Interview with Dave Martins

Narrators: Dave Martins
Interviewer: Janice Gadaire Fleuriel
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Project Name: The Working Waterfront Festival Community Documentation Project
Project Description: This project documents the history and culture of the commercial fishing industry and other port trades. The project began in 2004 in conjunction with the Working Waterfront Festival, an annual, educational celebration of commercial fishing culture which takes place in New Bedford, MA. Interviewees have included a wide range of individuals connected to the commercial fishing industry and/or other aspects of the port through work or familial ties. While the majority of interviewees are from the port of New Bedford, the project has also documented numerous individuals from other ports around the country. Folklorist and Festival Director Laura Orleans and Community Scholar and Associate Director Kirsten Bendiksen are project leaders. The original recordings reside at the National Council for the Traditional Arts in Maryland with listening copies housed at the Festival's New Bedford office.
Principal Investigator: Laura Bendiksen, Laura Orleans
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Abstract
On September 23, 2006, Janice Gadaire Fleuriel interviewed Dave Martins as part of the Working Waterfront Festival Community Documentation Project. Dave's parents immigrated to the US from the Azores, and while they weren't directly involved in the fishing industry, fishing was embedded into their way of life, and they fished frequently. He describes his educational background and work in fisheries science at the School for Marine Science & Technology (SMAST). During a week, Dave divides his time between fieldwork collecting data and processing their findings through written reports and ArcGIS mapping. He describes the importance of collaboration between scientists and fishermen in the success of his work. Dave shares anecdotes of his time in the field and reflects on balancing his work and family life.

Janice Gadaire Fleuriel: Ok, this is Janice Fleuriel. It is September 23rd, 2006, at the Working Waterfront Festival and I am interviewing Dave Martins and Dave, maybe you could just start by telling me where and when you were born and we'll see how this picks you up.

Dave Martins: Sure I was born October 22nd, 1971at Saint Annes Hospital in Fall River, Massachusetts.

JDF: Good. Ok, that looks like it's doing well so you can keep going from there.

DM: Ok.

JDF: Normally, with the fishermen types we like to find out a little bit about people's family background. I don't know if that plays into what you're doing but at least we'll have it.

DM: Yeah, sure. Yeah, ok.

JDF: So, you have, did your family come other countries at some point in their history?

DM: Yup. My parents immigrated here from the island of Saint Michael in the Azores, Portugal.

JDF: Oh. Ok.

DM: My dad is from the town of Halva, which is where the airport is in Saint Michael and my mom is from the town of Santa Barbara, which is near Capeliz.

JDF: Ok.

DM: And my dad immigrated here in 1955, I believe, and my mom came around the same time, I want to say early 60s —

JDF: Yeah.

DM: — is when she came. So they came as teens and basically worked in the textile industry in Fall River.

JDF: Ok, so they came here, but not necessarily from fishing perse.

DM: No. Right, right. But fishing was always a part of our life and a part of our family. It's just always something that my dad and my uncles and my grandfathers enjoyed and we went often on weekends fishing.

JDF: Oh, ok.

DM: It was actually for home consumption as well, not just for fun for recreation, but it was also because we enjoyed eating the fish.

JDF: Right. So that was here out of New Bedford, I mean Fall River.

DM: Yeah, out of Fall River.

JDF: And were doing [that] did you have a boat or what —?

DM: Yeah, my uncle had a small boat. Mostly we would go from shore. And sometimes we would go out on the boat as well and catch fish and then we'd bring that home and my mom would clean and prepare and cook the fish and my granmothers and so on and so on.

JDF: Did you catch the same fish that the commercial fishermen were catching?

DM: Very similar. Very similar. Scup and Tautog and Striped Bass and Bluefish and that sort of thing mostly.

JDF: Ok, so you're a scientist, you're a marine fisheries scientist.

DM: Right.

JDF: Maybe you could just tell me about what you're doing now and how you got into it.

DM: Ok. Yeah I grad...I went to college in Maine at the University of Maine. I graduated from there in 1993 and then soon after that in 1994 I trained as a fisheries observer in Wood's Hole and started working as an observer and that's when I gained a lot of experience working on a lot of different fishery gear types up and down the coast from Maine to North Carolina. I even did a trip out of Florida once where I recorded data for the National Marine Fisheries Service. So that was basically my training and background in the beginning.

JDF: Had you gone to college with the idea that you wanted to do this kind of work?

DM: Yeah. I got my degree in environmental studies with a concentration in marine biology. So I knew I wanted to do something related with my field, but I didn't even know that the observer type program existed until after when I was job searching and then I came across the advertisement for observers. And then I applied and I was accepted so...and I think it was a perfect fit for you know what I really loved, which was fishing and you know boats and being out on the ocean and so on and got into it. I initially thought that I would probably work as some sort of like environmental consultant doing environmental clean up or that sort of thing. But I was lucky enough to find this career which I'm really happy with.

JDF: That's great. So now you're working for who?

DM: So now I work for the School of Marine Science and Technology at UMass

Dartmouth. Essentially we're the marine campus for UMass Dartmouth and we do —

JDF: Is that what they call SMAST?

DM: That's what they call SMAST, right, right. So and we do what's called cooperative research with the fishermen where we undertake scientific projects but usually working in close collaboration with commercial fishermen. So that involves things like, you know, fish tagging studies where the fishermen show us where the different species of fish are in the ocean and we tag them and then we also rely on the fishermen to return those tags later and report back to us the correct information as far as the position, where the fish was caught, the fish's length and then from there we can study, once they give us the position, we can study how far the fish has travelled. When they give us the fish's length we can study how much the fish has grown since when it was released. So we can do those types of things.

JDF: So you're tagging them and —

DM: We're tagging them.

JDF: And then they're giving back the tags.

DM: Right. Exactly. I mean we're on the docks often training them and reminding them what information we need in order for us to do good studies.

JDF: Do you have certain vessels? I mean is it all the vessels? Is it certain vessels that you work with, you develop partnerships with?

DM: Yes, yes. Well, for the return information we rely on all the vessels.

JDF: Ok.

DM: Yeah we rely on all the vessels. Cause if not then that data's lost. If those fish are never recaptured and if the information is never reported back, then we don't learn anything. But as far as doing the tagging, you know for boats, we rely on boats to actually take us out there, catch the fish and then we tag the fish on board with them. There's a certain boat, certain number of boats that we prefer to work with guys that are interested in the scientific process and want to take us out. The guys that are more skilled and knowledgeable.

JDF: So it helps for you if they have that sort of appreciation of the science.

DM: Right. Absolutely. And if they have, if they know what our mission is and what our goals are and they're able to accommodate that. But we try to work with as many fishermen as we can.

JDF: Is this specifically out of New Bedford or other too?

DM: It's out of other ports as well. Out of ports like Scituate, Scituate Mass to the north near Plymouth. We work with boats of out Point Judith Rhode Island as well. So it's not just New Bedford. It's primarily New Bedford, but it's not just New Bedford.

JDF: But it's the southeast. You don't go, say, to Gloucester?

DM: Sometimes. Yeah, yeah. Depending on the project. The first cod tagging study that we did involved boats from Maine all the way down to Long Island, New York.

JDF: Wow.

DM: We distributed I think 80 tagging kits to something like 40 vessels or something like that. It was a coast wide program. But then we were specifically, then we shifted and specifically went to tag codfish out on George's Bank, then it was primarily boats from New Bedford that took us out to do the tagging and showed us the spots where the fish were and that sort of thing.

JDF: Huh. So you spend a fair amount of time on fishing trips and fishing vessels even though you're not fishing perse.

DM: Right. Absolutely.

JDF: One question that occurred to me when you talk about what you got into was had it ever occurred to you to into the just straight fishing end of it or have you always been interested in the science.

DM: You know I think about that often. I did, at one point when I was in college, my neighbor, we lived on the second floor in a tenement house in Fall River and my neighbor lived on the first floor. And he was a draggerman here out of New Bedford. And during one of the summers during my college break I told him I was gonna come up here to New Bedford and get a job fishing just for the summertime till I went back to school and he basically talked me out of it and said no you don't wanna do that. It's hard work. It's long hours. It's dangerous. Don't go. So I didn't. But to this day I always regretted that, not doing it at least that summer. Because I wonder if I would have enjoyed it, maybe I would have stayed with it. Maybe I would have made a lot of money that summer that would have helped out. You k now I would have had, at least, if I did it just for the summer I would have had that real experience of being you know a commercial fisherman, a crew member on a boat.

JDF: Right and you would have, I'm just comparing it to my own situation never having gone into teaching for similar reasons. There's something about getting talked out of it by somebody else that you never let go of the wondering.

DM: Exactly. Right, right. So I always wonder. And people even ask me today. You know like you're asking now or when I'm out at sea. If folks see me working that say, "Were you ever a commercial fisherman?" And I say no. "Well, did you ever think about going into it?" Yeah I've thought about it. But it's just.

JDF: Well, and of course, it's such a relevant issue for people your age because the whole issue of whether even fishermen these days are wanting their own children to go into it.

DM: Right, right. And I can tell you from the conversations that I've had with them that most of them don't want to encourage their kids to get into it. Just like my neighbor convincing me not to.

JDF: Cause they sort of love it, they just don't see how they can —

DM: Right, right. Yeah.

JDF: So what, what, how would you describe, I don't know how a typical work week for you, but there must be sometimes when you're on the boat, sometimes when you're not. Do you have a cycle on that?

DM: Yeah, usually what we'll do is we'll go out at sea and we'll collect a lot of research data and the way I look at my job is half the time is spent in the field and then the other half is in the office processing the data that you collect when you're out at sea. You know, writing reports on that data, producing maps of that data. Which involves a lot of time, cause when you're out at sea you're usually writing everything down on paper and waterproof paper and so on and then when you get back to the lab you gotta introduce all of that electronically into the computer. You gotta data, you know key punch all that information. So it's very time consuming.

JDF: So that's interesting. That would make the, cause of course the ships are now so highly technologized I guess. It doesn't mean you can just feed off their wireless signal.

DM: Right, no, not yet. But we're actually as we speak creating software and we've purchased a number of laptops to move in that direction to eliminate the paper step and just record everything on computer.

JDF: So, SMAST has created the software?

DM: NOAA Fisheries has created the software and we're working with them and they want us to use the software that they've developed but they're working with us to see what data fields we need to accommodate our needs and there's just slight differences, you know, like maybe we record the wave height, just as an example and maybe they don't then we'll say can you include the wave height on the software cause we're interested in that and then they can add that sort of thing.

JDF: What does waterproof paper look like or feel like?

DM: It's kind of waxy and it's slightly thicker than normal paper.

JDF: Do you need a special pen that doesn't run or anything?

DM: No it doesn't run or anything and we use pencil. You use pencil to record. And we'll

write on that. And if it's raining when you're out in the elements, or the sea spray and so on, if the paper gets wet you can continue writing and the paper won't fall apart essentially is what it is.

JDF: Well, maybe it's not a whole lot different. I dive and I have a slate and we can write on those underwater, but they're plastic.

DM: They're plastic. No, this is completely different, it's actually called write in the rain paper and there's a company, I think they're out of the state of Washington or something that produces this and it's pretty common in this, you know environmental studies/marine science field to have that paper. And you'll see it in a lot of the field supply catalogs, right in the rain paper. And it comes in all these different dimensions and you can photocopy it and they make little notebooks.

JDF: Can you then erase it once your data is entered or would you not do that anyway.

DM: You can, but we usually don't. We usually strike a line through it. Because in scientific procedure you never really want to, you want to keep a track, a trail of raw data all your edits so you know if there's some question later you can back track everything and say ok this was changed to you know whatever parameter from the original and so on.

JDF: And how would you say like when you're on the boat what would you're typical day look like? I know the fishermen sometimes don't sleep a lot.

DM: Right. It's very much the same as the fishermen's cycle. 24 hours a day and we sleep in between tows. You usually dawn and dusk are really important times so you want to make sure that your capturing data from the catches that occur at dawn and at dusk. And the same with you know commercial boats when they're out fishing you usually the tows made around dawn are the best and the tows made around dusk are the best. 'Cause that's when the fish are most active and feeding and so on. In the middle of the day, the fish are not really sleeping, but they're just not as active and they can be buried in the sand and you don't catch as much during those times so…

JDF: You mean, at the depths that they're getting caught is that still an issue of sunlight or is it an issue of something else?

DM: Yup, it's an issue of sunlight and tides and just the activity of predators and prey. For example, certain fish species are more active at night rather than during the day. Like skates, for example. If you're out on a commercial boat and you're going 24 hours a day, during the day when it's daylight hours, you catch few skates. And that's because they're buried in the sand, they're just kind of resting. But as soon as nightfall comes, those skates emerge from the sand and then they're hovering along the bottom searching for you know worms and clams and that sort of thing so you catch much more skates and dogfish at night because they're more active foraging and so on and then there's other species that are more at night, they're kind of hiding and not doing as much.

JDF: Of course, they're not really looking to catch skate so much.

DM: No. Not usually. Sometimes they target skates for the skate wing market.

JDF: Oh.

DM: They usually go to certain areas when they want to get skates and once, during a trip once they reach their limit of skates then they'll fish in another area to get their limit of cod and then after they get their cod then they'll go someplace else to get lobsters and after lobsters they get haddock and then come home. So usually when you're fishermen that go for skates they go in shallower parts cause that's where bigger skates are more abundant in the shallower sandy parts of George's Bank. And for skate wings they only keep the big skates.

JDF: Like how big, about three feet?

DM: Yeah, about three feet, about three feet, four feet across. Cause that's what, you know, the meat on the wings is thicker and you can get more out of it rather than a small, tiny skate you don't have much wing to work with.

JDF: The ones I've ever seen diving they wouldn't —

DM: Yeah.

JDF: They wouldn't do it.

DM: Yeah, no. These are big ones. Plus it's not even worth cutting small skates, you know. You'd rather catch big ones and you'd cut 'em and then you'd…

JDF: Where is the skate wing used?

DM: It's usually used in, like, processed dinners, you know TV dinners and fish sticks and that sort of thing.

JDF: Where they don't really say what the fish is, kind a generic.

DM: That kind of generic, right, right, right.

JDF: What is your work title?

DM: My work title is fisheries biology technician. That's my work title. And basically what my role is as a technician is when the University writes a grant to carry out a scientific project, then once they're awarded that grant and the funds come in for the grant then I'm the person who carries out the project that seeks out the fishermen, selects the boats, determines the schedule, figures out what gear and supplies do we need to do the work, for example with the tagging program I'll then purchase the tags, I'll figure out what has to be written on the tag so that the fishermen know what to do when they get a tagged fish. They phone number's gotta be on there, the address so they can mail in the tag. All that sort of thing. So as my supervisor likes to say, I'm the one who does all the heavy lifting. [laughs]

JDF: Now are you the one that actually tags the fish on board?

DM: Yup. I'll be the one who actually tags the fish.

JDF: And how do you decide which exact fish to tag? Like if you have this who catch — ?

DM: Uh huh. Well, usually we'll be interested in a certain species. Like right now we're tagging cod fish, yellow tail flounder, and some haddock. It's basically determined by what species do we need to know the most about. For example, we're really interested in cod because the cod stocks are quite low compared to historical levels and they've come up, they kind of go up and down, but they haven't really changed in the last five years. They're kind of on a flat line at the moment so we're interested in finding out why that is. Why aren't cod rebuilding faster, cause we're in a rebuilding mode with our fisheries right now with the closed areas and the larger mesh sizes and limited days at sea so we should be seeing a resurgence of cod so we wanna study that and keep our finger on the pulse of that. And with the tagging studies you look at the movement of cod. When you release it, where does that fish move to? And then from there you can judge why did the cod move there and you know what were the reasons. Was it for food? Was it for spawning? We're trying to identify spawning areas which is really important cause if we're going to manage cod and rebuild cod then we gotta know what are the populations that we're dealing with? What are the populations that we're trying to rebuild? You know is it all,
right now the population's divided into three. There's the Gulf of Maine cod population. There's the George's Bank population. And then there's the Southern New England population or I could stay stock, actually cod stock, three different cod stocks. And that's how cod fish are managed. So that's why it's really important to figure out are the cod maintaining within that discrete stock, so if you tag fish on George's Bank are they recaptured primarily on George's Bank or do they also go to the Gulf of Maine or do they go to Southern New England. What is the exchange rate between those stocks? Do they go up to Canada? That sort of thing.

JDF: Yup. Interesting.

DM: Yeah, yeah. And little is known, we know something about their spawning locations, but we wanna pinpoint that and document that. You know where do cod fish spawn and at what times of year? And does that change over time? So we're trying to create that history as well.

JDF: So a boat catches cod let's say, out of their catch, how many of them will you tag? Cause once you tag them, you have to throw them back, they can't sell them

DM: Right. When we go out and tag, there's two types of tagging strategies. One of them is to tag, go out with the fishermen when they're fishing and tag voluntarily, you know, any of the undersized cod fish that they catch that they're gonna have to throw back anyway when we're aboard we'll measure those fish, tag them and then release them. So there's that part and then there's also sometimes we'll actually charter the vessel, pay the boat to take us out just to tag cod. They can't retain any of the fish at that point. So essentially we're paying them for what they would bring back they get paid for but we're saying all this fish is gonna be ours and

we're going to tag them and release them and compensate you for your time and fuel and food and all that.
JDF: Wow. So when you do that that time wouldn't count towards their days at sea?

DM: Right. Exactly.

JDF: So they must, they must really think that's a good deal.

DM: Yeah, yeah. They like that, they like to be able to go out and not use days at sea and…

JDF: More money for the boat.

DM: Yeah, it's not a lot. It's not as much as what it would be compared to one of their normal trips.

JDF: But it's more than if it's sitting in the harbor.

DM: Yeah. Exactly. Yeah and they like going out and doing it. You know they enjoy it.

JDF: So the trip you go out on is like a 6, 7 day trip, is that what they go?

DM: Right. Yup, up to 10 day trips. When we do the dedicated tagging trips where we charter the vessel, though it's usually five day excursion. We'll steam out a day, we'll tag for three days and then we'll come back home the last day. And the way we select the fish in those cases then, we tag any fish, any cod fish that are fourteen inches and greater. Because a cod fish smaller than 14 inches we don't feel biologically that that fish of that size will be able to handle the tag, you know being injected and so on. So we don't want to, you know, damage those fish so we, only the larger sizes we'll tag.

JDF: Can you explain that technique of tagging a fish [inaudible] injection so how does that Work?

DM: Right. Basically we have a cartridge of plastic tags, they look like little pieces of spaghetti. They're about 4 inches long and they're yellow, made of nylon plastic and it's got some writing on it. First of all it has a unique number on so each fish will have a unique number and these tags come in a cartridge of about 25 and they're very similar to the tags on clothing, it has a little "T" here with the price tags. What they secure the price tags to. That plastic little T at the end and it's got the filament and then it's got the tag on the end. We'll we just have the T and then the filament part. The filament is thicker and it's usually encased in like a surgical tubing and it's round cylindrical and then it's got a writing on it all the way around it. And that all, those tags and that cartridge is inserted into what's called a tagging gun, specific gun and it's got a hollow needle on the gun and what you do is you load the tags into the tagging gun, then you take the codfish, you measure it, get it's size, someone records that on a piece of paper, then you tag the fish by inserting the needle just above the first dorsal fin, because that's all muscle in that back part of the fish where the, and where the fin rays enter the fishes body it's all muscle and

the tag becomes embedded in that muscle and those bones, those fin rays where they emerge from the fish, so the tag gets locked essentially between those bones and those bones are called turigeofors. So you inject the needle, squeeze the trigger and in that needle, there's a plunger that pushes the tag, that T right out the needle and it embeds into the fish and then after you pull the trigger on the gun you twist it and then you remove the needle and then the tag remains in the fish. Then the rec, the person who's recording with you out at sea will then record that unique number to associate that with the fish's length and then we'll record the position where we are in the ocean using the, you know the GPS latitude and longitude. And then the fish is released.

JDF: So you work in a team?

DM: So we work in a team, right. Yeah. And when the net comes on deck, the fishermen open up the net, then the catch spills out on deck and the cod and other species will be there and then the technician and the fishermen will all together scurry to pick up all the cod that are alive and put 'em in a live tank so we'll have a sea water filled tub and all the codfish go in there and then the other species that are on deck that we're not interested in studying at that moment, we quantify the weights and just what was caught and then it all goes back to the sea. And all that's left out on deck are the cod fish swimming in the tank. So then we go into the tagging/recording mode where we take a dip net, scoop the codfish out, put it on a wooden measuring board, measure the fish, tag it, someone records it, then the fish is released.

JDF: So on those trips where it's just about the cod and not about them catching fish are you tagging every single cod that's over 14 inches?

DM: Yes, yes yeah. As many as we can get our hands on.

JDF: I wish the tape could catch the glow in your eyes when you say that.

DM: Yeah [laughs] Yeah cause that's part of the challenge, finding the fish, you know and reaching your target goals. In our first year our goal was 10,000 fish. It was a two year cycle program, we wanted to get 10,000 fish each year and I'm happy to say that we reached the goal both years and we tagged over 20,000 fish, so.

JDF: Is there any carpal tunnel syndrome?

DM: No, I don't, but I've seen a lot of cod go by my face you know. Yeah in fact, when you're out there, you know at the end of the day when you go to bed at night in your bunk and you're sleepin' and you're dreamin' sometimes all you see is fish like in front of you goin' across the measuring board.

JDF: Do you really!

DM: Yeah, in your mind like, you know? It's wild.

JDF: Fish dreams. That could be a book!

DM: Yeah. [laughing]

JDF: Do you have a couple more minutes or…?

DM: Yeah, I do, yup.

JDF: Cause I still have quite a few questions.

DM: Sure, yeah absolutely.

JDF: Well, I was wondering, the technique is fascinating. Was it very hard to learn? Is it very hard to learn? I mean I think about when I used to just fish you know for like bass and you try to handle a fish and they flop and squirm.

DM: Yeah. Yeah it was quite a learning curve in the beginning, but as, it's one of those things almost you know any other task that you do, it becomes repetitive and it becomes routine and you figure out ways of, the best ways to handle the fish so it doesn't squirm as much. Usually you kind of hold it, the fish, almost like a football, like with both hands and hold it close to my body, that way it doesn't have as much room to wiggle and squirm and then when you lay the fish down on the measuring board you kind of lean over with your chest and set it down and then put both hands lay on the fish. But you, one thing I noticed is that I try to keep my hands away from the tail cause if you touch their tail, that seems to really set off some sort of instinct to move around and almost escape. And I imagine in my mind that must serve them well in the ocean if another predator comes and tries to grab their tail, they take off.

JDF: Oh true.

DM: You know. So I notice they're less sensitive in other parts of their body if you're grabbing them there. Yeah. Even in the tank, if they're swimming around and all of the sudden you touch their tail, they swim really fast, but if you touch their head or some other part of their body, they don't react as much.

JDF: Interesting. So when you're picking them up you're picking them up from the body Here.

DM: Yeah. You kind of cradle them, kind of from the body, you know from the head and then under the belly or just you know after the belly near the tail. Cause you also try not to hold them by the belly either so you don't squish their guts and vital organs inside and damage them that way so yeah there is some techniques that you gotta be conscious of, try not to like some fishermen will grab them by the gills, but you always instruct them not to do that cause the gills are the fishes lungs and if you damage those, they bleed and you know. You want them to go back in as healthy a shape as possible so you get the returns. We don't want to introduce biases, you know.

JDF: How much like would the fish weigh, cod fish that you're dealing with?

DM: Usually around 9 pounds, between four and nine pounds and as they get bigger they can get to like 25 pounds, 20 pounds. A hundred centimeter fish is probably about 25 pounds. They're quite big.

JDF: Yeah. If that started floppin' on you that would be…

DM: Yeah it's quite a wrestling match sometimes, you know? We always joke as technicians when we're out there that we're getting beat up by the cod and getting slapped by their tails and so on.

JDF: Oh do you get slapped in the face?

DM: Yeah sometimes, yeah. They really try to escape and you, you know, you have the whole body in your arms and going all the way, trying to squirm away. Yeah, it's quite physically tiring if you're doing that all day.

JDF: It sounds it.

DM: Cod wrestling yeah [laughing]

JDF: Ok. One of the things I sort of wanted to ask you, cause I noticed you're married by the ring on your finger, how does your wife feel about you being, I mean we always ask the fishermen how it is for their family when they're away.

DM: Uh huh. It —

JDF: Is she cool with that?

DM: Yeah she is. Cause she understands it's part of my line of work. She prefers that I don't go to sea as much, but she understands, because she actually is in the same field of work. She works with the Fisheries Observer Program and she used to go to sea as well. She doesn't so much anymore.

JDF: It's not foreign to her.

DM: Yeah, it's not foreign, but it's still, you know, a sacrifice for her and it's tough on the family and you know I feel bad going away and leaving her alone with the kids and having to do all the chores on her own and you know and she misses me when I'm away, but she's happy to see me when I come back.

JDF: Yeah, sure. It's the same old, where she's learned to take on stuff that maybe would have been yours around the house…

DM: Right, right, right. Yeah so. But it's kind of nice because it's like a renewal when you come back, you know.

JDF: Absence makes the heart grow fonder.
DM: Yeah. So, yeah.

JDF: How old are your kids?

DM: They're, my youngest daughter's going to be three in January. One of them's going to be three in January. Her name is Sophia and my other daughter, Marina, is going to be one in November on November 18th. So she's ten months right now and my other daughter's two and a half.

JDF: Have you gotten into yet where you've had to miss like a special day?

DM: Not yet, not yet, yeah that would be awful.

JDF: You might, I don't know —

DM: They would really miss me.

JDF: Maybe your job doesn't give you any more flexibility to say that trip doesn't work for me because my daughter's going to be in a dance recital or something.

DM: Yeah, right now it does. When I was an observer it didn't. When I was fisheries observer you basically had to go by whatever the fishermen's schedule was so if you had a family thing I mean, and you were out at sea, you missed it and that was it. But that was part of the job and part of the sacrifice.

JDF: What's the difference between being a fisheries observer and being a technician?

DM: Well, being a technician at SMAST we have a little bit more flexibility where we can tell the fishermen ok you know I wanna tag with you in the month of October, but let's not go in the beginning of the month cause I have a graduation and let's not go in the end because I have a baptism or something so can we go in the middle of the month? That would be great. So you can kind of schedule.

JDF: So the observers are just counting, no?

DM: Right, counting for the government for the scientific —

JDF: Whatever the fishermen catch.

DM: Right, and as technicians for the University we're doing like more specialized studies. It's very similar to observing where you're collecting the same data, it just has a different focus. The observers are just more general. They're collecting data on everything that's being caught.

JDF: And they're going out on the trips where the catch is going to get sold.

DM: Are going to get sold, right. So they're documenting, you know, that important part of fisheries management which is the commercial activities.

JDF: And so all the trips you're doing now are the ones where you're just scheduling the trips just to tag the cod.

DM: Right.

JDF: Oh, ok. That's interesting. That is nice in a way.

DM: Yeah it is, it is. But even though you do get sometimes you don't really have a choice, you know, you have to go when the boat's available to go and if you've got some sort of commitment, that commitment falls by the wayside, usually.

JDF: Well, I hope you never have to experience that, fishermen miss this and that.

DM: You know, I already have experienced it and we just kind of accept it with this kind of work. And also we try to, we try to blend in with the fishermen and their schedule and their activities and their line of work as much as possible. For example it'd almost be like almost like insulting or condescending if you told a fishermen well we've got this trip scheduled, but I'm not gonna go because I've got concert tickets or something and they'd be like well you know when I've go concert tickets and we've gotta go, we just go, I mean that's the nature of this business and you've just gotta do it. It's work, it's life.

JDF: And the impression I get from them is that when somebody is sort of on the science government end and they're more willing to take that kind of an attitude then it works better all around.

DM: Right.

JDF: They appreciate it.

DM: Exactly. They appreciate it. Because you're understanding their way of life, their sacrifices, what they have to go through. And you're entering into that same realm, you're becoming a partner with them and that goes a long way to building trust and understanding and you know…

JDF: The impression I get from a lot of the interviews I've done with fishermen in the last couple of years, just here at this festival, but that SMAST has really helped make a big difference in how the fishermen view the whole science, have you gotten that sense at all?

DM: Yeah, I agree. I agree. Cause I think the University's approach is that, you know, we shouldn't be doing science just for the sake of science. That has its value, doing science to answer questions, you know, scientific questions and so on. But UMASS Dartmouth's philosophy is also that we also need to serve the community with whatever we do, you know, not just our department, but I think the whole University policy. For example they built like that

textile research center if Fall River to come up with new textile technologies, you know fleece and that sort of thing and you know micro garments and fibers and that sort of thing. So our role, you know analogous to that, our role is to work with the fishing community, the fishing industry because the industry is such an important part of our community and answer scientific questions that are gonna address their needs. And I think the fishermen realize that we're here to help in a sense and trying to, you know, come up with better ways of fishing, new technologies, more sustainable fisheries and that sort of thing. Cause they also recognize that there needs to be conservation and we need to rebuild fish stocks and they wanna find the best ways to do that. And they want to get some help, some professional university help. And I think they look to us for that. Our approach is to try and do that in a way that has the least amount of impact on them as well, to consider what their social needs are that sort of thing.

JDF: And the other impression I get too and I know that probably in earlier days the fishermen felt this, maybe to some extent the do still, but government sometimes hasn't always wanted to acknowledge the fishermen's knowledge and the impression I get is that SMAST really respects what they have to offer, their knowledge.

DM: Exactly, exactly. And to me it makes perfect sense, to utilize that knowledge. I mean one of the best books every written on fish identification was written by, I only know their last names was Bigelow, I think it's Henry Bigelow and Shroeder, I want to say it's Charles Shroeder, but I could be wrong. Anyway Bigelow and Shroeder wrote this excellent book back in I think it was the 30s or 40s somewhere around there. Anyway they went out and did research on where different fish species lived and how to identify the fish and what do they eat and so on. But a big part of that book that's still used today, it's almost considered like the Bible of fisheries research and fisheries identification for here in the Northeast, a big part of that book was the fishermen's interviews. They went down and they interviewed fishermen and got information from fishermen on where the different species of fish lived at the different times of the year, what they ate, what they spawn. And we still use that today. And that should serve as an example that when you utilize the fishermen's knowledge, you produce so much better science. You know if you can integrate that into your science, you're all the better. I mean to me it just makes perfect sense. And one of the things I like to say is you know, when I go out and tag fish, I mean I can't tag fish sitting at my desk. You know I have to go out at sea, work with them and I don't necessarily know where the fish, cod fish are out at sea. I gotta use, utilize the fishermen's knowledge to take me there and not only that, I need them for the returns. I don't get any science or answer any questions unless I get the recaptures. And the fishermen are out there every day catching the fish so it only makes sense that we work with them. To me it makes the science better and it's much more efficient. If I was trying to do that all by myself and the fishermen out on one side, I wouldn't really get anywhere. Or I wouldn't get as far without incorporating them into the science.

JDF: And because of your rapport they were willing to —

DM: That's right, that's right. That's exactly right.

JDF: So, when they catch a tagged fish, is there a paper? How do they tell that it's a tagged fish. Is it all injected under or is something sticking out?

DM: No, something is sticking, the plastic surgical tubing part is sticking out. And we usually design the tag so that it's a noticeable color so like a fluorescent pink color or a bright yellow color that when they see the fish in the pile they'll be able to say ok that's a tagged one.

JDF: And they pull the tag out?

DM: Yup, they pull the tag out, they're supposed to measure the fish, write down the location. We've also distributed little like coin envelopes that we give to each boat and it's got all the information that we need on it. The date the fish was caught, what species it was, the location, the fish's length so they can keep that in their wheelhouse when they get a tag they can put the tag in the envelope and then write down all the information associated with that tag and when they come in from a trip, they can give me all their envelopes that they've collected that trip and say here's the fish we tagged. And we offer rewards as well as more of an incentive. For example, we'll give out a cap that says you know tagging program UMASS Dartmouth or something like that. They look forward to getting those hats.

JDF: Well, that's cool

DM: Yeah, so that's nice. A kind of token of appreciation for them taking the trouble out of their day to record that and set the fish aside and so on.

JDF: And is there any average number of tags that you can expect to get back on a trip or does it just really vary?

DM: It really varies. We usually shoot for a percentage return rate. Of the total fish that we tagged, we shoot for a percentage rate of 10% return.

JDF: Wow.

DM: And that for us is good. Right now our rate is at about 4%, 5%. So that's good, that's ok. In the past we've known it could be as high as 10%. So that's the goal. After like between 3 and 5 years you should have all the tags back pretty much that you're going to get back. You get a lot after the first year, second year and then the third year you start not to get as many at that point. But that data, even though you don't get as many, sometimes those are the more interesting returns because they've been out the longest and they've traveled the furthest and they've grown the most…

JDF: Have you had any surprises along that line about where…

DM: Yeah. Actually one of the fish that we tagged off of Scituate was then recaptured in the Taunton River but way upstream almost in Assonet by the Berkeley Stream Bridge. A fisherman caught it there. So one of the things we were wondering, one of the interesting things that became apparent was ok this, this codfish that traveled from the north, it either had to go all the way around Cape Cod through Buzzard's Bay and up the Taunton River or it took a short cut,

went through the Cape Cod Canal, Buzzard's Bay and then...so now we're wondering, did it come through the Canal or what did it do to get up the Taunton River.
JDF: [inaudible] heading towards the river?

DM: Well, we figured it was caught, recaptured in May, what we thought was that this cod fish was probably following herring that were going up the fresh water places to spawn. So it was following schools of herring and the anagamous fish.

JDF: Now how did, who caught the fish in the river actually?

DM: A fisherman fishing with a pole and line. He was actually fishing for Striped Bass. And he caught this cod fish.

JDF: [inaudible]

DM: Well, we actually put out notices in a lot of the fishing magazines so it's pretty common knowledge these fish tagging studies. But the tag itself has instructions on it you know. Please call…

JDF: Oh, it's big enough to fit.

DM: Yeah, it's big enough to fit, we try to keep it to the bare minimum cause there's not really a lot of space. The tag will say you know please call 508-910-6392 which is the phone number at my desk. It'll say UMASS Dartmouth/MASS Division of Marine Fisheries cause we're working together on this and then it'll say record recovery information. So when the fishermen get this tag, when they read it they kind of know that they should be doing something and calling someone and I think it has our address as well so you, if they mailed it to us then we could contact them.

JDF: Wow, that's so funny.

DM: Yeah. It's kind of like putting a message in a bottle and throwing it out to see if it comes back.

JDF: Do you get all sort of excited with each set of returns?

DM: Oh, yeah always. I always do. I always do. I love learning where the fish traveled after we released it.

JDF: And you're mapping that as well?

DM: Oh, absolutely.

JDF: Is that a particular kind of software program?

DM: Yup, we use ArcGIS to map the fish movements. And another real interesting portion of it is that we get a lot of returns from Canada. A lot of the fish that we tagged out on George's Bank then fishermen from Canada will call us and say yeah I caught one of your, one of the fish that you tagged.

JDF: That's cool.

DM: Yeah, so that's really neat and I'm really appreciative that they take the time to make a toll call.

JDF: I was going to say that's long distance.

DM: Yeah, that's long distance, international and so on. So we try to express our appreciation as much as possible and send them a hat.

JDF: Oh, that's nice.

DM: So, it kind of creates that connection between scientists and fishermen and we learn from them, they learn from us. Because the fishermen who recapture the fish are really interested in where it came from, where the fish originated from, where did it come from? Where was it released? How far did it travel to come to where I caught it and that sort of thing so.

JDF: One of the things I have in the back of my mind that I had wanted to ask about in the past years when I've talked with fishermen, the issue of regulations, I'm sure you're all aware.

DM: Oh yeah.

JDF: They have, a lot of them have expressed that they don't necessarily feel like the amount of years that the data's been collected scientifically is long enough to regulate based on that. I wonder what you feel about that.

DM: Well, in my opinion, I think that you need to keep tabs on it constantly. You know, yearly. Because then from that you can create historical data sets and then you can look at look at trends and you can look at decade long spans and say ok in these ten years this was happening with the fish stocks and now in this ten years it looks like we're in a different mode or a different cycle so you know my opinion as a scientist is the more data you have, the better. You can never have too much data as a scientist. But there's a law of diminishing returns, I mean you, the more data you collect, you have to be able to process that data. You have to have more people to process it, to manage it, to produce reports.

JDF: I guess in one of the interviews I vaguely remember there was sort of this notion that well ten years is just not enough time, you would need a hundred years to see whether what's happening now is truly a shortage or just a low in a century-long cycle.

DM: Yeah. Right.

JDF: Would you agree that's sort of where you have to head. Is to get that kind of trend information over decades and decades?
DM: I wouldn't say hundreds of years, but over decades you wanna have decades long records.

JDF: How long do cod live?

DM: Cod live to about I think 15 years, between 9 and 15 years, pretty much.

JDF: So a few decades should probably give you an idea.

DM: Yeah, yeah definitely. But you'll also wanna track, even though one cohort of fish, say fish born in 1990, you know all those fish draw up you know 1990, 1991, '92, '93 after about the third or fourth year, they start to become of commercial size where they're harvested in the nets you know and if they live longer and make it beyond that, you know, ok, maybe they'll die naturally by 2000, but that doesn't mean in 2000 you stop collecting data, you know you need to be collecting data on all those fish ages that are coming through, through the population.

JDF: As a scientist, what do you feel about the current set of regulations?

DM: As a scientist, I think we have a very good set of regulations in place right now. I think the closed areas are really good. I think the increased mesh sizes are also beneficial, and the reduced days at sea. What I find really alarming is that we've had a lot of these regulations in effect since about 1993, 1994 was when the closed areas came into effect and these are really large areas. I'm surprised that we don't see faster rebuilding. I'm surprised that stocks aren't in a better condition right now based on what was implemented in '94.

JDF: And is that for all the stocks or just cod?

DM: I think mostly for cod, but see with haddock we have seen rapid rebuilding and rapid growth of that stock and that's a success story. Same thing with scallops. Scallops is a huge success story. We've seen a rebuilding and those stocks are rebuilt. But we haven't seen that across the board with other species like codfish. And now I'm wondering if we're missing something. Is there something that we're not monitoring that's a reason why that the cod are not rebuilding, like pollution or predators or warming water temperatures. And maybe that one factor that we're missing, let's say for example, maybe it's water temperatures, maybe that warmer water temperature or colder water temperature could be, maybe it's beneficial to Haddock and Scallops, but maybe it's not beneficial for some other species based on their life cycle strategies and how they lay their eggs. Because that's a real critical part of a fishes life cycle and population growth is do their eggs survive after they reproduce. It's almost like a newborn is very sensitive in those early months and early days of life you know they can't be too cold, they have to have enough food. Same thing with fishes eggs. Once they're, the female lays the eggs and the male spawns it with sperm and then those viable eggs grow, when they, when they, when the fish hatch from the eggs and become small fish fry, they have to have food available right then and there. If not they starve and die. So it's those type of things. And if all those eggs die because those critical periods they didn't have the food available or if it was too cold or too hot then you'll have bad, what we call bad year classes, where the eggs from that year

class didn't survive. And then that has a domino effect later on because even those small fish that did survive from that year class, they go on and they produce eggs. We'll there's fewer of them so they're producing fewer eggs and the survival, the odds against their survival keep getting worse and worse until you have good strong year classes that produce lots of young fish as then as those young fish grow up they produce lots of eggs that conceivably all those will survive and then that's the rebuilding fish process. So my big fear is in regards to regulations is are we missing something. Is there something in the way we treat our waste water? Are we not treating it enough so that there are biochemicals out there that are sterilizing the eggs? Are there hormones or medications in the water that we're sending out into the ocean that are, and there have been studies in streams in Colorado where waste water upstream gets introduced and there's hormones from female birth control pills, contraceptives and those biochemical agents end up in the fishes tissues and then it makes the eggs sterile or it makes male sperm sterile and it's partly related to the chemicals in the human contraceptives.

JDF: Is the waste water where it would get discharged to make its way into the ocean?

DM: Oh yeah. Absolutely. It's discharged through pipes. For example, the New Bedford waste water treatment plant, once the water is treated, it's discharged through pipes just outside the New Bedford harbor. I mean that's every waste water treatment plant up and down the coast. For example…

JDF: ...George's Bank from there might make it as far as where the cod is.

DM: Theoretically, yes. Right, right, right. So for example with the waste water treatment plant in Boston, the [inaudible] there's an eight mile long waste water treatment plant that extends out into Massachusetts Bay and there's a, definitely cod in that area.

JDF: That's how far out that is?

DM: That's how far out that is.

JDF: Wow.

DM: The pipe carries the effluent eight miles out into the ocean. And you know the water is treated to the best that we can, but you just gotta wonder as a scientist are there chemical agents that are making it out into that effluent and it's clean water stream, but are there certain things, minute particles that are adversely affecting the fish populations that we don't we're not really monitoring right now.

JDF: You had mentioned Canada. Do they have a similar set of regulations? Is it at all feasible that Canadian boats are still over fishing the cod and that's why you wouldn't see them or is that not

DM: No, there's what's called now a transboundary management committee where Canadian managers and U.S. managers manage the stocks together now. So it's less conceivable that that's why cod are not rebuilding. As with most things, most things scientific, there's no one

simple solution. My guess is that it's a combination of factors. It's partly over fishing, it's partly water quality. It's probably partly climate change as well. All those things together are making it difficult for the cod populations to come back.

JDF: But you have the kinds of analysis that would show you how those are all, trends are all…

DM: Right. Well that's the challenge to us as scientists is to be smart enough to put all those things together and then…

JDF: Which is why you might want that on everything thing from wave height....

DM: Exactly.

JDF: How would wave height come into it?

DM: Well...

JDF: Can you not tell, but you just don't want to?

DM: Right. We basically don't know but it's maybe something that we would want to know in the future. Cause maybe that has something to do with mixing rates in the ocean based on the wave height and then you know if the wave height was I don't know high for a long period or time or a certain amount of time then that maybe caused the eggs to, in the ocean to mix more and be more turbulent and made less survival. Maybe it's better for survival. It could be. We don't really know yet. Or maybe calmer water is worse for survival or better for survival. That type of thing.

JDF: Wow. And of course if you started to see relationships between those then you'd know something's going on even if you don't know exactly what.

DM: Exactly, exactly. Right.

JDF: We always like to ask the fishermen so I'm gonna ask you the same. Do you have any stories about close calls or storms or any particularly memorable trips like that or have you been lucky?

DM: Not really. I've been pretty lucky. Most of my mishaps have been things like injuries on deck, you know, close calls that way where I could have gotten hurt really bad, but luckily I didn't.

JDF: Like when they were hauling gear?

DM: Yeah. Like hauling gear or one time I was picking fish and I was picking monkfish and there was one that was particularly heavy so I put the pick in and I was moving it someplace else and the fish pick slipped out and when it did slip out I didn't react quick enough and the pick

came at my face and hit me right in the head and the point kind of stuck in. It's like a few inches yeah, a few inches long, a steel pick. And I'm really lucky that I didn't get it in my eye. So I was really thankful it just kind of went in my forehead, actually right between my eyes.

JDF: Oh, that must have hurt.

DM: Yeah, so, that wasn't good. There was another time when I was removing a large shark that was caught, a large hammerhead. This was when I was a fisheries observer. And after I had measured it and got an estimated weight and so on I wrote it all down, I was pushing it back overboard and the hook that I was using, the meat hook got stuck in the fishes tail and as it was sliding out I was trying to get the hook out, trying to get it out and I couldn't get it out in time so then I tried to just hold the hook and pull back on it and rip it out so I wouldn't lose that metal hook because it's really expensive. And when I did that I lost the battle and the hook and the shark kind of went out together and I tried to hold on but when I did, I slammed the side of my head right on the steel bulwark and I basically like knocked myself out for a good ten seconds and I actually couldn't see for like 20 seconds and I was kind of sprawled out on the deck. Very embarrassed actually and trying to get up so no one would notice what happened, but when I got up I could hardly see and then the captain took me inside and sat me down for a little while and my vision came back and I just had a big lump on the side of my head.

JDF: I thought you were going to say you went overboard.

DM: No, no. I never went overboard. But that's the type of thing that could have happened. So just stuff like that that's happened to me. But no really close calls. I've been in some really bad weather. One trip it was a scallop trip in the early 90s and that was off of Long Island and oh it was so rough. It was high gales day after day after day. It was in the winter in January and it was scary. The boat was rocking back and forth and it was frigid cold. Oh the coldest that it's ever been. So I was real happy when that trip was over. [laughter] and we got off the water.

JDF: You know after doing all these interviews with people I'm just happy to acknowledge that I'm just not tough enough for that work. You can have it. It's amazing.

DM: Yeah. Sometimes I literally feel like an astronaut or something because when the boat's moving up and down, I mean think about it you know one second you're at the whatever, the zero level, the next second you're at a fifteen foot level, it's like, you know going up and down. And you're sitting in the galley and trying to eat your supper and you literally have to hold on to your cup and your plate cause normally what happens like if you've got a can of soda there, like what happens to me is I'll forget to secure it and the soda will fall into my plate and so now I've gotta eat my supper with soda mixed in and you've got chicken pie with coke. So usually the fishermen's trick is to get a heavy coffee mug, you put that on the table and then you put your can inside the coffee mug. So there's lots of little tricks like that.

JDF: Well, I could probably talk for hours more.

DM: I could probably, too.

JDF: I actually have another interview in five minutes.
DM: Ok.

JDF: I have one last question that I like to ask people. And unless there's something I didn't think to ask that you really wanted to say, but the question I have is what would you want the average festival visitor to come away understanding about your work and the industry?

DM: What I'd like them to come away understanding is that we're trying really hard to really get a handle on what's happening with fish stocks and we're trying to do that in the most efficient and effective way and our belief is that by working with the fishermen and incorporating their knowledge and their skills into the science that's gonna be part of the answer into rebuilding fish stocks and to finally solving this problem of, you know, depressed fish stocks.

JDF: So you're optimistic.

DM: So, I'm optimistic that the future will be bright. I mean we've seen it with scallops, we've seen it with haddock; we've seen it with striped bass. So I know we can do it. It's just how do we get there and you know I hope that they find the work that we're doing really interesting and I hope that they come away knowing that we're putting all our resources and our best efforts into rebuilding the stocks and finally reaching sustainable fisheries. It's good for the resource, it's good for the fishermen, it's a win, win situation in my opinion. I really do believe that this is a type of situation where both sides, everyone benefits really.

JDF: Yeah, it's interesting to me what you're doing. You really seem to have a passion for it, both for the fish and for the fishermen.

DM: Yeah. Thanks. I really do enjoy it.

JDF: Well, is there anything else you want to —

DM: No, I think, no.

JDF: Well, maybe we'll get you up again next year.

DM: Yeah.

JDF: Thank you so much.

DM: Thank you. This is my pleasure.

----------End of Interview----------
Reviewed by Nicole Zador, 1/10/2025