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Langton, Richard ~ Oral History Interview

Chiarappa, Michael

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Voices from the Fisheries
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Woods Hole, MA 02543

Interview with Richard Langton by Michael Chiarappa

Summary Sheet and Transcript

Interviewee

Langton, Richard

Interviewer

Chiarappa, Michael

Date

August 3, 2016

Place

Phone interview

ID Number

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Biographical Note

Richard Langton grew up north of Boston. He studied at Northeastern University and later earned his Master's degree and Ph.D. in marine biology at the University College of North Wales in the United Kingdom. Langton completed a post-doc aquaculture project in the U.S. Virgin Islands. He was then hired by the Federal government at Woods Hole. He worked in Maine as the Bureau Director of the lab in Boothbay Harbor and started a non-profit company in Tobago. He returned to work for the NMFS again at Sandy Hook and is editor of *Fishery Bulletin*.

Scope and Content Note

Interview contains discussions of: salmon, benthic community, National Marine Fisheries Service, Maine Department of Marine Resources-Bureau of Marine Science, Woods Hole, Sandy Hook, fish food, food chain, ecosystem based management, Gulf of Maine and coastal ecology.

Langton explains how he became involved in marine research and discusses his collaborations with other scientists as well as his contributions to marine science and our understandings of benthic communities.

Indexed Names

Ames, Ted
Auster, Peter
Bush, George H.W.
Grosslein, Marvin
Kerry, Senator John
Reed, Robert
Wigley, Roland
Schmitt, Catherine
Snowe, Olympia
Wilson, James

Transcript

Michael Chiarappa (MC): Okay. Hello, Rich?

Richard Langton (RL): Hi.

MC:I'm going to do a brief introduction here, and we'll start. This is Michael Chiarappa. I am the interviewer, and I will be conducting this interview on behalf of the Voices from the Sciences Center. I will be interviewing Rich Langton, long-time employee and scientist with the National Marine Fisheries Service. The date is August 3, 2016. Okay Rich, when I do interviews like this I generally like to start with something real basic, and that's, let's start with a bit about your training, and how you entered the field and began your work as a fisheries scientist.

RL: Okay, well I started college at the University of Maine and I switched to Northeastern University. Ever since I was a little kid, I wanted to be a veterinarian for big animals and when I was at Northeastern, I took a course in invertebrate zoology, and got intrigued and the professor there was someone I admired and so, in the end, rather than being in veterinary medicine, I got involved in doing marine biology. So, I then went to graduate school over in the United Kingdom. I did a Master's and a Ph.D. in marine biology, in feeding and digestion and bivalve mollusks, and then I came home to the United States. I did a post doc on an aquaculture project in the U.S. Virgin Islands, and then after that I got on the magical government register for getting hired by the Federal government, which at the time was a bit of a feat because they were only opening the register for like two weeks a year or something. Anyway, I got offered a job in Woods Hole to work on fish food habits; never having done anything on fish food habits. In fact the only thing I had in common with my research work in fish food habits was that I worked on stomachs in bivalve mollusks and I was now going to be doing [fish]stomach contents analysis for the National Marine Fisheries Service. I did have a pretty good background in invertebrate zoology. I'm a quick learner, I guess, so I started in National Marine Fisheries Service in 1977 as the task leader for the fish foods habits project. That's kind of a quick rundown on how I got to National Marine Fisheries Service anyway.

MC:Right. Where did you study in the United Kingdom?

RL: It was called the University College of North Wales at the time. It's now called Bangor University, and I was in the marine science lab in Menai Bridge. People in the field, if they know of any place in England, will call it Menai Bridge. The Menai Straits separates the mainland from the Isle of Anglesey. The lab was on the Isle of Anglesey.

MC: Yes, and did you study bivalves and mollusks when you were in Wales? In the United Kingdom?

RL: Yes, yes. I got both my Master's and my Ph.D. on, feeding and digestion in bivalve mollusks.

MC: Was that clams, oysters, uh?

RL: Yes. Oysters and mussels.

MC: Oysters and mussels, so you were studying two species pretty central regarding their consumption in the American fisheries scene, I take it.

RL: Yeah, but you know, my background has nothing to do with fisheries perse. We were doing a very academic study of how digestion in bivalve works. As I said, when I got offered the job in Woods Hole... This is kind of a fun story. Roland Wigley was the guy that was going to be my boss and when I showed up for the interview, Wig said "Well, let me show you where your desk is." And I said, "Aren't we going to have an interview." He said "Well yeah, but you know what? There were three people on the Federal register. You were so far more qualified than any of the other two, it's easier for you to say you don't want the job than for me to say that I don't want to hire you. So, you're it. It's your decision." It doesn't work that way these days, but that's the way it went. The job at Woods Hole was like going to Heaven; I grew up North Shore of Boston and so it was close to home and it was also Woods Hole. So you know I wasn't going to say no even though I didn't know much about [the subject matter], I hadn't done any of my research in anything that I would be doing for National Marine Fisheries Service.

MC: And to, I guess to repeat that, you were saying the digestive systems? And you were going to do that at Woods Hole?

RL: What I was in charge of was looking at what fish eat. Back in the '70s we started to worry about food chains and how fish stocks interact, and how they're interdependent and so forth. You know, our project was one of the first ones really to start looking at this kind of connection through common prey. I hadn't done any ecology-type work like that before, so it was kind of a new learning experience for me. Looking at it back 40 years, we were sort of on the cutting edge of what they are calling ecosystem based management right now.

MC: Oh yes. Yes. Well that's interesting. In my work, of course, as a historian, ecosystem management has become such a paramount issue. Right? And I guess a complicated one, and it sounds fascinating that you were sort of at the forefront of those initial investigations.

RL: They started the ground fish surveys in 1963. And by that, I mean, they went out with the trawls, I think in the beginning they were doing it in the fall. And this was a fisheries independent sample of the fish that were out there, and they started collecting fish stomachs back

then. I'm not sure who— well I know Marv Grosslein was the guy that was sort of behind getting the trawl survey started, I don't know if he was the brain child behind it, but he was really the one who got it going. And so, again it's like motherhood and apple pie, you talk to fishermen, "Well what do the fish eat?" Well, you go out and you cut open their stomachs. We were doing that on a large scale, and again, it was really the beginnings of ecosystems stuff.

MC: So you started with the National Marine Fisheries Service in 1977 right after the Magnuson Act. So you were right there. Did the passage of that legislation, did that create a certain energy or atmosphere in terms of your work at Woods Hole?

RL: I would say no. And I say that because, I taught a course at University of Maine this last year for graduate students, and I was saying I've been in this business since 1975 when we started with the 200 mile limit sort of thing. Back then it was such new legislation, I don't think anybody, other than getting the Russians, the Poles, East Germans off Georges Bank, I don't think anybody knew what it meant. Back then we were the Northeast Fisheries Center, and we are now the Northeast Fisheries Science Center, so somebody injected the word science into the game, but back then we did what I call more basic research. It was fisheries related, but we weren't driven by the needs of the management councils cause the management councils were just getting started, and it was really, I would say, a much more enjoyable time, because you'd just do good science? We looked at fish food habits because, well, we ought to do that. It wasn't because the management council wanted to know something. It wasn't because they were mandated to look at ecosystems based management issues. It was the logical thing to do and it was good science.

MC: Yes. I assume right in the years to come the management councils started to drive maybe some of the priorities that you folks had to adopt in your work.

RL: [laughter] There's no maybe about it. I think, it's funny. NOAA was sort of created by Richard Nixon. It didn't have any organic act that created it. It was just sort of pulled together. We used to be the Bureau of Commercial Fisheries, and then became the National Marine Fisheries Service in NOAA and so we didn't have any reason to exist other than the fact that we did exist and then all of a sudden you have the management councils saying, "Well, gee, we need to know this, we need to know that" and all of a sudden we're being sort of essentially told what to do as opposed to...that may be too strong of a word, but there was a reason for us to exist after the legislation was passed. I guess that's the best way to put it, and so we had to start to respond to that stuff. And I think, certainly over the course of my career, and for clarification, I haven't always worked for National Marine Fisheries Service, so I've got a different spin on this, but I think that we've gone from what I call a science agency to a management driven agency which I feel is quite sad, but maybe later on in the interview...

MC: No. That's something as an environmental historian and as a historian of science I know a bit about. Because you go back to the late 19th century and when Americans were first getting some of the most rigorous European-driven scientific education, they would often come back to the United States and want to do pure research and of course from various sorts of constituencies was, we'll fund your research but it has to have applied outcomes. So I know what you're talking

about, how that I won't call it a problem, but I see what you're saying. Sometimes you want to have...

RL: It's not a problem, but yeah. I think having to justify everything you do in terms of how does it help management is wrong. I think that if you look at the National Marine Fisheries Service versus say universities and you look at corporate memory in a government agency versus the universities, they are two different things. You can't replace a university scientist. I mean you can't replace a government scientist with a university scientist, at least in my opinion. You know I think that... I have plenty of academic friends, I'm an adjunct professor at the University of Maine, so I know these guys pretty well, and they chase the money, and they chase whatever is trendy at the time. And I see more and more that the National Marine Fisheries Service is sort of semi going the same way, but the bottom line is, we have for example, the trawl survey that has been an anchor since 1963. You could argue that the reason you have the trawl survey is it's easy to bureaucratize, it's easy to fund because you know what it's going to cost because you know what it cost last year, and it makes it easy for government.

On the other hand, I think that if you're not so cynical it really is a fisheries independent assessment of what's out there for the entire population of fish, not just where fishermen fish. And those are two completely different things and they're two completely different attitudes. I think that fishermen now... I believe, back in the beginning of management council business, fishermen thought it was just a pain in the neck to come to council meetings and we were wasting their time. Now they realize there is a reason after they have raped and ravaged the resource to the point where we've had to cut back on the fishing fleet significantly. I think there's some realization that management does serve a purpose. But it's kind of taken a long time to come to that balance.

MC: Yes. Yes.

RL: I'm kind of rambling here.

MC: No. This is very good. This is exactly the kind of information we're looking for.

RL: There's one thing I should tell you before we get too far along. I worked for National Marine Fisheries Service from 1976 to 1980 and then I came up to work for the State of Maine from 1980 until 1999. I came up here as Director, initially as Bureau Director of the lab in Boothbay Harbor. I stayed there twenty years and then I started my own non-profit company where I was working on marine biology-type issues. We were trying to build a lab down on the Island of Tobago in the Caribbean. I had a company called The Buccoo Reef Trust, which is a non-profit. We ran into financial problems in 2009 and I ended up working for the National Marine Fisheries Service again in 2010 based in Sandy Hook which is where you were originally trying to get hold of me. But I moved to Orono a couple years ago. I kind of look at things [differently]. You started the interview saying I was a long time employee of National Marine Fisheries Service. I'm not really a long-time employee in one sense but I have a long-time perspective of fisheries from both the Federal point of view first, then the state point of view, and now the Federal point of view. And it's kind of interesting to see how things have changed and are changing.

MC:Yes. What was the name of the non-profit you just mentioned it – the title?

RL: B-U-C-C-O-O Reef USA was the U.S. nonprofit and the Buccoo Reef Trust was a non-profit, in Trinidad and Tobago. Our objective there was essentially to...One, I'll tell you, I was 50 years old. I was sick and tired of going to plan development team meetings and just the bureaucracy of fisheries management. And you know, sort of out of nowhere this opportunity came up and I found a billionaire and we started down the road to try to build a lab down there. And I was thinking I was escaping fisheries management problems and issues but, the problems are world-wide you know. So it was kind of interesting to go down there with different species, slightly different situation but many of the same problems there that you have here.

MC:Yes.

RL: Anyway.

MC:Yes. Just for clarification, the years and the name of the agency you worked for in Maine was...

RL: The Maine Department of Marine Resources and it was the Bureau of Marine Science.

MC:I see. Okay.

RL: I was Bureau Director from 1980 to '85 and then I stepped out of that position and became a senior scientist there. I was fed up with being administrator and also was fed up with the Commissioner. I told him he could have his job back and that's the way we left it. Then I got back into, at that point in time, the National Undersea Research Program [which] was starting [and] giving us a lot of opportunities to go study the benthic community in the Gulf of Maine using manned submersibles and remotely operated vehicles and that's what I focused on.

MC:When you were in Maine.

RL: Yeah.

MC:Um. That was the focus of most of your work during those years when you were in Maine?

RL: I mean the first five years was running the lab. The next five or seven was doing that kind of stuff and then we got into [answering] questions. I got sort of dragged back into...instead of doing pure research, I got dragged back into fisheries issues. And one of the big questions in the 1990s was fish stock enhancement. The lab in Boothbay Harbor was founded as a fish hatchery. The idea that we could re-stock the ocean with cod fish because back in the early 1900s of course the cod stocks were, you know, stressed and if we only had those conditions today, right? But anyway, the Norwegians had just cracked the egg so to speak, and learned how to grow cod up to 20 centimeter size that they thought they could release into the wild. Our fishermen in Maine came to us and said, "Look, motherhood and apple pie. Why can't we grow fish and put them back in the ocean and catch them a couple years later?" And so I spent a few years doing that kind of work.

MC:Yes. Yes.

RL: When people ask me what I've done, I usually tell them I'm a marine opportunist. I kind of had an opportunity to try a bunch of different things. I haven't done just fish food habits, I haven't done just benthic community stuff, but sort of dabbled in all these things. Once I learn how to do something, it's like, why do I want to do that for the next 50 years, let's learn something new.

MC:Right, well, I know that the Gulf of Maine has been a real hot bed for a lot of researchers. A couple of years ago, I gave a talk that was dealing with, it was somewhat unrelated, it was but it wasn't, it was looking at the intersection of environmental history and fisheries history, but the focus of the conference was on the Gulf of Maine and ecosystem management, and I know that of course, the Cod stocks in that body of water and the research has been pretty conspicuous. Tell me his first name...Ames who did the work.

RL: Ted Ames. Ted got his MacArthur Genius Award. It's funny because I've known Ted for years and when I worked for the State of Maine and I was going to the plan development team meetings back when we were working on Amendment One, Two and Three. This guy Ted Ames would write letters telling us, giving his opinion and all that stuff, and it was like, "Oh no, not another letter from Ted!" because he was a contrarian you know, he was always thinking a little bit differently! But then a number of years later, I was down in Tobago and my wife calls me up and says, "Hey! There's this guy from Maine who got this MacArthur Genius Award...Because Ted had written this paper about spawning grounds of...I think cod and haddock and the MacArthur people liked that. So anyway,at first I couldn't think who it was but then she said it was Ted and I just had to chuckle because I mean, it was well deserved. The guy has stuck to his guns and he's actually been a force in making people think a little bit differently.

And he and his wife Robin now have thePenobscot East Resource Center, which I think he funded with some of the money from his grant. And they're working with the fishermen ...they're trying again, to keep fishermen in business. Robin was Commissioner at the Department of Marine Resources at one point in time when I worked there, so...When she came in and her whole approach was, "Well, the fisherman are on the water all the time and we need to listen to them. They have all these hypothesis..." and to some extent we were, as scientists, it's like, "Oh yeah, right, I don't want them, being the fishermen, telling me how to do research any more than they want me to tell them how to fish. But I think the end results of those kinds of discussions is that now, it seems as if we're talking a little bit more to each other and I don't think fishermen totally buy into the groundfish survey, but they don't discount it either as something that used to be like, "Those guys can't fish. They don't know what to do." Because we're not trying to do exactly the same thing they are.

Again, I think what you're doing is kind of neat because you really do have to look at this management process almost over a generation, and I was sort of the first generation that came in at the beginning, and we're here 40 years later. Kind of neat.

MC:Oh, yes, yeah, you're right, there's been a lot of changes right, just in terms of science and the approaches, and the interactions with various constituencies, and the machinations of the

councils, so it really has created a more complex complexion, if you will, of sort of this mosaic of fisheries and the science that's involved in managing them.

RL: I'll tell you, I think the next 50 years is going to be even more interesting, or as interesting, because the ocean is going to be covered in windmills, and even though we're supposedly building places that we aren't going to exclude fishermen from. They are going to end up as marine protected areas to some extent. And I think you're going to change the whole community out there, and plus there's climate change and ocean acidification, that kind of stuff that's even on top of it. So it's really, it's quite a fascinating business to be in, because it's never quite the same.

MC: Yes, yes. During those years leading up to your rejoining the National Marine Fisheries Service, was there a particular project or research agenda that was most compelling or satisfying for you during those years before you came back?

RL: Well, two things really. One is, we started to look at trawling impacts in the Gulf of Maine, and elsewhere but we did a survey on Fippennies Ledge out in the middle of the Gulf, in the middle [of the] 1980s, and then the second year went out and it had been trawled extensively and so we were able to see the effects first hand. I mean, we were down there on the bottom going over in the submersible so you could see the effects of fishing pretty dramatically. And we wrote a paper... a friend of mine and I wrote a paper called "Faunal Associations in the Gulf of Maine" (Journal of Experimental Marine Biology and Ecology 144:157-171) or something like that anyway... And we published it in 1990 and I've kicked myself ever since then because if I'd put the words "trawling impacts" in the title, it would have been a really popular paper. As it was, it was too academic and it gets quoted, but we were ahead of the curve in the sense of seeing trawling, impacts, but back when we did that work, nobody was that concerned about it, and it was just one of those things that was the tip of the iceberg. So that to me was kind of fun to do.

And then the other thing that I did was this fish stock enhancement. I wrote three or four papers with a guy named Jim Wilson up in Orono. He's an economist and we looked at the idea of a put and take fishery, where you raised fish in a hatchery and you put them in the ocean, and you caught them two years later. That didn't make any financial sense. Then we looked at the life history of cod, and tried to model the life history of cod, and what happens if you dump hatchery fish in the ocean. Unfortunately, there's no way to know in the sense that we couldn't mark the cod back then. We might be able to do it now genetically, but you couldn't really tell whether your fish were derived from a hatchery stock or not. But the model showed that if you waited 20 years, you actually had an impact so that the fish that you put in the ocean, even if you killed off 99% of them which is what normally we assume the mortality rate is, they did reproduce and do what fish do, and had a positive impact on the stock. There are a lot of assumptions in that model, and it's very theoretical, not practical, but it demonstrated that stock enhancement might not be totally ridiculous, but it would have to be a government-funded, long-term effort, and also, in our model we assumed ecological stability which as we see with climate change wasn't a very good assumption. Those are the two areas that are I worked in, that I thought were, scientifically, very satisfying.

MC: Looking at it historically, in terms of the rise of hatchery operations in the late 19th century through the 20th century, I always assumed that the stock enhancement through the hatchery process was more feasible in more contained ecosystems like rivers or the Great Lakes where I did a lot of research when I was at Western Michigan University. But I guess in the oceans, it gets a little more complicated.

RL: Well, they're still doing a lot of, if you go to cod stocking, the Americans stocked into the 1940s, the Norwegians stocked into the 1970s, and again if you go back and you look at some of the old arguments, it was really kind of fun back then I would think, 'cause people had a very strong opinion, sort of like what we think of the current election: either you like Trump or you don't like him, there's no in between. But I won't get into politics. Anyway, I think that the salmon people are still dumping hatchery reared salmon in the ocean and those salmon are going up to Greenland and coming back, so you know it works, but again, they throw in thousands of fish and then they might get a few back. One of those things where if you really wanted to be...[to] take an economic perspective of salmon stock enhancement, you wouldn't do it. But there are historical reasons. There are ecological reasons, there are other reasons that I think...not to mention it's an endangered species, that justify the whole salmon project, which is what goes on up in Orono, Maine.

MC: Yes, so, now what led to you rejoining the National Fisheries Service, and again what year was that in? 2010?

RL: 2010. Basically, I needed a job, and this, maybe you want to turn off the tape recorder, I don't know, but only in the Federal government this would happen. I worked for them 30 years before and I became a career Federal employee because I worked for them more than three years. In other words, I got the academic equivalent of tenure. So a fellow named Bob Reed retired from the Sandy Hook lab, and he did benthic work and a friend of mine in the National Marine Fisheries Service knew I was looking for a job and told me about Bob's job. So I got on usajobs.gov and applied for it. And because I had worked for the Feds 30 years before and because I'd actually taken a class in ichthyology 40 years before, which was a requirement for this job, they hired me. I kind of jumped ahead of some of the veterans and people like that. It also probably didn't hurt that I knew the Deputy Director of the center at that time, who was one of the guys that started with me years before. But it was a quirk of fate. I would have been painting houses or working at Walmart...I don't know. I would have had to find a job. My kids were in college, so getting a job in Sandy Hook almost made me want to go to church! That kind of thing.

MC: [laughs] Right. So when you arrived at Sandy Hook, what projects were you assigned, or what was...

RL: I was the Branch Chief for the Coastal Ecology branch, and we were doing more habitat related work, which again built on the stuff that I'd done in the Gulf of Maine, the benthic work and also the fish foods habit work. The coastal ecology project used to be a lot bigger than it was when I started, I don't know who you've talked to down in Sandy Hook yet, but it was like 13 or 14 people. When I got there, there were eight. When I left there were probably about six, because

the benthic realm sort of gets ignored by Woods Hole. Anyway, we were doing habitat work, things like deep sea corals, which are becoming an important part of the fisheries management process, because we're trying to protect some of the deep sea corals, because they're slow growing, that sort of thing.

And then, just a little before I transferred up to Maine here, the project in offshore wind started to take off and we went to see BOEM, which is the Bureau of Ocean Energy Management, and they wanted to get some baseline information on what the benthic communities are, and areas where they're thinking about wind farms, identifying blocks of the sea floor for people to go out there and put wind farms. And that's part of what the branch is still doing. They've just reorganized, so things are a little bit different now. And to me, as I said, I think that the whole wind energy business will take off. If you've been to Europe at all and seen it...and I was over in England last June, and places that didn't have a wind tower near them are covered in them now, from days when I was a graduate student to now. We're going to see the same thing offshore, particularly in the Mid-Atlantic Bight area, and I think that that's one of the things that NMFS really should pay much more attention to.

The Northeast Fisheries Science Center is fish driven, for the most part, and it's fish driven primarily because, I was the Acting Deputy down there in Woods Hole for three or four months in 2012, it seemed like we got a letter from John Kerry or Olympia Snowe, which were two Senators of the day, telling us that we needed to do another assessment, or we needed to do something to keep our fishermen fishing. And this was sort of what I was getting to way back in the beginning, because admittedly I was a low down on the food chain when I first started working there, but you didn't feel the politics, but I tell you, you feel it now, and those kinds of letters go to the Headquarters in Silver Spring, and then those people jump through their whatever to try and make sure the politicians are happy, because the politicians ultimately control our budget. A lot of stuff is fish driven, although I will say, we just got an e-mail from our Center Director, who is wanting to turn over a good portion of the survey that we do to industry, to work with them so that they're much more directly involved. Now, that could be a good thing or a bad thing. It's a good thing if it frees up ship time on the *Bigelow* so we actually go out and do some benthic work and some other work. It's a bad thing if they're just going to mothball the federal ship and charter the fishing industry people just to give them something to do. I think five years from now, call me up, well I won't be working there then, but call up somebody and see what's happened, because it could be very transformative. It might turn the Northeast Fisheries Science Center into a Science Center rather than a management...fisheries management driven center but I'm not going to hold my breath on that one.

MC: Right, I recall from the conference I attended on ecosystem management in the Gulf of Maine that, per your comments on offshore windfarms, there was a lot of concern in terms of how these would affect the marine ecology, and there was this whole rise of marine spatial planning to, I guess, deal with the quandaries that might arise, could you elaborate a little bit on that in terms of what you see, what are some of the issues?

RL: Well, let me put it in a broader context. You know, when I first started in Woods Hole, we had a computer system, which probably was you know...well I know it was less powerful than

my simple PC, and that was for the entire Woods Hole Oceanographic/National Marine Fisheries Service community. We basically used the computer to sort databases. We got in four runs a day. You go in in the morning, and then you go get coffee, because you had to walk up the street to get your computer printout. At lunch time you got another computer printout, you know, mid-afternoon coffee, and then it's the end of the day. We didn't have the computer power to start looking at some of these more complex issues. Nowadays, you have very fancy models, in fact everything is a model these days. You almost don't need reality anymore because you can just go to model something and come up with some statistical solution. The day of the biologist is perhaps numbered... I'm being cynical but I feel that way sometimes. And because of this incredible technological change over the course of my career, the whole... how you deal with data, how we actually store data, I mean for years people talked about the metadata, and I kind of look at it and am wondering, what's metadata? And then you realize that metadata is what I used to keep in my file cabinet, and it would never see the light of day. But now, you have to have all your data, whether it be good, bad, or indifferent sort of, on some computer drive, so that somebody, hopefully anyway, 20 years, 50 years from now, can look at it and kind of, throw it into some kind of different analysis. But you know, the analytical technology and the ability to just handle large quantities of data has revolutionized all of science. I mean it's revolutionized the whole world, but particularly from my little perspective in fisheries, they're doing stuff now that we only dreamed of.

MC: Yes, in terms of the science and the management issues, what challenges are at this point, what problems are posed by offshore windfarms?

RL: [The] problems are... I don't see them as problems as much as perhaps solutions in the sense that we certainly... I remember talking to one guy who was a fisherman and I said... I had a map of the Gulf of Maine. I said, "Ok," so I forget his name now but... and I said, "Where do you guys fish?" and he pointed at the map and said, "Here." And I said, "Well, where here?" and he said, "Anywhere." And I said, "Well, how do you do it?" And he said they just put big rollers on their gear and they could go over anything. And so the magnitude of the fishing impacts has been enormous. We did this back... Peter Auster and I did these back of the envelope calculations and said that the equivalent of Georges Bank is towed three times a year but the reality is that certain tows get done over again and again and again. And so you are fundamentally changing the benthic community out there, and so getting it back to wind power... by putting wind power structures out there, you're not only eliminating possibilities for fishermen to fish, you're allowing benthic communities to recover. You're also, because these towers – many of them – are going to be fixed to the sea floor, others will be floating, but they are going to offer a surface on which benthic animals can settle. That's like having, as I was saying to my students, it's going to be sort of like having McDonalds on every corner and if you're a fish, where do you have to go? You just go to the nearest wind tower and have a munchy lunch. It's going to be a very different system out there because of physical structures that are going to be there that have historically not been there.

MC: And since the fishermen have to steer clear of those areas, it's going to offer some refuge or sanctuary for fish I assume?

RL: Yes, absolutely. The fishermen are...the plan is not to exclude fishermen, but the reality is that it has to. Because fishermen don't want to hang up their gear any more than the windtower people want to have the fishermen hang up their gear on their windtower. So I think by some sort of mutual agreement...it's like closed areas now, you know, you have a closed area in Georges Bank, for example. Where do the guys fish? They scour the edges of it, waiting for fish to come out. And you're going to see a lot more of that on a finer scale as you have wind towers being built. Again, that's my opinion. You may get something different from somebody else.

MC:Right, I understand. In terms of, since you've worked for the Federal government, and you worked for a state agency, in terms of the policies that influence the research that you did as a scientist. How might, you're kind of an interesting situation, I mean, I'm not sure how many scientists sort of made that switch between the Feds and a state bureaucracy, but in terms of policies, as a scientist, is there anything that struck you in terms of the differences, in terms of how policies influences the work that you do as a scientist?

RL: Sure, the states can have laws. We control within three miles. We can have laws that are stricter than [the] Federal government, but not[more lenient]...I forget if I'm saying this right... We basically control out to the three-mile limit. We can put more strictures on it, but we can't put less strictures on it than the Federal government. So the Federal government has overarching control if you will, but we still can set our own size for lobsters, for example. We can set our own size for scallops or control fisheries in-shore. And so when I worked for the state, that was more of our focus and, in fact, we didn't really think much about what happened outside three miles.

With the Federal government, it's just the opposite. People asked me, "What about the lobster fishery?" They asked me that now and I said, "I don't know. Ask a state biologist. I don't know anything about lobster fisheries anymore." And so there's that mental switch but the state is also represented on the plan development teams for the management councils. I used to be on the plan development team for groundfish and so I'd go to these meetings, and the Feds would make all the statements that they wanted to, and we would say, "Well, how does this effect our fishermen or how does it not affect our fishermen?"That kind of thing. What's interesting now though, is because of, again back to the offshore wind stuff, you're seeing states particularly like New York and New Jersey...Rhode Island all deciding that they should do research outside the three-mile limit, and I have to chuckle because as a state biologist, we didn't care. There was no reason for us to care, but now with the advent of offshore wind, these states do care, because they want that wind power to come into Rhode Island and New Jersey so they can tax it, then they ship it off to somewhere else. So, there's again a not-so-subtle shift in the attitude of state government towards the Federal government in terms of fisheries issues.

MC:Yes, I'm curious, one of the things that's always intrigued me as a historian, obviously I'm not a scientist and I am not in a field based situation like you are, I do a lot of field work as a historian. But I think of these various stations, research stations, and it sounds like you've worked in a variety of research stations or field stations, or at least those types of contexts. And over the course of your career, what types of experiences and differences and similarities might you comment on, or some you may have enjoyed more than others perhaps. I'm always intrigued

by how the context of being in the field, either might be satisfying for a scientist, or drive certain questions obviously. Do you have any comments on that sort of situation?

RL: Well, I guess in the Northeast Fisheries Science Center, I'm probably the only guy that's worked in Sandy Hook, Woods Hole and actually Boothbay used to be a Federal lab before it became a state lab, and now Orono. So I've worked at both extremes within the Northeast Fisheries Science Center as well as the directorate in Woods Hole. And when you're in the satellite labs like Orono or like Sandy Hook, you kind of feel like you're out of it, because everything is Woods Hole-centric, and I think the other guys at Sandy Hook would tell you the same thing. You kind of feel like you're second class citizens. We get the crumbs so to speak. I don't want to overblow it, but there certainly is, not very many times that you see the Center Director in Sandy Hook or in Orono, and understandably so. The majority of the people are in Woods Hole or a place like that, but there's sort of a different attitude.

A few years ago when I was down at Sandy Hook, there was some talk about closing the lab, and I guess it was Congressman Pallone and the senator who's retired and I cannot remember his name kind of got into it and said, "No, you're not going to close the lab," you know. So, as a scientist there, you're kind of like, "Do I have a job tomorrow, or not?" Particularly I think as a government scientist because the one thing about working for the government usually, is kind of getting back to that institutional memory and stability, you know, and then all of a sudden your lab is going to go away. They never would talk about closing the Woods Hole Lab. They did close the...they did move a bunch of people from Sandy Hook up to Woods Hole years and years ago back in the 1970s, the Feds actually closed the Boothbay Lab in the '70s, and the state took it over, which is where we then built the new DMR building that's there now. But I mean there's...science-wise, the difference is really...like at Orono, everything is salmon oriented, it's a very small group. In Sandy Hook, we're much more habitat oriented than Woods Hole. That was the focus. So you have different areas that we had expertise in, I guess, but the salmon people, and the habitat people, I think probably their undercurrent feeling is that we weren't as important as groundfish.

MC: Oh, I see. In terms of the particular projects you get to work on, I was wondering if Woods Hole gets more compelling topics than Orono, or a place like Sandy Hook. I mean there's that issue, or I'm sure also issues of funding and infrastructure, I mean I'm sure those things enter into it as well?

RL: Well, to some extent, the salmon project up here is quite well funded, because it's an endangered species, and salmon is charismatic. It's helpful to work on a charismatic animal. Sandy Hook, even with the advent of the wind, I don't think we've reached a level of consciousness in the Center, but we get our money from BOEM instead. So we're doing what we want to because we have money from outside as opposed to the budget that pays for the groundfish work which is pretty much all internal. I mean, in Woods Hole they still have the fish food habits project, and that's benthic ecology which is pretty much the same kind, it's related anyway to the kind of thing they're doing at Sandy Hook.

And in fact, they've just done this new strategic planning exercise in the Center where they're trying to show or create cross-cutting initiatives. In other words, how do you make the habitat work that we're doing, how do you incorporate that into the stock assessment. Sort of bring the expertise that we have in Sandy Hook much more in line with some of the fisheries management issues that are driving things for the moment. So again, there's an effort, we'll see if this effort really is sustained. I think it has to be. The other thing that drives it is budget. We're constantly dealing with zero increases in budget, but we have increases in salary that are dictated by the unions or the employment agreements that people have, and so you have more salary, less money to do projects and you got to balance all this stuff out, it's not easy.

MC:I liked your comment about the charismatic nature of Atlantic Salmon, and you think about how some of these cultural issues influence the priorities and the energy that gets expended on certain research.

RL: As a historian, you should read a book it's called "*The President's Salmon*" by Catherine Schmitt. She's at Sea Grant in Orono. E-mail me and I'll give you her name and address. She discussed the history of the salmon fishery and how for a number of years, the first salmon caught in the Penobscot River was sent down to Washington D.C. and presented to the President of the United States. And that ended with George Bush (the first), because the whole fishery stopped. The whole recreational fishery is gone, but she kind of goes through each president, whether they like fish or not...that kind of thing. It's quite a fascinating book. She's an interesting person to talk to.

MC:That sounds fascinating!

RL: E-mail me or just do a search for "*The President's Salmon*" and Catherine Schmitt. It's a good book. I had my students read a bunch of it when I was teaching this course. Cause again we talked about the salmon and the demise of salmon, and some of the efforts to try and bring it back.

MC:A few of your comments reminded me of my interview with Linda Stehlik who I interviewed, and she placed a bit of emphasis on her work relating to estuaries, and since I do a lot of work on the history of the oyster fisheries, and so I'm always fascinated by the more inshore realm, and so I thought it was interesting. She was talking about the interest in terms of ecology and estuarine environments and I thought that was fascinating. I know in the fisheries sometimes you can have folks that are dealing with the big water, and the folks that are dealing with the more...

RL:In fact, the Sandy Hook lab has traditionally been more inshore work, and Linda is one of those people, and I think this is sort of one of those conflicts between the Feds and the states. Originally the Federal lab, there was more or less one in every state...Maine, Massachusetts, Rhode Island, Connecticut. We skipped New Hampshire. We skipped New York, and we had New Jersey and back when it was the Bureau of Commercial Fisheries, there was a littlebit inshore interest, and then they became...probably with the '76 change, things became much more offshore driven and people that work in estuaries who are sort of forgotten. Linda is one of the

forgotten in that sense. But they did some really cool work, and in fact, I'm the editor for U.S. *Fishery Bulletin* and I've got a paper of Linda's right now and it talks about some of the work in the Navesink river and most of the Feds probably wouldn't even [know where it is]. They would just step over the river and look offshore. And again it's one of those things where, you listen to Ted Ames, for example...the alewives coming up the river, and all these kinds of things are extremely important for the offshore fish. Well, that connection is really only starting to be made. We went through this phase where everything is offshore and then we're starting to realize that the offshore fish aren't coming back even though we're cutting back fishing and then you think well, maybe, particularly with salmon...well maybe you just can't make a fish ladder that lets salmon go up the river. Maybe you have to make a fish ladder that lets alewives go up the river, because the alewives (river herring) are what's feeding the salmon. So you can't have one without the other. And these fish are offshore in the ocean somewhere for a good part of their lives. So there's an intimate connection between the estuaries and the offshore environment and I think again, as we start to look at a little bit more holistically, the systems, maybe that stuff will come to fruition but you know also the estuaries are a nice place for academics to work, because you don't need big white boats – that's what we call our research vessels, because they're white – but you don't need big offshore boats, you can go out there in a 20 foot Boston Whaler and actually do some science, and you can get students involved and things like that. Again, sort of left that realm...except for the salmon guys, I think we pretty much left that realm to academics.

MC: Yes, in terms of your observations, I'm always fascinated as a historian when I look at the last quarter of the 19th century, and I read certain fisheries reports, and I see the scientists, of course, relying on the fishermen to help them in terms of having boats to get to the fishing grounds, and then there's the rise of all this Federal and state funded infrastructure. I'm curious, do you have any comments on this issue of infrastructure, whether it's shore based laboratories or research vessels, in terms of how that factors into fisheries science? Are there any sorts of issues that you think have been particularly compelling over the last long haul of your career?

RL: There was the *Albatross I, II, III, and IV* which were research vessels that worked out of Woods Hole. There was the *Delaware I and II*. Now there's the *Bigelow*. There's a new fleet of offshore research vessels with *Henry Bigelow* being the one here in Maine. There's *Pisces* down south, things like that. So I mean these ships have a long life. The *Albatross [IV]*, I'm not sure when it went into service, but I bet you it worked 30 or 40 years. So, you know, kind of taking it back, like I said about the bureaucratizing of the groundfish survey, you know, you could calculate the budget for the *Albatross* year to year, so you could account for it, and it was an easy thing to kind of take care of as opposed to some new research that you have to buy new equipment for to do this and that. You can really have a pretty straight forward budget if you use the same vessel year after year. We had those ships available to us and we still have research vessels available to us...and there's also the cooperative research effort which is trying to reach out to the fishermen and basically contract with them to work with us. Again, part of the reason is to give them money, part of the reason is to try to be a little bit more transparent with our work and involve the fishermen, and get a little more of a personal rapport between fishing community and the research scientists so that we understand each other's views more than we have in the recent past. I think if you go back early when Spencer Baird and the boys were there, back in the

beginning of the Fish Commission and stuff, there was a better, more open relationship with the fishing community because we did rely on them to get information.

MC:I'm glad as a scientist you say that, because as a historian of the fisheries science scene, I've always thought that was the case, and as you say, this separation sort of developed as the fortunes of science in a lot of applied realms, agriculture, fishery, forestry, you get this separation. There was this rapprochement over the years. Now there's sort of a reunification between the parties that used to, as we often observe in the record. Did you say you're editor of *the Bulletin*?

RL: Yes.

MC:Wow.

RL: It's not a wow. They circulate the editorship every three years to a different Center, and I figured it was sort of a nice way to go out at the end of my career. And it's been interesting, it's been a learning experience. You find out how badly people write. You find out, you have to read all these papers that you wouldn't otherwise read, so it sort of broadened my, rekindled my interest, broadened my view on some of the things, and caught me up to speed with what's sort of cutting edge, so it's been interesting from that point of view, but I have another year and a half, and then it goes on to somebody else.

MC:Right, so you're now permanently assigned to Maine, I take it.

RL: Technically, I suppose I still work for Sandy Hook, but I'm in Maine. Maine has always been home, so when an opportunity came to transfer up here, I was like, "Yes, of course." I like New Jersey, but I don't really like living in New Jersey because there are too many people and it's just crowded compared to where I live in Maine. I look out my window in Maine and I can't see any neighbors and I'm surrounded by 91 acres of woods. It's a different world.

MC:Yes, yes. I was wondering, I guess at this point, this is great, really this information you've provided is really very good. Do you have any sort of closing comments that you'd like to make regarding some of this history that we've discussed?

RL: I guess as I've sort of told my students, I was there in '75 just as this stuff was starting and it's been interesting. And I think it's really important for the new students that are graduating now to understand the evolution that's happened over my career, because they are going to be facing all this stuff and you know...I was sort of dropped into it, if you will, but I was dropped into the whole fisheries stuff at sort of a starting point. And the kids now that are graduating and getting their Ph.D.s, they're being dropped into the middle of it. And I think that it's, you know...[is why] I taught this class which was called the History of Fisheries Ecology and Management...I forget what it was...in New England. We started back in the 1900s, and I told them for example, you'll know this better than I do, but New York City was the biggest producer of oysters in the world until about 1920. And it all went to hell. And you tell that to the students and it's like, really? They just can't understand, can't believe it. You wouldn't think of eating anything in New York Harbor now, and it's like the shifting baseline concept, which is, if you know that, it's like ok, this is where we are today. If I go out and fish, I can catch two buckets of fish, and yet my

father caught 20 buckets of fish. But you don't think of that 20 buckets, because it really doesn't mean anything to you, because your reality is two buckets.

I think that, as I've said, if anything, hopefully the kind of rambling that I'm going on about, if people ever listen to it, will kind of give a little bit of a perspective on where we were. I thought, when we first started, it seemed to me we did really good science. We didn't care that much about management but management has become such a driving force that I think the Fisheries Center, personally I think, has lost something a little bit, because I think that we should be focusing, we should let the management council do the surveys, we should let the management council make the decisions. They shouldn't be looking at us as government scientists to answer all their questions because really the management is science dependent, but it shouldn't be driving the science. We should be doing the science that's going to give them the answers five years from now or ten years from now, so that we can hopefully come up as things change, so we can come up with reasonable management decisions that actually sustain fisheries, rather than be reactive. For the whole of my career, and even to this day, I dare say that our management has been more reactive than proactive. And I guess in my closing remarks, I'd like to get kids now to understand that, and it may be in their career that things become more proactive, and they can look ahead instead of just being driven by the immediate, political pressures that are placed on Fisheries Centers.

MC: So, that's in many respects, kind of what you've outlined, while there are some noble intentions of the management councils, that's one of the quandaries that they introduce into the whole scenario, correct?

RL: Yeah, I can't blame the management councils for what they do, but I think we also have to stand back and look at them, and say, "Well, what are you supposed to do? And what are we supposed to do?" And I think we really haven't defined that in the best of terms. Again, that's my opinion. I'm sure there are other people who'll argue with me, but that's the way I look at it. I like to see myself as more of a scientist than a manager and you know... As I've said many times, the guy— We used to be the Northeast Fisheries Center, the NEFC, and now we're the NEFSC, the Northeast Fisheries Science Center. And I said, "The guy who put science in the name of the Fisheries Center should get a gold star and a seat right up there next to St. Peter," because we should be doing science and sometimes I think we forget that.

MC: Right, the sentiment you've expressed is certainly shared, and when I try to explain to people my work, I say that's one of the biggest challenges of fisheries or anyone who studies fisheries, either from a biological standpoint or a human factor standpoint is as you say, the kind of contested nature of the whole scenario, and people vying for different sort of research and management priorities. That's what makes things so complicated. I understand. And that's a great way to conclude the interview. This has been great, Rich, really.

RL: I obviously, I have enjoyed rambling on.

MC: No! It wasn't rambling at all, I've done a lot of these interviews and believe me, I've done a lot of work interviewing the whole spectrum or recreational sport, fishers, government scientists,

commercial fisherman, your description and accounts, I think, are really very useful for future researchers.

What I'm going to do is, I'm going to scan a permission form, you'll have to sign a permission form for this, and what I'd like to do is scan that and send that to you, and if you could perhaps download it, it'll be a PDF, and you can sign it and then you can rescan it and send it back to me. Is that possible?

RL: Yes, that's no problem. I probably won't do it until Monday

MC:That's fine. Then I'll send that off to you.