talking around the table about spots to try, what they found out that day – just everything under the sun, but especially a lot about strategy for where to go the next day.

[53:15] In particular, this one guy, Butch Harris, who is a legend down there, he was really helpful for us. And he's an interesting case, because he has a dragging license, so he'll take his boat out dragging for the first half of the week, and then the second half of the week, there is a diver who is really giving this thing the good old-fashioned try. He's from Portland, but there's no scallops down there. So he comes from Portland to Eastport to go scalloping, and Butch will take him out and tend him. So he's really in tune with what's going on there.

[53:52] And Butch would say to us, OK, Friday, the river will open – which is where the mooring field was that everybody was going bananas on – so we're going to try the river. You should try the river, too. Having him there was so important, because to get to the river from the boat from Eastport, you have to go through the falls, which is kind of like the Sullivan Falls that we have here, only it's quite a bit longer. It's a crazy body of water to take a boat through. Butch has a really intimate knowledge of how to navigate that river, and I'm just so grateful that he was showing us how to get up there, because that would have been crazy to try to do without the knowledge.

Q: [54:40] When you were working with Bar Harbor Oyster Company, you had to deal with the *Vibrio* and the tunicates. Were there any other environmental changes that you were noticing and things that you were having to adapt to?

A: [54:54] Yeah, tunicates and warming water are just gigantic, so it was mostly a process of just trying to manage. Before tunicates were a real major concern, the thing you were trying to fight was mussels, which is ironic because there's a mussel farmer right there. So as soon as the mussel spat lands on the cages, you need to start worrying about flipping them, because mussels can just get so heavy and so out of control, and once they get to a certain size are just so hard to kill. So yeah, that was a large part of the concern in the summer months.

[55:40] In the winter months, the concern was where to sink your cages so that they wouldn't get crushed by ice, because that definitely happened to us a year or two. They just get pancaked. It's crazy. So their lease is kind of right in the crotch area of this mudflat between an island and – well, two islands, really. That's where their lease is. It's a 20-acre lease. They don't want to make it any bigger than it is. It's plenty of space in the summer. In the winter, you kind of have to push everything a little bit closer together in the center so that it's in deep enough water that it'll work out.

Q: [56:23] What is your biggest concern about the marine environment for the future for Maine's coastal fisheries and aquaculture industries?

A: [56:34] Climate change, obviously, is huge. It's what everybody's talking about. And my feelings on that are like – this might be pessimistic, but I don't think we're stopping it. I think we're just learning how to respond to it. So I feel like the prediction that new species are going to move in goes without saying. The species that were here are going to change how they live and move goes without saying, which could mean everything just goes deeper that we're looking for. I don't really know.

[57:11] But I also feel like – and this is in large part because of how much time I spend with Eddie – but I also feel the environment that we have, we're also just pushing it even farther. Because what are we doing? Dragging supports way more people than diving, and I don't want those people to lose their income and suffer. But what are we doing dragging? We have known for decades that it destroys the environment, and it is so hard to bounce back from it. It's ridiculous.

[57:46] Eddie talks about when he first moved here, there was all different species of anemones and brittle stars and basket stars, and there was just bio-freaking-diversity out there, and it's not there now. I got certified as a diver in 2020, so that's the ocean that I've been seeing. And he's right. The majority of the dives, you go down and you'll see a lobster. That's cool. You see crabs. That's cool. A lot of tunicates, mussels, maybe burrowing anemones, but not what he describes as used to be here. So yeah, I feel like we're just pushing it even harder than we should be.

[58:31] I've been thinking recently about artificial reef setups, because I started going to Florida and diving down there, and they just seem like a really awesome tool in the tool belt for restoring these places. I think Massachusetts has some. We don't. And part of that is crazy winters make it really hard for anything to survive down there. Actual shipwrecks don't survive very well down there. And then also gear conflict would be huge – say, draggers or lobster fishermen or whatever. Also, I was thinking about, OK, if you jump through all the hurdles to overcome that and get something in the water, what are the odds that it would immediately be covered with tunicates? But I don't know, it also seems like it'd be worth it to try. Yeah, biodiversity is something that I think about a lot.

Q: [59:38] Why are you going down south to Florida?

A: [59:44] It's warmer, and there's more stuff to see. Yeah, it's for fun.

Q: [59:49] We touched on this quite a bit, but is there anything else that you'd like to tell policymakers in Maine what their biggest priorities should be in helping people adapt to these changes?

A: [1:00:10] I am not as connected to the lobster fishery, so I'll leave it to those guys and the MLA to loudly tell everyone what the best thing is. But scallop fishing, I

think it's stupid that we are told which days of the week to go. It's just not safe. That's been proven before. That just seems like such a low bar in terms of political fights to have over real accomplishment in terms of policy. I don't know, it seems that would be something on the low scale of what you could tackle to make a really big difference.

Q: [1:00:51] Have you participated in any climate resilience or adaptation training programs for the fishing industry?

A: [1:00:58] No.

Q: [1:01:00] You did mention earlier that Sea Grant does a lot of work to help, too. Could you tell us about what kind of work that is?

A: [1:01:12] Natalie's the one who told me about the aquaculture class and and got me into the whole interviewing process with the communities around here. I think they have an office at the Port Authority in Eastport, and we use that a lot to use the bathroom and get dressed and things like that. (laughter) But no, I think that Sea Grant is just – the research that they put their effort into I think is going in the right direction.

[1:01:54] And I also think they do a lot of really good work. When I was a student, Natalie was a – oh, what's the word? She basically oversaw this really delicate conversation that was happening around seaweed harvesting at the time between rockweed harvesters, conservationists, and landowners. I think that they hold a really special position in Maine, because they're one of the few people who can come in and actually do that and have everyone be OK with that and know that they're going to be represented fairly with all that. The work that Sea Grant has done with the working waterfront has been fantastic. Making that a land easement is such a good idea. So yeah, they're everywhere.

Q: [1:02:47] Was climate change addressed in the class that you took with Sea Grant?

A: [1:02:54] The aquaculture class? It wasn't as much. It was kind of more like an undercurrent – like, hey, lobster fishing could stay strong. It could change for various reasons. And if it does, this can be a helpful tool to have to help you stay afloat if anything major does change. I guess there was also the implication that things like oyster farming might get easier with time as waters warm, because oyster farming is kind of similar to cattle in the way that it's a product that takes years for you to be able to harvest. So that means a lot of investment in the purchase of oysters as seed and also just trying to keep them alive until they're big enough to harvest, and that's risky. So the warmer the water gets, the faster return you have on your oysters.

Q: [1:04:02] What strategies do you think would be effective in building resilience for climate-related effects for fisheries?

A: [1:04:13] Flexibility, honestly. Not just with which days you can fish, but also licenses. And I know there's a bit of a push-and-pull tension with protecting a fishery or a population and allowing there to be too much access, but it's really hard to get any kind of license right now. I have been in the lottery for a commercial scallop license since 2019, and I just don't understand that. I'm in the lottery for a dive license. I know that we don't take that many scallops out of the water.

[1:05:01] So yeah, I think as species shift, maybe scalloping won't even be worth it at some point. And I know fishermen who just got their license that are saying that. Like, oh my God, I just spent so much time out there in the water freezing my ass off, and I don't have enough to pay for the gas. So maybe scalloping isn't the ticket. But black sea bass or whatever comes in – like the ability to jump from one thing to another seems important to me. Licensing can kind of put a damper on that if it's really restrictive.

Q: [1:05:36] Have you noticed any changes in black sea bass?

A: [1:05:39] I haven't seen any, no.

Q: [1:05:42] Are there any other fisheries that you're in the lottery for?

A: [1:05:46] No, just scallops. Yeah.

Q: [1:05:50] Are there any types of changes – non-environmental ones – that are impacting your work that you'd like to tell us about?

A: [1:06:00] Budget cuts. We were recently working for UMaine launching their wind turbine base that went out in Trenton. There's a lot of politics behind that and a lot of emotions behind that. But just from a basic level, that was a tit job. First of all, it was like a five-minute drive from Eddie's house to go work there. And at least for the launch, all we had to do was be there in our dive gear ready to go and just watch the thing float or not float and talk to the people there, who are very nice. And commercial dive rates are great, so it was a really good paycheck for minimal effort, (laughter) which was just really – it was really nice, and most jobs are not like that. And then we got to work for them again a little bit later, setting anchors for the final destination for the base. It was just really nice to have that job. It made a huge difference in my winter. This was like a really freaking tight winter for me, and I didn't really start to feel comfortable again until we got that job.

[1:07:19] Part of why it was so tight was because we were also supposed to be working this other job, the turbine job. Eddie has been investing for that contract for years. He has this 42' Novi boat called the *Old Sow* after the Eastport whirlpool, and he bought that boat specifically with this job in mind for more space and heavy-duty lifting, because the contract was for taking the frame of the turbine out of the water, because they're done with their experiments. And that was projected to last five years – that work.

[1:07:55] That company got a large – or a good portion of their budget is from federal grants, so they don't have that anymore. Also, their contract with Eastport for having this base in the ocean floor is up. It's going to be up at the end of this year. And they just don't feel like there's going to be a lot of pressure from the administration to take it out of the water, like to clean up what they put down there. So not only do they not have the money to do it, there's not even the pressure to finish the job. So we had been kind of banking on that. We probably won't have it anymore.

Q: [1:08:47] Are there any ways that you've tried to cope or adapt to this? Anything that Eddie has that could be an alternative lined up instead of that?

A: [1:08:55] So much of his work is really hard to predict. Like we didn't know about this – literally how we got that wind turbine job was Eddie was like, have you seen the base? It's fucking crazy. We got to drive over there. So we literally just drove over to the parking lot to look at it. And he saw the guys there and they flagged him down and said, hey, we meant to email you. Can you come work for us this Sunday? So yeah, not predictable.

[1:09:21] But what he has been doing directly in response to the freed-up time from this turbine job is he has been scheduling a lot more fun dives and snorkels for the League of Underwater Superheroes. (laughter) That might not be fulfilling financially, but it's fulfilling in your personal life by a lot.

Q: [1:09:41] Can you tell us about any positive changes you've experienced in the industry over your time?

A: [1:09:49] Hmm. The people that I get to work with – it's been really awesome to meet them. Learning how to do scalloping and oystering well has been quite the ride, and I liked developing those skills. That's something that I really enjoy. And I like producing something. I've worked on the whale watch and I've briefly worked on a cruise ship, and I've come to learn that I really don't like producing service as much as I like producing a product. So that's been great.

Q: [1:10:35] What is your hopeful vision for the future of Maine's coastal fisheries?

A: [1:10:44] I hope that the ecosystem will continue to evolve into a full-bodied cycle with lots of different critters and lots of different people who can benefit from it. That doesn't mean that it has to stay what it is now. But yeah, if it can just stay vibrant in whatever color that is, that would be great.

Q: [1:11:13] Is there anything else that you'd like to share with us?

A: [1:11:18] This is a great project. Have fun with it.

Q: [1:11:23] I have one more question. You mentioned that you testified for some – I think you said for legislation. Could you tell us a little bit more about that, like how you ended up doing it and what you did?

A: [1:11:41] Yeah, so a lot of that was because Joanna was so involved with the Aquaculture Association, so they were concerned about this bill that was going through. And I think this would be maybe in – I feel like it was pre-pandemic, so maybe 2019. Yeah, maybe 2019. I think the gist of this bill was really reducing the amount of acres that you could have for an aquaculture lease, and I think it also wanted to make leases non-transferable, which Joanna would be directly affected by that, because she's got a daughter that she's trying to groom. So yeah, so she knew about the bill from Sebastian and that whole group, and she knew that there was a call to try to get as many people down to Augusta to testify as possible. So she told me – and at that point, it was a crew of me and this other guy, Mark Pinkham – told us that she'd allow us to have like the whole day off if we would just get in truck with her and go testify for this thing, which we did.

[1:12:56] That pretty much consisted of getting to the Capitol, managing to park, managing to find the right building, and just waiting for all these people to testify. And by the time that we came up in line, pretty much it was like, OK, I'm just going to repeat what everybody else has said – like me, too. (laughter) But yeah, it was a really powerful turnout for the Aquaculture Association. I think they're going to end up being similar to the MLA in the future just in terms of what they can do.

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