

Interviewee: Colleen Bouffard

Interviewer: Ian Bradley, University of Connecticut undergraduate student for Connecticut Sea Grant

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My name's Ian Bradley, and I'm having an interview with Colleen Bouffard. And you're from the Connecticut DEP. And would you mind just telling me what your, what your title is there and what your position is?

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Colleen Bouffard (CB): Hi, sure I'm, I'm a supervising fisheries biologist with the marine fisheries program housed in the Fisheries Division of the agency. And currently I oversee the recreational and commercial statistics programs.

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IB: And we're having our interview on March 5, of 2021.

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CB: Looking back to my interest in the field to two different experience I The experiences I had as an undergraduate student majoring in marine biology, the first would be the first time I went beach seining, I remember my classmates and I loaded into a van with our professor in the early morning hours and drove down to a small embayment in Virginia. And we hauled the seine net in four or five times. That was really my first hands on experience and really appreciating biodiversity and trophic levels in a marine environment. I enjoyed it. The second would be a research paper I had to write in a marine conservation class, I know it's probably odd to think of enjoying writing a paper. But that process required me to interview fishermen with regard to conservation efforts and the impacts and benefits of regulatory measures. And I can remember how intimidating it felt going down to the docks at Point Judith and approaching the, you know, the, it was a lobster fishery that I was targeting with my questions. And really, it was a pretty charged topic, you know, to approach a fisherman that you didn't know with. And it was the first interaction I had with the fishing industry. And that's what really led me to pursue an avenue in the marine field. So that I would have the, you know, additional opportunities to work with fishermen. I was so thankful then for those fishermen in Point Judith, who not only took the time to entertain my questions, but they provided thoughtful responses and insights. And so I think it's really to them, I owe the career path that I'm on. If it hadn't been such a positive experience for me, I'm not sure I would have ended up where I am now. You know, I started off at a state university in Pennsylvania. So being that was a landlocked state, in order to do field work, we had to go to Virginia. But I ultimately transferred to Roger Williams University in Rhode Island. And that provided a lot more opportunity, because it's right on the water. So I was very lucky, you know, I graduated from Roger

Williams in 1996. Actually, you know, I'd finished my coursework in December of 1995. So that kind of gave me the ability to start looking for job opportunities a little bit earlier than my classmates, excuse me, who, you know, had to finish their coursework through, you know, through the spring semester.

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And I was lucky enough to get a seasonal job with the agency in the summer of 1996. And I really never left it, you know. In the work that I've done, I really feel like the changes I've noticed, are there a better relationship between fisheries managers, and industry. You know, looking back, you know, with the entry level fieldwork I was doing, I can remember the skepticism, and the reluctance that some of the fishermen had to help us with our data collection. And I really feel like that's changed. I think there's a better understanding and appreciation of the data we use to measure the health of a resource, and industries. They're such a key component of success, full of unique perspectives they have a lot. And I think it's really important to create and maintain relationships with members of members of our industry, and to garner their support and involvement. I also feel like there's a great deal more collaboration between industry, managers, and researchers. I've seen it in a lot of different realms. And I think it's really great when these groups can come together, and offer their different perspectives and ideas to solve problems, and answer questions. And then the, then obviously, you know, the biggest change that we've seen, especially with respect to lobster, is the change of the pattern of a changing ecosystem. As hard as it was to see the decline of the lobster population here, as the example of a negative impact of climate change. There are species that we see in our waters that are becoming more abundant, like black sea bass, but you know, there are limitations. You know, sea bass is one of our quota managed species. So the ability to you know, to fish for and land that species in this state is limited, there's limited opportunity, and it's also managed under an interstate management program. So that resources, you know, it's shared a bunch of among a bunch of different users So, we, you know, we did see a shift following the decline of the lobster fishery, we did see people starting to look to other species as it became less economically feasible to continue to look for the lobster.

Before the die off, you know, lobster in the sound was so it was so abundant, you know, we and I know we'll talk about it a little more. But, you know, the data collection we were doing was on board the boats of cooperating lobstermen, and I can, I can remember going out and, you know, they would haul a trawl, and with maybe 10 traps in it. And they would for me, they would empty all of the lobsters into the totes, because we would measure and make observations on every lobster that was caught and caught in a trawl. And it was always, you know, like I always personally tried to measure every lobster, but sometimes there were just so many that you'd have to skip a trawl, because there wasn't enough room on deck to, you know, to pile up those lobsters. It wasn't good for the lobsters. And certainly we didn't want to hinder the lobster man's operation either. And then came the die off, I can remember getting getting the phone calls from lobstermen, who were super concerned and panicked. You know, a lot of the lobsters that they were seeing were dead, or are extremely limp. And the lobsters that they put in there live well oftentimes would die. and it really it was just devastating. It's hard to think that it was so many years ago now, it's still very much feels like it was yesterday, when I think about the calls that we got and remembering wondering when the calls would stop. I think mostly it was the fisherman, you know, that that had that, that had that relationship with us and knew who to call, but certainly I can remember getting calls from fishermen that I didn't know, as well. It was it was such a widespread event in the western basin of the sound, and it impacted so many people. Well, I think the biggest concern,

and we see it being addressed in different avenues. I mean, certainly, there are areas, you know, the decline that we've seen in the Sound. At the same time we've seen, you know, we've seen the distribution shift, and we've seen the population increase in other areas that, you know, are environmentally conducive for lobster. So certainly states like Maine and Massachusetts, New Hampshire, that still have thriving lobster fisheries, you know, in those colder waters there. There's things being talked about in the lobster management world to help identify ways to monitor those stocks of lobster to help prevent something like this happening there. But I think when one of the questions I still have, after all, the research that went in, after what we saw down here in Long Island Sound is really what the sub lethal effects of elevated temperatures are on lobster. mean, we do have animals who have run the gauntlet, they've survived conditions that aren't optimal, and it's likely they've done it more than once. So it'd be really great to know, what adaptations have they made? Or what genetic characteristics do they have that allowed them to survive? And more importantly, will they pass that along to their offspring? You know, will those animals handle the same conditions as well, or better age is still something and yeah, that was researched I was involved with in the early 2000s, to try to find a better way to determine the age of American lobster. But presumably, you know, as you see the larger sizes, it's more likely that that translates into an older animal. And we do see a good size range of animals in the sound. It's just really, you know, that that recruitment and survivability and the stressful conditions that we saw in 1999, that was elevated bottom temperatures, those are something that that's something that persists. We continue to see that those same kinds of events in the Sound, and we still see lobsters in those areas as well. So it would be great to know how, how and why some of the animals survive stressful conditions, and others don't. In Long Island Sound we're you know, we're my agency were charged with conserving and managing the natural resources of the state. So I was involved with a lobster monitoring program for Connecticut. And that program had a number of different components. We had the fishery dependent aspect that I mentioned before, where we, you know, we joined commercial lobsterman on the routine harvest trips, and we would measure the condition of the trap fishery, you know, every lobster that that they caught that we could, we would record different biological characteristics of the catch. We also had a fishery independent component to our survey, that's the Long Island Sound trawl survey. So our agency has a 50 foot bottom trawler, we have a spring survey where we do 120 bottom tows and a fall survey where we do 80 bottom tows, random sites throughout the Sound, and in addition to all the fin fish that are caught, we measure you know the lengths and all the same biological characteristics for lobster that we do aboard the commercial boats. And that's the only ongoing component of the monitoring program that's still in place. We also used to have a larval survey that we performed in western Long Island Sound, we had a 28-foot research vessel, and we would tow a plankton at separate seven different sites in the West, and we would generate an annual larval lobster recruitment index. By measuring annual production, which is just a number of larvae in a given volume of water. We also continue to monitor the catch and landings of lobster. In Connecticut, you know, we have a mandatory reporting system for our commercial harvesters. So that's something that's ongoing as well, the thing that's changed is coastwide, we developed a mandatory tag, trap tag program. So every state had to allocate traps, to their fishermen and our commercial lobster licenses have been a limited entry, you know, they've been under limited entry for quite some time. So I think the big difference we see there is we see fewer people fishing for lobsters, like I said, as it becomes less economically feasible, we've definitely seen a big attrition in the fishery, but the reporting requirement itself, that's a trip level reporting requirements, so that stays in place. I would say that temperature continues to have a measurable impact on the remaining

population, as well as predatory pressure from other species. So we've, you know, we've seen species whose populations are thriving like seals. And we've also seen this, the conditions that we now have in the Sound are becoming more favorable for species we didn't used to see in these high levels of abundance, like black sea bass. Unfortunately, we don't have ongoing food habits, studies, I definitely think that's another area that we would really benefit from. So really all we have, yeah, is the knowledge that these animals also like lobster, and then the observations. Now I can remember going out, it's been a number of years, since you know, like I said, since we've done biological sampling on commercial boats, but I can remember going out and hauling traps. And, you know, you'd see lobsters that were missing all of their walking legs, and they would have holes poked in them in the carapace

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from from things like scup picking on them from the trap. So so they've got a number of challenges down there. And then certainly, you know, we've gotten reports from recreational fishermen, you know, that they cut up the stomach of a sea bass and small lobsters would come out. And so when you see those species in more abundance, it's not unlikely that if they had the opportunity to feed on a lobster, they would. The things I think about when I think about what our conditions were, like, leading up to the days before the die off, we had a very dense population, you know, we had high numbers of lobsters throughout the Sound, you know. We also have a unique geography in Long Island Sound, one of the big things that happened in the die off is that the water was stratified. So the warmer water was on the top, and then we had a hurricane, I can't remember the name of the hurricane, I think it was Dennis that came through, and it destratified the water column. So the bottom water temperatures increased significantly in a very short amount of time. So I'm not sure that they have that aspect up off in the offshore waters of Maine where they're seeing large numbers of animals as well. But I guess when you think about disease processes, and stressed animals, you know, dense conditions, they're not a great sign when you think about disease. And in one of the biggest outcomes of all the research that went into the cause of the die off and Long Island Sound, you know, the thermal tolerance of lobster, so that 20 degrees centigrade threshold, that's so critical for them environmental monitoring, I guess, would be another big component that, you know, you really need to get a handle or at least know what your conditions are, so that you can anticipate changes that it might cause. It's so big, it's easy to forget, it's an estuary, I hope a lot of people were were aware of it, it certainly generated, you know, a lot of interest. There were so many articles and news stories done. And so much research went in, into looking at the causes of it. And, you know, there's been so much done, even with regard to the impact that's had, you know, on fishermen and their families. So gosh, I really hope I mean, as I'm sitting here, I can almost remember some of the headlines and some of the newspapers I'd seen in the days following. So yeah, I hope it stretched further than just those directly impacted. I really do. It was such an important story. The state you know, they enacted legislation they think it was the lobster restoration Advisory Committee was formed after the die off and that was such a great project that I was involved with to where, you know, we worked with students from brass Tech, I always call that the Bridgeport school there, the Sound school and then Ella Grasso vocational school. I believe they were in Groton. So yeah, we actually trained students involved in the programs there to go aboard the boats of commercial lobsterman and v- notch animals with the hope that, you know, leaving those reproductive mature females in the water would help rebuild our population. One of the big things that came out of the research that we did It was we did a tagging study in the Sound where we were trying to answer the question with regard to a recovery of the population. And the results of that tagging study showed us

that, you know, most of the lobsters in the Sound were resident, and they functioned as distinct subpopulations. So which that meant in terms of recovery, the cavalry wasn't coming in that rebuilding would have to rely on enhanced local reproduction and more importantly, survival. We tagged in as many places as we could, so that yet we still had the ongoing commercial sea sampling aspect. So we were tagging aboard the, you know, the boats of cooperating lobstermen, and certainly, any lobsters that were in good enough condition to tag that came up on the trawl survey, we would tag as well, we heavily relied on lobstermen for the recapture information. The thing that I would point out is the importance of continuing monitoring of these resources. No, we had an active monitoring program through 2013. And as funding got tighter and resources got stretched thinner, it's really unfortunate that some things had to be scaled back. I strongly believe in the value of long term datasets, especially for long lived species, you have to be able to look at where you are in regard to where you've been to be able to put things in context. And in the case of American lobster in the Sound, I think it's still really to be able to characterize the population that's left, especially if, you know, we want the ability to be able to continue to understand its response to new or future challenges, and more importantly, to have the data that we need to run these complex models that ultimately indicate the health of the stock. Offset has always been a part of Connecticut's maritime history. And we still have some fishermen around whose families have been in it for generations. And I hope that we'll be able to continue to say that in the years to come. I always say it's bittersweet. Like I'm so glad that I saw the resource when we had so many around, but But yeah, the the bittersweet component of it was to to live through the decline, and then see the impacts that that had, particularly on the fishermen who relied on lobster for their livelihoods. I still talk to a few lobstermen today who exited the fishery completely following the die off. So it's just that relationship that we built working with them on the water and all. Every once in a while they'll give me a call and let me know what they're up to and what they're doing. And then certainly, we still have lobstermen around that are involved in the fishery just on more of a reduced scale. I still get excited when you know, somebody will call me and tell me they went out and hauled some traps. And I'll be like, Yeah, how'd it go? And when they start indicating that, you know, they're seeing large numbers of animals and the animals that they're hauling, they have obviously gone through the molting process and they look healthy. It's it's still get that excitement, that there's the potential, there's the potential for us to see more animals. It took an army, you know, there were so many different scientists who are so capable, that, you know, helped generate the research needs, and that helped develop the answers to the questions that we had. So without all of those people we wouldn't have the knowledge that we do today that not only answered the question of what happened, but gave us a lot more insight into American lobster, disease processes, and American lobster health characteristics, what we were able to accomplish in the years following the die off and what we've learned. I thought it was just amazing. If any positive came out of it, it was we have a much better understanding of lobster now. And hopefully that information like I said, is useful for people who are charged with managing the resource in areas where it's still doing well.

End.