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## Pierce, David ~ Oral History Interview

Madeleine Hall-Arber

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Voices from the Fisheries  
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Woods Hole, MA 02543

## **Interview with David Pierce by Madeleine-Hall Arber**

*Summary Sheet and Transcript*

### **Interviewee**

Pierce, David

### **Interviewer**

Hall-Arber, Madeleine

### **Date**

July 21, 2016

### **Place**

Massachusetts Division of Marine Fisheries Office  
Boston, Massachusetts

### **ID Number**

VFF\_WH\_DP\_001

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### **Biographical Note**

David Pierce was born and raised in New Bedford, Massachusetts. Being from New Bedford, he had an interest in the ocean and the fisheries from a young age. He received his bachelors from SMU (Southeastern Massachusetts University) now University of Massachusetts Dartmouth. He also received his Master's in Marine Biology from SMU in 1982. He received his Ph.D. from University of Massachusetts Boston in 1996. He began working for the Massachusetts Division of Marine Fisheries in 1972. Early in his career, he had a strong interest in fish contamination issues and seafood advisories and studied mostly winter flounder as a fisheries biologist scientist. Currently he is a professor at the University of Massachusetts Dartmouth School for Marine Science and Technology (SMAST) working with graduate students. He served as Deputy Director of Massachusetts Division of Marine Fisheries for 10 years before being appointed Director.

### **Scope and Content Note**

Interview contains discussions of: winter flounder, scup, fluke, sea bass, climate change, recreational versus commercial fishing, Gulf of Maine Cod, Georges Bank, bottom trawl surveys, modeling, stock assessments, surveys, cod, haddock, Northeast Fisheries Science Center, New England Fisheries Management Council, regulations within the fishing industry, abundance, biodiversity, management

David Pierce discusses his career with Massachusetts Division of Marine Fisheries. He describes the need for accurate science and cooperative research between the federal and state scientists as well as the commercial fishing and recreational fishing industries.

### **Indexed Names**

Alexander, Terry

Askey, Paul

Beal, Robert

Beaton, Secretary Matthew

Bullard, John

Cadrin, Steve

Christel, Doug

Clark, Stephen

Coates, Phil

DeCelles, Greg

Demarest, Chad

Fogarty, Michael

Giacalone, Vito

Griffin, Melanie

Hoffman, William

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**Transcript--- DP\_\_002**

**Madeleine Hall-Arber:** Make sure this is on, I'm going to listen for a minute to make sure this is picking up. So this is an interview for Voices from the Fisheries as part of Voices from the Science Center's Project funded by NOAA's Office of Science and Technology, I'm Madeleine-Hall Arbor and today I'm speaking with David Pierce at the Division of Marine Fisheries in Boston. The time is ten o'clock and so I'm going to ask you to introduce yourself and give me your name and where you work.

**David Pierce:** I'm David Pierce, the Director of the Division of Marine Fisheries, formerly the Deputy Director for about ten years and then before that a fisheries biology scientist with the agency going all the way back to 1972.

**MHA:** And where were you born?

**DP:** New Bedford.

**MHA:** Oh, I knew that. [laughing]

**DP:** Yes-- I always use that when I'm in New Bedford at any fisheries event like SMAST [University of Massachusetts Dartmouth School for Marine Science and Technology] grand opening, the groundbreaking I mentioned that and then at the Center. I mentioned that as well. To my great surprise the rep sitting next to me, Strauss, Strauss said, "Really? You're from New Bedford? I didn't know that" so I think that might increase my credibility in some quarters with

some people because I grew up in the area and, yeah I fell in love with fisheries because of my being raised in New Bedford and off and on encountering scientists from the Northeast Fisheries Science Center. There was one episode that I remember very distinctly. I was in junior high school and I didn't know what I wanted to do, and lo and behold there's an opportunity to go to Rochester Regional High School, I think - I think it was the Regional High School - to hear a presentation, a talk by some Center scientists one talk was on haddock and the other was on sea scallops. So I went. I remember I can't recall who gave the presentations, it wasn't Fred Serchuck it might have been Paul Askey, maybe Stephen Clark on haddock I think, it was way back. So anyways, that's what hooked me.

**MHA:** Do you remember about what year?

**DP:** Yeah that had to be 1966-- 1965 maybe? Yeah, because I graduated from high school in '67. Yeah so about '65, '66. But they were great presentations. Low and behold, what do I find myself doing now but haddock and sea scallops and all the rest and I was the Director. It's kind of a-- it's a very interesting and sort of a strange sequence of events that got me to this point in time.

**MHA:** So when you were growing up at-- in New Bedford did you have any interactions with the fishing industry at all?

**DP:** Uh, only the fish and chips.

**MHA:** [laughing]

**DP:** Downtown New Bedford, when the downtown area was intimately linked to the port. That really was my only connection and then, of course, seeing the fishing vessels and watching them come and go. Apart from that, I didn't have any real involvement with individuals in New Bedford. Just the whole atmosphere, the fishing fleet, the importance of it. My step-father used to play poker with captains when they would come in from trips and he would take all of their money. He was a very good poker player so he would go to the clubs where the fishermen would come to unwind, ease the strain of being at sea for so long. I always wondered about that after the fact, these guys were at sea working so hard to get that money as crew members, they come back and they lose it in a poker game? I guess that just goes to show fishermen are gamblers.

**MHA:** And so which clubs were they? They had several at that time.

**DP:** Yeah. I don't recall the names but just like the Portuguese American club, something like that because he was Portuguese so he could speak the language and that made it easy for him to interact with them and then, of course, I would later on hear some of the tales that he eventually did tell me. So I think back on that now and my wee connection to the port of New Bedford, the fishermen in particular with my step-father gathering the rewards of the fishermen [laughing] so now ironically, I'm in a position where I try to deal with the economic and financial needs of the fishery, notably the groundfish fishermen and, of course, that's come about in part because of the disaster aid that I had a-- and still have a role in making available to those who need it in light of the fisheries failure that we had declared by the Secretary of Commerce a few years ago, so that's been a very worthwhile endeavor.

**MHA:** So... let's see, how-- what-- can you tell that sort of sequence of your career? You said you started with DMF in 1972? I think? January of '72.

**MHA:** But what was-- was anything preceded that-- any work that preceded that?

**DP:** Nope. No, I was-- I went to school at UMASS Dartmouth -- then SMTI then SMU then-- well, SMU when I graduated, now UMASS Dartmouth. So I graduated with my Bachelors in Marine Biology then I went to URI as a hopeful student that is-- I wasn't enrolled but I got married in '71 and my wife and I moved to Newport and I went to the oceanographic school URI, intended to get a master's but it was not to be because, again I wasn't enrolled. I was trying to demonstrate my capability and I ran a foul with physical oceanography and John Knaus who was teaching physical oceanography and he was using his notes as his textbook. He was writing a book and he was-- said he was a horrific, *horrific* time of my life. It was horrible. So lo and behold my wife says-- in our Newport apartment, next to a cemetery, third floor-- she says, "hey I just say in the newspaper some advertisements for positions with the Division of the Marine Fisheries. There's one in Sandwich, there's one in ... Salem", we had a Cat Cove lab at that time. So I applied and, lo and behold, I got the job in Sandwich, working with winter flounder with Arnie Howe. So that was the beginning of my career with the Division in marine biology and then getting involved in the bottom trawl surveys, scanning the estuaries for juvenile fish, publishing a few papers with Arnie Howe, ichthyoplankton surveys, bottom trawl surveys, in Nantucket Sound, Vinyard Sound, with the FC Wilbur which was the vessel we had at the time doing the surveys. And then afterwards, of course, I stayed with the agency with a number of years and then I went back part time to get my masters at SMU [Southeastern Massachusetts

University] -- again, I think it was still SMU-- I got to look at my poster, actually-- no it was UMASS ... what was it? Hold on a second I got to check my-- um... yeah it was SMU-- still SMU, so I got it in my Masters in Marine Biology, doing masters on scup, management of scup, scup resource in Massachusetts waters, the fishery and the management of it, regulation of it. And then the part-time and then later on-- I got that in '82 I think? And then in '96 I got my Ph.D. in environmental science from UMASS Boston. So I debated should it be in fisheries science or should it be something different? And because I was concerned and interested in fish contamination issues and seafood advisories, fish consumption advisories, EPA work and advice which was ... suspect. It just grabbed a hold of me and I decided to focus on that for my dissertation so I got that in '96. That-- and the former director Phil Coates was incredibly helpful and accommodating and he allowed me to do the part-time work on my masters and then on my Ph.D.

**MHA:** So when you started-- and you were looking at the-- which flounder was that?

**DP:** Winter flounder.

**MHA:** Winter flounder, um, what were some of the theories at that time that were popular that you were focused on?

**DP:** Uh, where do they move because back then, Cape Cod estuaries and salt ponds, winter flounder would reproduce in the salt ponds, they'd come in here in the winter time and they would reproduce and then later on the young fish-- as well as the older ones-- would leave the estuaries in response to warming water, the question was where'd they go? So a lot of tagging work was done I was involved in some of that. We learned--with Arnie Howe being in the lead-- we learned where they went, how far they traveled, and did they return? I got a published paper out of that, paper on recruitment-- the sizes of winter flounder that remained in the estuaries, what proportion of the aged zero, one and two fish were still in the estuaries and which ones left, condition of the estuaries at the time because they weren't eutrophication-- eutrophication was not the big issue back then and there was a lot of eelgrass, and now it's seagrass, now it's diminished dramatically, so it's likely that one reason for the lower recruitment of winter flounder is just eutrophication, loss of eelgrass-- which provides important protection for the young fish-- and then maybe seals too because we learned that the winter flounder would leave the estuaries-- south Cape estuaries, Martha's Vineyard, Nantucket, exit through Muskeget Channel and then through the eastern entrance of Nantucket Sound, and of course what do we

have now but the hoards of grey seals. Likely picking winter flounder off the bottom like potato chips, likely.

**MHA:** Very interesting. So do you see any changes in-- well, obviously changes in winter flounder but how about the theory, the theoretical aspect that are prevalent now, are there-- is there anything that you-- that's completely new or is it just a development of things that you were learning when you were in school?

**DP:** Uh a lot of new approaches. A lot of new modeling. Now back then when I was in school and shortly thereafter when I started working with the Division, we were using the traditional analytical techniques, modeling approaches, otherwise known as those in the classic text called *Bigelow and Holt*, which I still have on my bookshelf, which I very seldom reference anymore because even though it's classic, the center scientists and other scientists around the world have gone in different directions. Of course, now we have computers, back then we didn't have computers. And, *Wicker*, that's the other book, very classic book on population dynamics, stock assessment methods. Never see it referenced anymore. There were also some other techniques that have been developed over the years primarily because of all the modeling efforts by stock assessments scientists around the world, just new ways to do business. Of course back then we maybe falsely believed we had a lot of data to work with regarding the fisheries themselves, what's being landed, size of fish being landed, where were they caught.

We seemed to have data a plenty to go into the models, now we have sophisticated models that demand tremendous amounts of information and unfortunately much of that information is not available so we have data poor stocks. We have modeling that has to make a lot of assumptions regarding the data that needs to go into the models. We used to be data rich, now I think we're data poor in many instances. Lack of resources for stock assessment science, the stock assessment scientists being few and far between. That's always been a concern of the Northeast Fisheries Science Center; where are they? Where is the recruitment coming for stock assessment scientists that can move forward and do the great work that was done by some of the scientists of years gone by that have retired or that have died? Great work done by those scientists. Women and men, still great work being done but the information is just not as good as it used to be in part because of the rules and regulations and how fishermen have modified their behavior and how they're struggling to survive and how they know-- and this has been, I think, noted by the plan groundfish plan development team and others-- the quality of the data is suffering even



fishermen themselves admit that they don't report accurately. Many fishermen don't report accurately anymore because if they do, they shut themselves down. So, we actually, through our management efforts, rules and regulations, we've had to implement to deal with National Standards of the Magnuson Act and the law itself, sector management, groundfish management, groundfish sector management. There's just so much incentive for people to not report accurately because their allocations are very low, the overall catch limits are very low, and of course, stock assessments scientists give us the information needed to set those catch limits and, as you well know, many questions have been asked about the quality of those assessments and so many criticisms have been made about the accuracy of those assessments.

I've spent a lot of my time now dealing with fishermen's accusations that the bottom trawl surveys are not valid and that new methods need to be used and that the fisheries dependent information needs to be used more than it ever has been used, get away from fisheries' independent information. Right now we're involved in a cod industry based survey, one that we had back in the division's survey, the IBS [industry based survey] that we had back in 2003-2007. It was very successful. However, it ended because of a lack of federal funds. Now we've had some additional funding. We've started that survey again, working with the fishing industry and we just completed the first survey, the Spring/Summer survey, with the intent to focus on Gulf of Maine Cod, abundance and distribution. Maybe evaluate the effectiveness of some of our management measures now like our area closures. The survey itself was just covered very well on the *Cape Cod Times*-- did you see this by any chance? [showing the paper] You can have a copy of this if you'd like. The Secretary Beaton, he went on board, Commissioner George Peterson, he went on board, and-- this is above the fold, front page of the *Cape Cod Times* indicating the great interest and improving the science that used for stock assessments that are then used for fisheries management decisions.

So Division moved this forward. We had a lot of support, the Governor even put some money into this. Some of the disaster aid that we got from the federal government, we put into this particular survey in part because fishermen, many said, "we don't want money, we want fish". And so we then said, "okay fine, we're going to use some of this to do this survey work and we'll see what it shows. Perhaps it'll confirm what you say, that there's far more cod out there that what has been claimed through the existing assessments. Maybe we'll confirm that there are few cod at this time." But we'll do the work, and we'll work with good nets that we've used before that the fishermen say catch cod and other fish, they're very effective. High-tech nets, high-tech,

high-tech sampling methods, analytical techniques. A lot of work has been done by my staff working with Frank Mirarchi's old boat owned by Kevin Norton and we did many stations, and uh-- let's see it was July, August, September and um... I got that wrong. It was April, May, June, and July. So those are the four months we just covered, from lower State of Maine all the way down to Provincetown and then out into deeper water to try to cover the ground where fishermen say Cod will move in response to warming temperatures.

**MHA:** And do you have any results yet from that?

**DP:** The only results from that are preliminary in nature and, indicating so far, cod few and far between. As a matter of fact, the irony is that on that front page of that *Cape Cod Times* it shows Bill Hoffman who's one of my stellar biologists with the agency-- lot of hands on experience, he's on the water a lot, he knows his stuff-- he's holding up the only cod fish that was caught on that trip. We caught a lot of haddock, which is phenomenal because when I first joined the division there were no haddock. Back in the 1970s, it was gone and we had been waiting and waiting and waiting and how many decades have gone by? And finally, I think 2003, something like that, 2005, we had a phenomenal year class of haddock. Slow growing, slow growing, slow growing, and then another great year class of haddock. And now recently, another phenomenal year class of haddock, so the haddock are incredibly abundant which is fortunate, and they're in shore. I mean they caught a lot of haddock off of Scituate, like unheard of. So this stock is huge and hopefully they grow large enough to get to the minimum size and then they provide a good source of catch and income for fishermen that were unable then to deal with these difficult times of low cod fish abundance.

But this survey will give us more information to put into the stock assessments, the Federal stock assessments for flounders because flounders are cod as well, haddock, cod. It's a great tool and it's a great source of information and the Northeast Fisheries Science Center has been incredibly cooperative, very helpful, loaning us gear, and we've kept all the scientists involved in these groundfish assessments up to date so they know what we're doing and we've been responsive to their suggestions and we believe that we'll just have another great data source for them to plug into the assessments. Now, of course, some fishermen-- maybe many fishermen-- will say we're not fishing where the cod are because it's still a random stratified survey, more tows, far more tows than the Federal survey, but we cannot just sample in areas where cod fish are aggregated or abundant. It doesn't make any sense. So the fishermen say we're not sampling where the cod

are. Well, we are sampling where cod have been, they're not there now. Maybe it's because of warming temperatures, maybe because it's a lack of fish, whatever, it's all this plugged into scientific discussions coming up this year and next year on Gulf of Maine Cod and some of the other fish as well. Plus, again, to assist the Northeast Fisheries Science Center, using my own experience over the years with the IBS and working with SMAST for the Massachusetts Marine Fisheries Institute because that's SMAST and the Division of Marine Fisheries working together as an institute. We have begun with Kevin Stokesbury's creativity, an open Cod survey. He's been doing that with yellowtail flounder on Georges Bank-- very insightful, very intriguing information about abundance of Georges Bank yellowtail that I'm hoping that the Center uses that information wisely. I'm sure they will. But, he's going to go into the Gulf of Maine, already has as a pilot, two with the open cod end with the video cameras, transect, long transects. You tow where the open cod end videotapes, close the cod end, tow, dump it on the deck, sample it, kind of like round truth the information that you're getting through the video then open cod end, then close, open cod end, close. And he's got his graduate students and himself, but primarily the graduate students and staff, looking at the video information. It's high tech, great video, high quality, color. He's already given us preliminary estimates swept area biomass in the areas where he went, where he knew cod were going to be aggregated and abundant. So that's going to be very helpful, we can dove tail that information with our Cod IBS, so we'll be able to say, this is what we found through the random stratified survey, many tows, many times, and oh by the way, we've gone to the areas where the fishermen say they're aggregated, and we've been able to get swept area biomass estimates in those areas. So between that data set, that we will be really getting this Fall, because the pilot is now done, and that data set and the IBS, the Spring/Summer that we just completed and will then do the Fall/Winter-- that will begin, I think, October-- we'll have a tremendous amount of additional information to use and we're hoping it will answer some questions about where are the cod? How many cod are there? Try to reconcile what the federal government says is there through the stock assessments using the Bigelow, which is criticized time and time again-- justifiably so. I'm looking forward to it. It's wonderful to be able to, at this point of time in my career, contribute more information, to improve the science behind the assessments, and fortunately the administration is on board. Secretary Beaton is high on this and you'll see it in the newspaper. He went on board of the boat, saw it first hand and reported it back to me that he was impressed and finally he was able to see firsthand what he knew about only on paper. And now it has additional meaning for him and I believe we'll be able to get, with good fortune and good luck, some additional funds to continue the survey and do other related groundfish work.

**MHA:** That's really good to hear. Now, I know that in the past there has been some experimental work done and the Science Centers have said they can't use it because it's not *their* work, their, part of their stream of data, so how are you...you said you have support from the Science Center and stuff?

**DP:** Yep.

**MHA:** How is...how did that get worked out I guess is my question.

**DP:** Well, they knew we were going to do the work. They knew that we were going to do the IBS, it was in their best interest to get involved. They have been subjected to tremendous criticism, justifiably or not, so why not get involved? Why not contribute? And that put themselves in a position to not down the road say oh you didn't do this, now I can't use it. We're now confident that they'll be able to say "ah you did as we hoped you would, now we can use it" because it's no longer going to be information collected in a way that doesn't fit with the federal way of doing business. Now our way is not entirely the same as the federal way of doing business, we stratified our survey differently but they've agreed to the how we stratified it. And the open cod end work, they're learning about that and there remains to be seen how it will be used by the Service but, we're championing it, we're going to highlight it, we're going to tout it. We're going to be involved in many of the stock assessments discussions early on in working groups because there are working groups that get together and focus on data needs and what data are available for the assessments, working through SMAST involvement with these working groups like Steve Cadrin and company, Greg DeCelles, formerly of SMAST, a graduate student, really focused on groundfish. We hired him not too long ago which is consistent with the concept of the MFI [Massachusetts Marine Fisheries Institute]. We like to hire graduate students because we know what they can do. He's involved in groundfish assessments. He'll be at those working groups, he's well aware of what we're doing. He'll have that database. So, we'll be involved in all of the early discussions about what information is available to be used in assessments.

**MHA:** So going back for a minute just to sort of pick apart this change that has occurred, you were talking about currently it's data poor, you're changing that with this process but a lot of the fisheries are data poor, whereas in the past they had lots of data but not the same ways of analyzing it.

**DP:** Right, yep.

**MHA:** With your background-- scientific background and that history with management and stuff-- what is your gut feeling about the-- about whether it was more accurate in the past with more data and less fancy analysis, or now where the fancy analysis but a lot of assumptions.

**DP:** I think it was more accurate in the past, and I can do that because when I first joined the Division, and I came to Boston I got involved in New England Fisheries Management considerations. I worked with somebody from CZM, Pat Hughes. And we put together a report-- how did you guys get those numbers anyway and the logic behind the stock assessments and what we did was take a real close look at the cod assessment that was down at the time back at the 1970s I think, early 1980s? Yeah 1970s and-- Fred Serchuck, prominent stock assessment scientist, he did it and I was amazed at the way in which he used port sampling information, life frequency information, age information, where the fish were caught based upon conversations with fishermen. Not information on VTRs [vessel trip reports] or other electronic means just-- a relationship developed with the fishermen through port samplers. We didn't have the Magnuson Act at the time, at least not the way it is now, so there was more cooperation and collaboration with the industry, it wasn't so threatened. Abundance of these stocks were higher-- not all of them but-- for most of them it was higher. It worked really well and first and foremost the port samplers, and now we have not as many. Port sampling is very low priority, it's almost non-existent, we're trying to get it back. But the feds haven't got the money for it. And there's actually been some discussion about the industry paying for port sampling as well as at sea sampling? No way, it's not going to happen.

So, these assessments are federal assessments and it's incumbent upon the federal government to provide the necessary resources for the assessments and that means gathering information, good data for use in the assessments instead of speculations and extrapolations and boot strapping and all these other techniques that have been developed to deal with missing or inadequate information. It's just very unsettling the way things have evolved. The scientists have tried to keep pace and I think they're really down-hearted, downhearted because they got the models and the tools, the sophisticated computers but the-- again the data aren't there the way they used to be. So I've seen that over the years, an erosion of the quality information for many of the stocks, not all of them, but for many of them and here in New England ... we just don't have the information we used to have. In addition, we have now a new sampling tool - the Bigelow. I

shouldn't be too critical of the Bigelow but, again, it doesn't sample all the strata, it doesn't get in shore anymore. They have to rely --the center scientists-- more on the NEAMAP [Northeast Area Monitoring and Assessment Program] information but that to me is still suspect. It's a survey that occurs from all the way from like North Carolina up to the border with Rhode Island and Massachusetts, done with a fishermen's vessel - Jimmy Ruhle. Great work by Jimmy Ruhle and VIMS [Virginia Institute of Marine Science] to get that information but, they've got to trek all the way from North Carolina to our state's border, changing environmental conditions, moving-- movement of the fish, so I think that area is even more dynamic than the area here in Georges Bank than in the Gulf of Maine. It's being used in some way but ... it's just not enough information.

I would like to see more information from fishermen's catches. But that means you need at-sea samplers, and now we know that at-sea sampling is not the way it used to be, fewer trips, fewer areas, fewer trips and you're well aware to the fact that many boats are sampled repeatedly. And we're still wrestling with that problem through the New England Fisheries Council. Many boats are sampled many times so that's not a random sample, that's not representative of what's being caught by the fleet, it's a bias sample. Yet, it still happens-- and I would love to see that change but right now it doesn't look like it's going to change, and samplers are having a difficult time so I understand the companies keeping their at-sea monitors because of fewer trips. So these samplers need to have a steady source of income but if they're having trouble getting out on trips and enough trips, then these men and women leave and the new people come in, they have to be trained? Well, that creates more uncertainty as to how good is the work that these new samplers are doing on board the boats and the fishermen are not necessarily receptive to these samplers. Kind of a hostile working environment for many samplers because fishermen just don't want them on their boats anymore. If it's repeatedly sampled, and of course, if the fishermen are still struggling to figure out where to go to catch whatever they have available for allocations, and if they're discarding the amounts they're not supposed to discard, they don't want the samplers to see what they're discarding because it counts against the sectors discard amount, the catch limit.

**MHA:** Yep. So.

**DP:** I think I'm too verbose.

**MHA:** No, no, this is great, this is fantastic. I always liked talking to you anyway and this is-- gives me an excuse to talk a long time. So ... but I do kind of lose my--

**DP:** Yeah, I'm going off in different directions, yeah.

**MHA:** --yeah but it's fascinating, it's perfect. It's really a lot of what I want to know anyway and so this is great. But um, let's see, so you-- when you first started working for DMF you were living up in Sandwich right?

**DP:** Right.

**MHA:** And um ... when you joined, that was when you were working on winter flounder? At-- out of Sandwich?

**DP:** Yes.

**MHA:** And how long did that last? That focus?

**DP:** Uh, that went from '72 to '76, and then I worked for the Cape Cod Canal Power Plant Project. We evaluated the effect of the power plant, the warm water discharge on the canal and the marine resources in the canal, notably on the marine fish eggs and larvae. The entrainment, what was going through the plant, what was dying as a consequence of the warm water effects. I did some diving in the Canal itself, monitoring again the water temperatures. Back then, you know, 1970s we didn't have sophisticated analytical equipment or even sensing tools. I look back to the work we did back then it was kind of-- it was great but it was certainly not the way it's done today. So I did that for a few years and then the Magnuson Act was put into law, and Allen Peterson who was the director of the Division of Marine Fisheries at the time, he asked me if I would be willing to work with him in Boston on fisheries management issues and I said, certainly. So that got me involved initially with the New England Fisheries Management Council, early discussions on groundfish, sea herring and sea scallops especially.

And ... I then expanded my responsibilities because I had no choice to work with our state's Marine Fisheries Advisory Commission, the nine person advisory commission to the Director, and with the Atlantic State Marine Fisheries Commission, which of course the states from Florida up through Maine. So I had all of that state, federal, you know federal, Interstate

Fisheries Management within state, fisheries management responsibilities. I got a tremendous ... wealth of information and experience working with those management bodies. But the most intriguing one, of course, initially was the Federal Council. In the early 1980s, after I had been working with the council for a while, as staffer to Allen Petersen and then Phil Coates, the directors . I was funded through a grant coming from the New England Fisheries Management Council, but the grants started to evaporate and more justification was needed for my continued funding from the Council. Initially it was a requirement, because the Federal Government, the Councils knew the state had to cooperate, had to be involved, voting members, we needed staff support so the money was provided-- a modest amount of money to provide the staff support and I was that support.

So back in the 1980s, I proposed to Doug Marshall at the time who was the executive director, that I put together a summary of all the management plans, the evolution of the management plans for groundfish, herring, sea scallops, surf clams, ocean quahogs, and there's one other ... and I did that. And it was quite a chore. But, I covered the history-- the evolution of fisheries management for those fisheries at a time when it was just brand new, and it's the only history really of what happened during those years. It's a very detailed description of meetings and what happened at meetings, the interaction of the fishermen with the managers, the protests, the chaos, concerns about the assessments. And, so I finished that and I provided it to Doug Marshall and he said "this is too much." And I said "what do you mean?" and he said "no one is going to read this." I said "well, it's history" and he said "no one is going to read it." Well ,lo and behold, 30 years later, people have asked, "what in the world happened when the councils were first created? What happened with groundfish? We're now managing with sectors and catch out locations, how did it work back in the 1970s before you had it? Was it easier? Was it harder? What was going on back then?" And so I got it all written. So I go back and I read it from time to time just to remind me how simple it was back then because all we worked with really was quotas for cod, haddock and yellowtail. That's it. Nothing else. It was simple.

Assessments were better. Challenged, of course, by the fishermen as not being representative of what was out there, you recall all of that controversy. That never changes. Always concern about the assessments if it doesn't show a lot of fish. And again most of the time they don't ... for cod because cod aggregate-- that's the thing as you know, catch per unit effort, fishermen go where the fish are, they know where the grounds are, they go there, they know when and where to go they get high catches-- relatively high catches and they think everything is all well and good, or



at least they pretend to themselves that everything is all well and good, cognitive dissonance and all of that. But when you go to the other areas, they're not there anymore. They used to be, that's why the center scientists work the bottom trawl surveys. They plot out the distribution of cod for example, Georges Bank and the Gulf of Maine, Southern New England. Going back in time you can see how it's quite true the abundance and distribution has diminished dramatically, the abundance has constricted for cod to the southwestern portion of the Gulf of Maine. And no longer throughout the southwestern portion of the Gulf of Maine but in specific areas and so fishermen keep going to those specific areas, hitting those aggregations and yeah they're having good catches to some extent and yeah, they're challenged because they may not have enough allocation to land those fish or they haven't got the wherewithal, the ability to lease fish, they're not willing to pay the price because the price for lease fish is so high, so they get-- there's this perception that cod is much abundant, much more abundant than what the assessment scientists are, have revealed. And I think that when the cod IBS work is done, we'll see pretty much the same thing. We may not see, we may not come to a conclusion that the stocks are as bad as they have been assessed. We may come to conclusion that catch limits can be higher, not much higher, but maybe high enough so that many of our groundfish fishermen who are still left fishing, still left standing, will be able to survive with catch allocations that are low but not precipitously low to the point where one tow and they've caught their allocation for the year.

If I were a fisherman I couldn't live like that with the pressure these guys are under right now. One tow and you're done for the year? How can anybody live with that? It's nonsense, right? Unless they lease fish from the other guy down the street or the other guy on the port who may want to, who may at one time had been a wonderful colleague and they got along very well and share the grounds and they share information. They went to the bar together and now they don't want to talk to each other because, he's got too much and he's got too little. And the one with too much will only give the other guy with too little, that which he needs at a high price, so I mean, relationships are being destroyed, they're being damaged, destroyed. I have no clue as to the extent of the problem because I'm not a social scientist and I don't dig into the important dynamics within the ports. I turn to people like you and to Angela Sanfilippo and others who have to deal with the fishermen on a daily basis with crew members, with families, with wives, that come and plead, and describe what's going on within the family. The husband's stress. I just can't imagine the stress that's going on in some of these families. Many of these families where, you know, there's just not enough allocation and the bills are not being paid and they've got to into other fisheries in order to survive. Some have done that, they've gotten into squid, they've

gotten into black sea bass and others but there's still competition for limited allocations and quotas. So it's a tough-- very tough times.

**MHA:** Do you think that the assessments have been affected by the lack of fishing, really, because of the restrictions and the boats that are gone? It used to be I thought that the assessments were partly based on fishery dependant data landings by a variety of boats.

**DP:** Yeah, yup, the work I described before in 1970s, fishermen's information was incredibly important. And it still is used but nothing like it used to be used. And the Center says that for groundfish that they do use fishermen, fisheries dependant information for groundfish, they do use fishermen--fisheries dependant information, that's true, although I'm still not sure to what extent it is used in comparison to what is used from the bottom trawl surveys done with the Bigelow. I find it hard to believe that, in light of all the rules and regulations in place right. In light of what fishermen have to do to survive. In light of the fishing they cannot do because they haven't had allocations, where they don't go anymore. Their behavior has changed dramatically. Catches are no longer dictated by what's on the grounds. It's only by what they catch based upon their allocation and what they discard. Do we really know what they're discarding? Probably not. Even the last work by the monitoring committee I think indicated that, the plan development team indicated and the Center scientists worked up by-- Chad Demarest has indicated that there's a...much more discarding going on. Even talk to fishermen themselves after meetings in the bar and they'll confess what going on. They're discarding very large amounts of fish that aren't being incorporated into the assessment except through assumptions. And as you know we've got the retrospective pattern of errors and up until fairly recently it was always considered to be increased natural mortality, maybe some misreported catch unaccounted for, catch but that was always minimized in terms of its importance. And now I think it's become a real hot button issue that much of the retrospective patterns probably due to missing catch. You can't really blame the fishermen because again, I'd do the same thing if I was a fishermen and if I was told I've only got... 1,000lbs of cod fish for the year. How am I going to get my haddock especially if I have 100,000 lb allocation and I'm catching cod with the haddock, or I'm trying not to catch the cod with the haddock but I still am and it's a terrible formula for failure and for increased discarding and worse thing of the data that goes into the assessments-- and the need for more assumptions about discarding. I see it all the time with every stock, fluke, I mean you name it, it's just all these-- all these analyses with different assumptions so then it's take your pick. Which one do you want? What assumption do you want to make? And ... what do you pick? If you pick an

assumption that assumes high discard and then the fishermen claims you're calling them liars. But if you pick one that's with low discards, then many fishermen would call you stupid.

**MHA:**[laughing]

**DP:** Yep. "C'mon guys, you know, we're discarding. C'mon, oh but then again, don't take a lot of discards off the top because we're not really discarding." I mean, it's all human nature and this is again. I would do the same thing if I were in their shoes. You have got to survive. So I'm sympathetic to the plight, but at the same time as fisheries manager I'm hard-pressed to figure out what's the next step in fisheries rules and regulation to rebuild according to the formula that we have developed for ourselves, the rebuilding schedules.

Now, of course, one of the key differences in how I did business back when I was younger in the agency working with the council was back then as a council member, I or other council members could say when we got the assessments, let's say on cod fish, we could say something like "I disagree with that number. I don't believe it's correct for these reasons, therefore I move that the quota be x metric tons based upon this information I have in hand, what's been given to me by the stock assessments scientists by what I've learned from talking to the fishermen, I feel comfortable with that number. I move." And then we debate it, thumbs up or thumbs down based upon vote. Now, no longer can do that as you know, the SSC, they tell us what the numbers are because of Magnuson Act changes made back in 2007 or '09, I always forget the year. That's what it is. No more opportunity for debate. No more opportunity to factor in what we've learned from talking with fishermen, from talking to the assessments scientists themselves, our own staff. Can't do it anymore, it's just not, it doesn't factor in. Which is why now it's so important to get involved in all the working groups that have been established by the Center over time, working groups to talk about what data do we have? Okay, alright, well, we'll use all that data we can believe it, it's usable and now we'll plug it into our models and go through the stock assessment process but, we all have our terms of reference and we move it forward. Plan development teams look it over, SSC reacts and whatever the SSC provides, we live with it. There's been some flexibility, only if we say to the SSC " and for these reasons we give you back your number and we want you to think about it some more." Maybe with some other assumptions and see what the SSC will then provide and that's happened to some extent. That's happened with a few stocks.

**MHA:** So you're saying that if all of this data that you get from fishermen and from the assessment scientists, if you can feed that in early enough then the SSC makes-- hopefully better decisions.

**DP:** It's all about providing better information, more information for the grist mill and then the people chew on it. The Center scientists chew on it, there are state scientists involved as well and people involved early on. Unfortunately, that's really, that's the work in the trenches. That's the real nitty gritty, down and dirty work that most people don't want to do. It's because it's too complicated, it's too time consuming, You have got to have the expertise for it which is why it's so important for me to have a good scientific staff, that's involved and why it's so important for the SMAST contingent to continue to be involved because of their expertise. Steve Cadrin a former NOAA fisheries scientist, they're working for UMASS-- University of Massachusetts Dartmouth for a long time through SMAST. He's been mentoring many students , brought a lot of people along. As I said Greg DeCelles hired him, hired Kate O'Keefe-- she's working on scallops and other things. I continue to learn more about the students at SMAST because I teach ocean policy and I get to know who they are and what they're capable of doing and, of course, my interaction with Kevin Stokesbury and with Steve Cadrin and others helps me get a better appreciation for the talents of their graduate students. And then of course they produce masters or Ph.D.s you look it over and you say hey you know, it's a good piece of work and why not hire them? If they've proven themselves, and then just stick them right into the stock assessment process in a very cruel and punishing way by saying, that's the first step, the working groups on data available, data quality, go for it and, that's what we have to do.

**MHA:** Good. So ... let's see ... I already asked you a bit about the-- how scientific-- oh I know I wanted to ask you a question earlier, when you were talking about the work that you did in the Canal, with the warming waters-- and I understand that it wasn't sophisticated compared to now-- but you still had some analysis and-- so I'm wondering whether any of that information about how the larvae reacted and that kind of thing could be applied now with warming waters due to climate change?

**DP:** Probably not because we're talking about very hot water.

**MHA:** Ah.

**DP:** Not just warm, it's very hot water. It would come up at the base of the Canal, and then of course, it would diffuse with the cooler waters and then you've got the movement from the west to the east and east to west and that's just unbelievably phenomenal the way the tides change, temperature change, how the colder water in Cape Cod Bay will rush through the canal and go into Buzzards Bay and then work its way like halfway down Buzzards Bay. So, it was a fascinating dynamic that most people still don't appreciate. I mean, we did a lot of good work in that regard. But the focus was on what's dying coming out of the plant, what's, what species are going in and coming out dead-- cod and all the rest. No real linkage to ... climate change concerns.

**MHA:** Because it's just too extreme.

**DP:** Yeah, too extreme.

**MHA:** Too much dynamic... let's see. Talk to me a bit about the change modeling and so on, have you had to keep up? Have you had to refresh your skills in math and statistics and things like that to-- in modeling-- to be able to understand what's going on?

**DP:** I just know enough to be dangerous as the saying goes. I mean... when it was simpler, when... when I was able to reference and use as I mentioned before, Wicker's work, the Wicker text and Beverton and Holt text and I studied that and I learned from that, I could apply those methods and understand what, for example, what Fred Serchuck was producing, what Steven Clarke was producing, those center scientists back then. But now, the modeling is beyond my talents. I can... if I spend time on it, I can understand the nature of the model and what it's producing and the effects of changing assumptions on the model but I could never do it myself for a number of reasons, one being I've never taken any classes. I've never been instructed as to how to work the models, how to modify the models, how to deal with a data shortfall and its' impact on the modeling effort. So it's-- I can use the information but I can't really get into the nuts and the bolts and dig into all the wirings, so to speak.

However with that said, I still have a bias when I teach my students ocean policy, when I get into modeling, that impacts ocean policy, fisheries management, for example. I always go back to a classic paper written by a scientist by the name of Hedgepath back in the 1960s or 70s, I forget the exact year. And the title of this paper is called "Models or Muddles" and he shows--And he shows the schematics, the interconnectedness of all the different pathways that's involved in

modeling and again that's when the models were simple. And other models were incredibly complex. And you really don't know to what extent, if you turn this knob over here, the result will be different and if you move this lever, how will the model and results change? There's just no way to fathom that because there are almost like an infinite number of combinations that you can use to tweak a model and-- so I always say to my students be very careful with models because few people likely will know how the models work, some models may only be understood by one person, and one person may be the only person capable of using the model. Sea scallops being a good example of that. So it could be a muddle, don't pretend that the model is actually going to give you a representation of what's actually going to happen so that you can plug the information in here and out comes the result and that's the way it is in reality. Chances are, it's not but we use them. And very seldom does anyone go back and check to see "okay, the model predicted X, did X happen and why not? What was wrong with the model?" As managers we have no way of digging that deep into that aspect of modeling and impacts on management decisions. All we can do is turn to the assessments scientists and suggest that they try something else, look into something else and that may or may not.

So, as far as I'm concerned, we're all prisoners to models but there's still muddles and they're not understood by anybody on the council. They're just given to us and we use it, we swallow it, maybe we get some indigestion and the fishermen have strokes. But it's modeling and that's where we are today with sophisticated computer models that brilliant minds have put together but again just because you got a brilliant mind and your mathematically oriented it doesn't mean that what you're producing is actually describing reality. A good-- my assistant has been very helpful in that regard, too, being on the council he's got such a great amount of experience with modeling and he's always very forthcoming. You've probably heard his discussions about noise versus signal. That we're always searching for the signal, okay, the truth, what's the signal. But most of what we do is just noise-- what we get out of our efforts is noise, and alright so how do you separate the signal out of all the noise that hides the real truth, the real signal? It's a challenge ... and so that's modeling as far as I'm concerned, it creates a lot of noise and it's up to us to figure out where's the signal in all of that that's being given to us by those who are doing the modeling, stock assessment models-- ecosystem models and that's becoming even more troubling to me, because we're now ecosystem based fisheries management. Everybody speaks to it. I'm involved in regional planning body the Northeast Ocean Plan and ... ecosystem based fisheries management, ecosystem based management, take out the fisheries and say ecosystem based management, that's a-- sounds good, it's swell-- biodiversity indices, all of that part of

determining the health of an ecosystem. I frequently told people within the state and elsewhere, you know when I was back in college... in vogue were biodiversity indices, the Shannon Weaver, and all the rest-- Simpson. And I looked at it back then, just fine, thank you very much, I don't get it-- I know I can calculate these indices but I don't know what they mean. I don't know how to use them in the real world, how to influence management decisions. Stellwagen National Marine Sanctuary - they develop a plan with a heavy emphasis on biodiversity indices, I was involved in that and I was a critic. I said "What is this? I can't use this." Go online and type in biodiversity indices and you'll get all sorts of interesting commentary such as they have no... they're just numbers, they're not linked to anything. And ... Kevin-- I mean Mike Fogarty and company. Biodiversity indices, he's giving presentations to us on all these indices to be used... um, what's the other terms um... species diversity indices and there's another one, well anyways. I'm still left feeling unsatisfied because I just reflect back on what happened in the 1970s and then in the '80s and the '90s, all the way up until now, they kind of fell out of favor, at least in my arena, and now they're back on the table again and they have supreme importance. That's how we're going to evaluate the health of the ocean by biodiversity and these indices being used to calculate the biodiversity which is meaningless productivity. I again, like the old foggie on this, as the young men and women move it forward and say this is what you need to use and this is what you is what'll get you to your EBF, EBM and um... I'm still a skeptic.

**MHA:** How about the young people that you're hiring? Are they-- are any of them model experts and mathematical experts and-- or were they more real world oriented?

**DP:** I think they're kind of a combination, like Greg DeCelles. He's got a lot of modeling expertise he picked it up from Steve Cadrin but at the same time being a graduate student at SMAST, working with a lot of fishermen and being on the boats, having a lot of interaction with the industry, he's also very realistic. So that's one reason why I hired him because he's got that great dual expertise. He's been on the boats, and he's seen what they catch. He's analyzed it. He's modeled it. He's... interacted with fisheries stock assessments scientists, certainly with the professors, with Steve Cadrin and Kevin Stokesbury so he's gotten that good ... inclination and insight. So there's no substitute for that. Like something with Kate O'Keefe. I've always said-- then when we hire staff, they better have put some time in on the water with fishermen. That's one problem I think with the Northeast Fisher- that's one problem with [unintelligible] they're coming right out of universities and they haven't got any experience at sea, they haven't been on

boats. Now I've been on boats a lot because that's the way it was in the 1970s, 1980s, 1990s primarily. So you learn a lot from just being out there. Being in touch--

**MHA:** Yeah I was going to ask you that-- how about managers? Do they go out on boats too?

**DP:** Yeah absolutely like John Bullard he went out and caught a trip with Terry Alexander. Terry said come on out and to John Bullard's credit, he went out. And so he got a nice look at cod fish in the Gulf of Maine and other things. So, at least provided him more of a ground truth then a-- more of an understanding of what the fishermen go through, how difficult it is to fish, deal with the weather, lack of fish, find the fish, breakdowns, the different fishing gear that they use, how they have to modify the gear and then of course, all the rules and regulations they got to live by-- which are unfathomable. Whenever I get a notice from NOAA Fisheries, describing rules and regulations from management plans that I helped develop-- I say oh my goodness. I got to read it again. What does that say? Did I dot that?

**MHA:** [laughing]

**DP:** Did I favor that? I say, oh my goodness, who's going to understand that? I mean you need like a ... you need what is it-- the blind with the um-- what do you call it the um... sign language. Because-- I need someone to stand beside me and say okay now what does that mean? Give me the sign language, I'm blind here, help me out. Even my staff now, because now that I'm the director, I've given the groundfish community an assignment to Melanie and the scallop assignment to Melanie and sea herring is Kate O'Keefe but she's doing a lot of work on the science side working on plan development teams, notably scallops. So, I have to talk to them a lot now because, I've stepped out of the committee arena. And when you step out of that arena, you lose so much because of-- as you know, there's so much interaction at committee meetings and everything gets discussed and a lot of hair pulling and a lot more discussion over the course of a whole day as opposed to at a council meeting where it may be a couple of hours, may be a morning. And then it continues-- so I keep telling my staff, don't let me get stale, and don't forget that if I don't say what happened yesterday at that committee meeting, you'll knock on the door and say-- this is what happened at the committee meeting so you're prepared. Otherwise I go into council meetings and it's kind of like, well, on the fly, what exactly is this? I begin to get-- I have become more sympathetic to council members who come in brand new cold, maybe recreational fishermen or someone who hasn't been at sea and you're trying to understand what's going on and you really can't and depending upon what's come out of the committee you may not believe what



came out of the committee, a lot you don't understand so you ask questions but you don't want to ask too much because time is passing, you don't want to look stupid so it's--

**MHA:** And speaking about management, is there a lot of horse trading?

**DP:** I think quite a few council members will horse trade. They'll trade votes, I don't. I've been accused of being a poor manager because I'm not willing to give to get. But I don't like doing that, I would rather just listen to what the different sides have to say. Of course, listen to what's coming out of the science arena. What comes out of the plan development teams, talk to my staff, and just do what I think is right and not do something else because I may get that favorable vote on something else that might be of importance to me. I don't like doing that because it tends to-- I think-- erode um... Those who I regulate, I want them to believe that I'm doing what's best because of what I understand, what I've learned from them and from others, I want them to believe that I'm making the best decision I can without me having some ulterior motive, some agenda, I'm going to sacrifice them to get that. That's bad, I don't want to do that. Others may, council members, let's face it. A guy may be appointed to the council, he's a groundfishermen, got no interest in scallops, so he might talk to the representative on the council who's involved in the scallop industry and say "hey, listen you vote this way I'll vote that way. We'll just, you help me, I help you." I can see that happening, it does happen to what extent? Hard to say because horse trading does occur behind closed doors and bars and, you know, phone calls and what have you. But I don't do it.

**MHA:** Okay, so... is climate change affecting what we're seeing in what you're having your staff do and, I mean we've talked a little bit about the movement of fish-- what about managing at the state levels since we know that-- and ASMFC [Atlantic State Marine Fisheries Council] too -- we know that some of those fish based on quotas that are allocated to the state some of them are moving, can you talk a little bit about that?

**DP:** Yeah, I'm not a climate denier, but I get awful sick and tired of... believing what other people tell me. It's... do I have any evidence of climate change? Have I looked into anything relative to climate change? Have I done any research? No, it's what other people say-- what scientists say. And there are so many that say the climate really is not changing, it's not really warming and others say it is. I tend to think it is for the way--reason-- what's happening in the Arctic, which is the kind of the big picture. But again, it's what people say. I'm going to agree

because I'll trust their judgment. I trust the center scientists judgments, for the most part, depending upon which center scientists is making the pitch.

**MHA:** [laughing]

**DP:** I don't know who these climate scientists are. I don't know who's funding them. I don't know what their agendas are. I'm well aware that science policy decisions are made; every scientist makes a policy decision based upon their own personal opinion and interactions with their colleagues. Science is not pure, it's motivated by many factors, personal gain-- not everybody is a good scientist, but there are a lot of bad scientists out there. So I don't know who they are, I don't know whether they're credible or not but they provide all of this information regarding climate warming and I'm suspect, but at the same time I'm more on the spectrum farther on the spectrum saying "yeah there is definitely some warming of the waters and it's got something to do with climatic effect." I'll go along with the prevailing opinion. Climate management strategy, New England Council, NOAA Fisheries and they're all out there, the state, the Commonwealth of Massachusetts, you'll see all sorts of articles, all sorts of reports of climate warming and effects thereof. Sometimes I take a step back when I hear such things as-- well, fish distribution has changed in response to warming temperatures. Okay, fluke. That's the pronouncement. And then I hear from *one* piece of research that-- well, the center of the core abundance of fluke has changed about 50mi. It's climate warming.

First of all, what data were used to come up with that conclusion? The core has changed? How do you know it's the core? What environmental information do you have that makes a compelling argument for its' the core has moved because of warming waters, it could be other factors? And then there are a lot of bigger fluke up here on Georges Bank, the Northern Edge moving there farther north, then east, well that's because the waters are warming? No it's because abundance is high so fish have reestablished the distribution of many years ago, mortality is under control, the fish are large, the age structure is much wider, the bigger fish move farther so it's not climate warming, they just increased their abundance. Black sea bass, wow climate warming they're now in Cape Cod Bay, Mass Bay, off of New Hampshire, Mystic River, climate warming, no abundance is just high, more larger fish, older fish, they move farther afield they seem to be more tolerant to big wider temperature regimes so. It's not climate it's just increased abundance and widened distribution in response to increased abundance and bigger fish. So cod fish, lack of cod fish because warming waters, well what about all this cod fish in New Jersey?

They're finding a lot of cod fish, good size cod fish down there. If it's warming waters then why are they down there? And how many are they really finding down there in New Jersey? Maybe they're not finding that much I don't know. So I'm still left with all of this, I'm not sure, I don't know but can I say it's not climate warming? I can't say that. I'm more inclined to say it is. But at the same time, I'm relying on other people's assessments of the situation and they're pronouncements and their projections and I don't know who they are. I'll just go along with it because I'm not a climate warming or change denier, and I still think, of course, the glaciers melting and all of that and so I ... global climate change is happening, I think overall the waters are warming but has it had any effect on fish distribution yet? Apparently but I'm still willing to embrace any information that's negative. I'm not biased against any information that's negative. I still think about-- I'll still look it over and say okay, maybe it's not climate change in this particular case.

**MHA:** Maybe you'll have waterfront property though. [laughing]

**DP:** My son lives in the NorthEend where the projections are, there, of course his property will be underwater after so many years. And I talked to people Vita Giacalone. And Veto has, lives on the water in Gloucester and he said over the years, he's been there a long time, he has seen high tide get higher all the time. So I listen to that and ... hey, I can believe in rising waters which is related to climate change, I guess. Seems sensible, glaciers melt, et cetera. So again, I'm willing to embrace anything that's offered up that relates to climate warming and effects of climate warming. I'll embrace it and go with it. I'll be a little bit skeptical but at the same time I'm not swallowing hook line and sinker but, I'll swallow the hook, I guess, but not the sinker.

**MHA:** [laughing] Okay well, in-- what I'm curious about also is what impact that has on the management because I know the quota is an issue.

**DP:** Well, strange you should ask. Um... let's see if I say this will I be a hypocrite? Uh, well, no, I'm not a hypocrite. I've indicated I'm more inclined to go with climate warming, the effects of climate warming and changes in fish distribution. Any examples of that? Aha, last council meeting. I sent a couple of letters, one to the council, one to ASMFC. And I made a pitch for the New England Fishery Management Council to request dual management, joint management of black sea bass, scup and fluke-- but the emphasis is on sea bass. The reason being, climate change. Distributional changes in black sea bass and others in response to warming temperatures. It's no longer the way it used to be back in the 1980s when we first established the first state

allocations-- commercial allocations. No longer the same, back then when the mid-Atlantic council was given responsibility for those stocks. They were down there-- up here too but down there, big time. Well, now they're not down there big time anymore, allegedly. I believe it, from what I've seen. They've moved farther to the north. Am I convinced of it? Not entirely but at the same time all I had to do, in my arguments was reference Northeast Fisheries Science Center reports, research, studies, pronouncements, their climate strategy document which gave me every reason to say and to justify that we should have joint management authority with the other council for those three stocks because of distributional changes and now it's time for us to revisit how we're managing those stocks. And now it's time to say to those states-- in the mid -- that are part of the mid-Atlantic council, but they're also ASMFC-- it's now time to say to those states, we have to revisit these allocations because this is asinine. We have black sea bass galore, in New England area, certainly in Massachusetts water. And we're living with allocations for our state that are antiquated, don't reflect what has happened. So let's get-- let's revisit those allocations using climate warming/ climate changing-- change distribution as justification for it. New England Council on-- I think almost unanimous vote, supporting my motion to request joint management. The Mid-Atlantic Council is meeting in a couple of weeks and right at the beginning of the meeting, they're going to address this issues and I know what they're going to say, get lost New England Council.

**MHA:** [laughing]

**DP:** So it's in the National Marine Fisheries Service's hands to evaluate the merits of the request, climate change, change distribution, justified joint management authority for these three stocks, maybe whatever else. Of course, John Bullard wasn't at the meeting. He was sailing to Bermuda or some place.

**MHA:**[laughing]

**DP:** And he told his staff, Mike Pentony told me this, "Don't support David's position" because, that means the Mid-Atlantic Council would request joint authority for sea scallops. It opens up Pandora's Box. Right? And I said to Mike Pentony, and I think at the council meeting, wait a minute, scallops don't move.

**MHA:** [laughing]

**DP:** We're talking about fluke, scup and sea bass, I mean they're on the move. these are fish they're moving seasonally up and down, they have tails, the scallops-- I mean they'll swim a little bit but hey! They're scallops, this is-- it's a different animal. So, I'm teasing John Bullard about that.

**MHA:** Why would he think they would-- want, I mean obviously they could want scallops but why-- what would their argument be though?

**DP:** Yeah, there is none, not based on climate warming.

**MHA:** And not based on distribution change?

**DP:** Can't do that, can't use that. I'm basing it solely on distributional changes as documented by the Northeast Fisheries Science Center, consistent with what's been said in NOAA's Fisheries climate documents and their climate strategies management strategies. I'm on strong grounds so all I'm saying now to the feds is put up or shut up. I mean, do you believe it or don't you believe it, right? And if you believe it then hey, come on, time for revisiting of how we're managing these stocks of fish. If you really believe you have a strategy and the strategy focuses on such things as what do you do when distribution has changed? Then let's go there and let's discuss. And I was so glad when my assistant Mike said at the council meeting that he would vote in favor of what I wanted because it'll start discussion. That's what I want, just start discussion.

**MHA:** How about ASMFC, will there be more of a fight there?

**DP:** Not really because actually they-- we've had-- a survey was done of ASMFC members not too long ago and they did say in a very positive way that they would be receptive to discussions about what to do with allocations in response to change distribution related to climate effects. And I use that point in my correspondence with Bob Beal of ASMFC, we're making the same pitch, highlighting for Bob that I'm going to be making the pitch with the New England Council to get this joint management authority-- I wanted to let you know Bob, that's it's consistent with ASMFC-- recent ASMFC questionnaire.

**MHA:** Um, so... what would you say in thinking about your career what the most fascinating or rewarding aspect of your career has been?

**DP:** Um... I would say the most fascinating and rewarding part of the career would be that ... through... through hard work, through perseverance, through relationships that I've developed over the years with fishermen, within the state bureaucracy, I was made Director. Wasn't easy, and if you read some of the newspaper articles, *Cape Cod Times*, *Boston Globe*, Gloucester paper, you'll know that it wasn't easy for me to be Director because of other things. But that's been a wonderful reward that I've been able to become the Director and that's gotten me involved in many other aspects of the division's business. Shellfish...habitat, all aspects of division operation, of my personnel and budgets, just now I'm obliged to be more aware of what's going on within the agency and not so tunnel visioned in regard to council management and ASMFC, Fisheries management preoccupied with council meetings and committee meetings and I don't do that anymore because I can't and I shouldn't. So that's been very rewarding but if you take away that part of the career, getting to become the Director for however long it may be... it's been very rewarding to meet a lot of people, fishermen, scientists-- interact with them, get to know them to understand what they do and the importance of what they do. That's been very rewarding. Researchers of all types, academics, ending up being a professor at SMAST, working with the graduate students has been rewarding. That's been a lot of fun. So I've just been able to do all sorts of things. I haven't been-- during all my years, during all my career I've been involved as a scientist strictly and then as a fisheries manager and then as a hybrid, and I've been able-- that's been very rewarding being able to apply what I've known and what I've learned and the science side been able to apply that on the fisheries management side so I'm not being shepherded by scientists down the field to the pen.

**MHA:** [laughing]

**DP:** Opening the gate, putting me in and closing the gate, I can actually jump the fence, because I understand the science behind the assessments and even though the modeling is tough, at least I know enough so I can read it, get into it, and ask intelligent questions about what did you do, is it this way, why did you do it that way, if you did it that way wouldn't you get this result as opposed to that result? So that's been very rewarding. Just the fact that I've been able to combine the science and the management side which is a nice way to be able to operate.

**MHA:** And are you now also dealing with recreational fisheries more than you have in the past?

**DP:** Oh, I didn't mention that. I've been accused of being... well, over the years... I've been accused of being pro-commercial at the expense of recreation. And I've always said no, I just

happen to haven't had the opportunity to really deal with the recreational fishery. I've dealt more with for hire, party boats which are kind of quasi-recreational. quasi-commercial obviously. So... now as Director, yeah, I deal far more than I ever before with recreational fisheries. I've got a recreational fisheries advisory panel. We have the saltwater license, we have money coming in as part of that license. We have to meet and get advice from the advisory panel about how to spend that money for-- improve public access for example. I had to develop relationships with recreational fishermen who were adamant about what should or should not be done. Certainly with management of fluke, scup and sea bass, we have a very important recreational fishing component, so I've had to really engage with the recreational fishery on that, although primarily with the for hire, because they're the ones who really meet and talk then the other guy and gal who fish from shore or from small boats and just don't get involved. You have to seek them out. So, that's been very challenging, to balance the commercial and the recreational and to better understand the recreational fisheries. But I will admit, that I'm even more so now engaged in recreational fishing issues and I desire to understand what's going on. What are the best measures and the impacts of those measures. I'm even more engaged now because I have a six and half year old grandson who fishes. And he wants to go fishing with me now. So, I have a greater-- and my son, my son is a big recreational fishermen. So, finally, I-- it's gotten to the point where my family, my son and my grandson primarily, both sons actually and the grandson-- they've gotten me even more engaged-- apart from what I do on my normal business, interests and responsibilities. I just got that to kind of move me along and to be more engaged and--

**MHA:** How about data from the recreational fisheries? That's always been data poor hasn't it?

**DP:** Yeah data poor, it still is, and ironically enough-- it's not ironically, it's tragically-- we have the Marine Recreational Informational Program, the MRIP, used to be MERFs, M, R, Marine MERFs... whatever, MERFs, MRIP, MERFs. Uh, so yeah we got those surveys done by the Federal Government with states involved and the division has put more money into some sampling, because you need more samples. It's a survey that frankly was never intended to come up with hard numbers. It's a survey that initially was to get us involved in trends and to try to establish the value of recreational fisheries so where do we end up with Magnuson? Well, you got to count every fish right? And okay recreational fisheries are important and they catch a lot of fish, land a lot of fish, ah! We need to know what they're catching. We need to control them. We need to set quotas, or harvest limits, just for them. Well, how do we do that? Well we have log books from party and charter boat fishermen. We have for some of the fisheries but we have

MRIP, we have these surveys, never intended to develop hard numbers and now we use them to develop hard numbers and we have to adjust our harvest limits depending upon MRIP results and many of the results I just don't believe. They're bogus. They are wrong, everybody knows they're wrong, but we must use them because the Federal Government says you must use them. You have to set hard quotas catch limits and then allocate commercial, recreational and harvest limits for recreational fishermen, give it your best shot. Area closures, minimum sizes, bag limits, to constrain your fishery to a certain limit, a certain catch, how do you know what the catch was? You do it through the marine recreational information program through MRIP. That's how you develop your estimate of your catch versus the limit you've been given by ASMFC or by the council. Alright, you find out after the fact that you went over your harvest limit by so many thousands of pounds, now you've got to adjust your bag limit or your season or your minimum size to get you down to the limit you should be at so you change your rules for next year with the expectation that's going to happen. Did you do it? You only know through the survey which is noise.

**MHA:** [laughing] Right.

**DP:** So you know, it's like whoa, it's managing the recreational fisheries is so incredibly difficult because I don't believe the MRIP information often times because it's survey information and I know how a small sample of a few fishermen, intercepted on that and that day, okay you got that catch and that catch alright, a few fishermen. Well, how many fishermen did you have fishing for fluke? Thousands. Okay, well then you take all of this and multiply it by a thousand. I mean some of the extrapolations are incredibly wild and unbelievable. That's the best scientific information available in, that's not science. I keep saying it's not science it's not the best available science. Is it the best available data? Yeah it's the best available data but it's junk, it's the best but it's the best junk so um, you know.

**MHA:** What about putting some kind of questions in their permit in order for them to renew their permits? Could there be some kind of survey at that point?

**DP:** Yeah but then they have to use their memory and--

**MHA:** Ah right, of course.



**DP:** We've gone through that and it doesn't work, everybody-- nobody remember what they caught and what they caught and how they caught it and when they caught it and what size did they catch and-- it's just not good information. And of course, we have violators. We have many examples of recreational fishermen just taking far more than what they've been allocated, why? Because they're out there fishing and we know that-- this is obvious, you catch more fish when fish are more available. So you tell this guy, you can only catch six fish, so he's out there fishing, he catches 30. Okay, well, I'm only allowed six fish, who's looking?

**MHA:** [laughing]

**DP:** I'm going to land it. And if you get intercepted by MRIP for an interview and say "well, I caught six fish." So it's very suspect. We're dealing with human nature. We're dealing with people who don't want to be restricted. When you're out there fishing and you're just bringing in fish after fish after fish and you're being told "well, the stock is not in great shape you've got to keep it at six fish, a bag of four fish a bag one fish a bag of"-- come on. "How can that possibly be true? I'm catching them hammer and tong. That can't be right." So you can justify not living with the bag limit. And the for hire guys, what a challenge that is. We've improved dramatically-- the compliance, with party boats, charter boats is another story, very hard to control. Get a lot of cooperation, certainly, right, a lot of guys live by the rules but you got a charter on board and if you're out there catching a hell of a lot of fish then... and if a black sea bass, this one kills me-- but we've got a bag limit for the recreational fishery for black sea bass in a season and it's, it's very modest and restrictive. So, the fishermen are out there in the springtime fishing up spawning fish, doing extremely well and they come back to us and they say, "what's the sense of all these rules and regulations, they don't make any sense, they're everywhere! Tremendous amounts." And then my response is, "You know why? We stopped the commercial fishery. That's why you're having great success, it's not because suddenly the fish have exploded in abundance. No longer do you have thousands of pounds being removed by the pot fishery and by hook and line, because we shut the commercial fishery down during the springtime so it's all yours guys. Go out there and fish recreationally. There's no commercial fishery until later on in the year." So, that's another one of those factors that plays into how do you evaluate fisheries dependant information, in this particular case, recreational fisheries dependant information. The catch rates are very high, higher than it was before, much higher than it was before but it's due in part to the fact that we shut the commercial fishery down. No more competition. Nevertheless our bottom trawl survey indicates that the spike up in abundance and the Federal Survey too.

**MHA:** Very interesting, very challenging it sounds like.

**DP:** A lot of fun though. Why haven't I retired already? I can retire, I could have retired a long time ago. I haven't retired because I still find this to be very challenging and a lot of fun. I can still deal with the personalities and those around me including those who don't want me to be the Director. When we were competing for the Director position, I competed with Dan McKiernan, and I said to Dan at the time, "if you get it, that's fine because you'd make a great director" and he said the same to me, I think he was being truthful. He said the same of me and as it turned out there were, as it turns out, and I'm still not entirely sure, many individuals in the fishing industry argued against me. They lobbied against me. They did not want me to be a director, in part, I'm told because of positions I've taken on groundfish management over the years. I've been insistent that for example that Amendment 18 not be pushed aside, let's control consolidation, excessive shares, all of that but anyways, I wouldn't let that go. So they worked against me, I had many groups and individuals speaking against me. Dan McKiernan, because we had been around for a long time-- and we've got supporters and we've got detractors and he had a lot of individuals who wanted him, no way no how. And so we had to deal with that opposition that really worked against us and frankly, the only reason why I'm the commissioner now, I mean the Director now is, I've developed a great working relationship with our marine fisheries advisory commission. And the members-- the previous membership, you know they said when the commissioner, who was new at the time, George Peterson, when he offered up Doug Christel's name, NOAA Fisheries, Doug Christel, it was like a shock, came out of the blue. And our commission, close vote 4 to 3, said no to the commissioner. So, we were in limbo for a long time. I'm Acting Director, well-- who's going to be the Director? So the commission eventually-- the commissioner, who's not the commissioner of the commission, that's confusion, it's separate-- he eventually said, "okay David, you'll be the next director." So I am. But it was almost Doug Christel. So um... so we're working with Doug now because Doug is on board, I think you know that, Doug's on board. We've developed a good working relationship with Doug, he's a bright guy. I think everybody's waiting for me to retire though.

**MHA:** [laughing]

**DP:** But, I'm having fun.

**MHA:** Good.

**DP:** Despite the chaos, despite the slings and the arrows and despite everything else. I've-- but yeah I've had a lot of support from the fishing industry, too-- a lot of counter-arguments to me, you know, David's poison, no David's a good guy. Yeah, he's working hard but he has small boats, big boats, all that in shore, off shore, okay. So, it pays to have friends. And you deal with your adversaries. They're not enemies, they could just be on the-- on a different issue-- a different side of an issue so they would vote for somebody else. I don't care.

**MHA:** You know when you were-- I was just flashing on how you have managed to really be very interdisciplinary in your approach and... looking at the different sciences and different people and keeping these relationships foremost, which is very social science oriented-- and yet you look at ecosystem management as being... a sort of incomprehensible in a way-- or maybe difficult to deal with, in a way I see that as almost interdisciplinary taken to the logical extreme.

**DP:** Yes, as a matter of fact, before you came in... Northeast Ocean Plan, right [gets up from seat and retrieves paper]... [reading] "Northeast regional planning body principles"-- I'm on the planning body, now--formerly it was Paul-- one of the principles-- "The comprehensive ecosystem based approach"-- ecosystem based management-- what does that mean? Ah, it says, "Consider the big picture of ecological, economic, cultural, and other needs in our region." Yeah. But how? And what takes priority? Right? There's nothing that I know of out in the literature that really provides clear guidance as to *what is* the most important factor and how do you balance all these parts? The big picture? Ecological, economic, cultural-- which I guess is social as well-- and other needs in our region. Okay, what are the needs and how do you evaluate all of these individual needs specific to those categories? That's ecosystem based management. And again it sounds wonderful, and I love it but-- it's good grist for the mill but--

**MHA:** How do you do it?

**DP:** No one knows yet how to do it, and I continue to say that those who have managed an ecosystem based fisheries management all they have said was... we'll be precautionary in our management approach, we will make sure we protect habitat that appears to be sensitive, vulnerable, kelp forest or whatever. We'll do that. Precautionary habitat issues, be very concerned about predators, prey. Let's make sure there's a lot of prey out there for the predators. Let's do those things in our managing in an ecosystem based way. Really. We're doing that now-- we've been doing that for years. But we didn't call it ecosystem based management. Now we're

going to call it ecosystem based management because it serves a purpose of our looking like we're really-- well, what about the cultural? What about the ground fishermen and how they're being gutted? Right? How we're losing fishermen, how they're dropping out because of sector management, because of National Standard number one guidelines that don't necessarily comport with Federal law? We're losing fishermen. We're creating all sorts of economic and social havoc-- that I don't appreciate, you appreciate more than me and those, as I said before-- those who are dealing with the family assistance centers, who see the people come in... how-- isn't that part of ecosystem based mana-- it just says cultural, doesn't it? And all the other documents say the same thing. And even the Federal Government says you got to bring the fishermen into this right? That's part of ecosystem based management. Yeah, they're the predators so-- squeeze them, in order to deal with the ecosystems. I still think a lot of it is pretense, a lot of it's just-- it's-- there are great bells and whistles. And they might help get more budget-- more moneys for the budget because we're going in a different direction. It's proactive and it's creative and it's biodiversity indices and areas of high productivity and what have you. I'm still trying to figure that out. High biodiversity occurs in areas that generally are of low productivity. Like a wheat field, for example. A wheat field is incredibly productive, but very-- not very bio-diverse. Coral reefs. Incredible biodiversity but not very productive. It's always been the irony there, that you can't have productivity and high biodiversity. It just doesn't work that way in the field of ecology. And I guess ecosystem based fisheries management, ecosystem that's ecology right? So you get into this-- *I* get into this mental roadblock of trying to figure out how to do this and react to people's insistence that, again you got to work towards areas that are very bio-diverse-- and I love biodiversity, who doesn't love biodiversity? Who doesn't love to go into a rain forest? Who doesn't love to go into a coral reef? But boy, I love to look out over a wheat field.

**MHA:** [laughing] Like to eat.

**DP:** Yeah so you know, it's just um... and I'm not denigrating or putting down anybody who works on this kind of stuff because I've been doing it for quite a long time as well, just struggling with it and we are making a lot of interesting progress and setting the stage for... research that will acquire the necessary information in good science for attempting to do ecosystem based management. But then again... this document that's still in draft form-- I helped develop and did great work here, I must admit this is very good-- but, as I said at the listening session on this plan, go to the chapter on research and aids. As I said at the listening sessions on this plan, go to the chapter on research and monitoring aids. Go to the chapter on research and monitoring aids

that are an integral part of this document. Go to the work that was done years ago by... um, oh gosh the um... National Ocean Plan, I can't recall it's been so long, now I got to go back over it because I'm going to be teaching this in the Fall. Pew, The Pew Report and then the follow up and the national initiative uh... anyways-- a document at the back of this very thick plan was like this [gesturing] and it's all-- research that needs to be done at estimates that needs to be funded required to do that research and that monitoring. The funders go, what!?! Just unbelievable amounts of money to do what's necessary to follow up to accomplish the strategies, to follow through the recommendations. Unbelievable amounts of money-- and commitments by the different agencies involved-- federal agencies in particular to move it forward to changing administrations , move it forward, provide those funds, do the necessary research, get the stock assessments scientists, provide them the necessary funds, opportunities-- job opportunities. It's not going to happen. Not the way it's been projected and not the way the needs have been projected. It just can't happen. The money's been used for, ironically enough, an importantly enough, social needs are-- welfare and what have you and it's a very important part of our national budgets critical-- and then, of course, military needs. So that's-- as I get to this point in my career I-- it's-- I-- having been involved in the development of many plans and research agendas and having reviewed many research agendas and the budgetary needs to achieve those-- to meet those agendas, it's just not going to happen. It's not going to happen. And with-- even with NOAA-- of necessity a lot of the money within NOAA goes to our atmospheric and climate needs and evaluating all of the... changing weather which is critical--

**MHA:** Has-- has NMFS budget gone down? Over the years?

**DP:** I don't know, I'm not sure. I think it's been pretty stable but I'm not positive. It's been a while since I--

**MHA:** The reason I ask is I was reflecting on the... constant tension between monitoring and observing and the other things that they do and how they keep saying they don't have money anymore to do the observing or to pay for the observing.

**DP:** Right, yeah.

**MHA:** And yet they want more. They want more observations [laughing] I guess, so I was just curious about-- I haven't looked into that either so I don't know. Um so, I've taken an awful lot of

your time, just... want to ask you... how you've seen the council change since you played a big role in that over the years-- have you seen changes? Have you-- good, bad, ugly--whatever.

**DP:** Um... certainly change in membership expertise and focus. Um... well, one change might be just the overwhelming responsibilities and considerations that council members now have to deal with because of, again the Federal Law, National Standard Guidelines, lawsuits... it's a lot more complex now than it was back then. A lot more demands, measures, you know buffers, all of that so. As I said before it was much simpler back then more straightforward. It was frustrating back then, too, but I think even more frustrating now for many council members.

**MHA:** Yeah.

**DP:** Um, again, I think more information was available back then because there weren't so many things to consider and now it's everything including habitat. Habitat considerations, and then the overarching issues of monitoring. Omnibus amendments for monitoring and habitat so those are - unbelievably difficult tasks and it takes so long to get anything through the system from beginning to end, more so than before, years gone by. So I think there's more frustration with that by council members. In terms of conflict of interest, I don't think that really has changed I mean, you got to put people on the council who have expertise in fisheries and there are going to be times when they're going to be voting on something that might benefit them or... not the other guy. Still happens today. But you can't avoid that, that's just the nature of the beast. Um...

**MHA:** Do you have any thoughts on how-- the councils have been analyzed as a group-- the eight different councils and... by-- especially the NGOs [non-governmental organizations] so there's been a lot of criticism of the New England Council as compared to some of the other councils. Do you have any response to that or any feeling one way or another?

**DP:** Um... Well, I really can't comment on the West Coast or the Gulf, I just have to focus on the Atlantic coast. I haven't had much time to really focus on what's going on elsewhere around the United States. But if I look at the mid-Atlantic and the New England Council, I've always said the mid-Atlantic Council's got a piece of cake. They've had a piece of cake for many, many years. New England's had groundfish which has been incredibly difficult because no one knows still how to manage a multi-species fisheries, especially with catch shares. And contrast with the mid-- what they've done with fluke, scup and sea bass and squid and ocean quahogs and surf clams and many others-- but, the management challenges have not been as great-- at least in the

past, now they're becoming more complicated, too. Especially commercial versus recreational issues more so than ever before. And status of the stocks. In the past, let's see... I think the-- the mid-Atlantic Council has benefited more than New England Council from state involvement because of ASMFC managing jointly some of these plans, scup, sea bass and fluke so it's made it easier for them advance some of the measures that they've needed and New England-- there's no real ASMFC involvement except sea herring and winter flounder, other than that it's just-- it's all New England Council. Oh and dogfish, spiny dogfish. So, yeah New England just has some very special problems, also the... physical oceanographic difference, Gulf of Maine, Georges Bank, Southern New England. As Phil Coates used to say, we're the confluence of three great ecosystems. So they're all different, the ecosystems from-- there's interactions because of the oceanographic effects, movement of fish back and forth from one ecosystem to the next. And of course we're still wrestling with the fact that we're calling Gulf of Maine Cod-- we've defined Gulf of Maine Cod inappropriately. Because I mean, western Georges Bank is Gulf of Maine Cod and that's been proven. That's Gulf of Maine Cod, they moved down-- back side of the Cape is called western Gulf-- western Georges Bank but it's Gulf of Maine Cod-- probably some eastern Georges interacting with it and some movement back and forth but... the workshop is done, made it very clear that it's one stock. But we still manage it as western Georges Bank, so we've got these issues too-- not so much down in the mid. But yeah, I mean, the New England Council deserves some criticism and I deserve criticism as well being part of the council. The NGOs, of course, have got their own specific agendas and I mean, they do a lot of great work. I've got some great working relationships with the NGOs, with The Nature Conservancy and with EDF [Environmental Defense Fund]. I work well with some of the people there. So...

**MHA:** It's interesting I see, some parallels, potential negative parallels actually, with the problems with managing multi-species and this attempt to do the ecosystem based management.

**DP:** Right, yep.

**MHA:** Because you're dealing with all these different species at the same time. Um and then one last thing, I guess. We were talking a little bit about recreational fishery and commercial fishery and how that's-- in the mid-Atlantic is a real struggle um-- and when we were talking about productivity versus biodiversity and... I kind of make a parallel there, too, with the recreational fishing representing biodiversity in a sense and the commercial fishermen representing the

productivity and it's the productivity that feeds the rest of us who don't do the recreational fishing.

**DP:** Yeah, that's always been part of the challenge. Recreational fishing opportunities is wonderful and it's fun. It provides some revenue for the for hire guys. But it's just fun and you get to bring it home, you get to put it on your table, you eat it so it's a wonderful thing, it promotes tourism. It's great for the economy but then again how many people are not recreationally fishing and they're just depending upon commercial fishermen to bring them the fish to the marketplace so they can buy it? I mean... that's just... what's more important right?

**MHA:** It's that whole balancing thing that you were talking about right here.

**DP:** Yeah, yeah it's-- that's why we put such a heavy emphasis on the importance of commercial fisheries and that's why commercial fisheries generally eke out over recreational fisheries with importance but there's some exceptions of course. I find it interesting that when we go back in time, quite a few years, the allocations of Gulf of Maine Cod commercial/recreation-- the recreational community gets a lot of Gulf of Maine Cod, a very high percentage goes to the recreational fishermen in the Gulf of Maine. Why? Why, I mean it's... it's because of ... survey information indicating that recreational fishermen do catch a lot of cod fish from the Gulf of Maine. So you get to the historical perspective and you get a set of shares so now the recreational fishermen get a high percent share because of their traditional catches that have come about through survey work, and the commercial guys, of course, claim those sort of results are crazy they can't possibly be true why? Why are they getting so much-- [phone ringing] I better take this one... repetitive call, excuse me.

[brief pause]

**MHA:** I just want to thank you very much for such a great interview, it's really been fascinating and is there anything that I-- I mean I know I'm just scratching the surface and you've had a long history both here and with the council and have done a lot over the years so I know I'm just scratching the surface but is there anything that I haven't asked you that you think you'd really like to make sure is recorded as part of your oral history?

**DP:** Um... yeah why not? Let's see, as an oral history of my work here at the Division of Marine Fishery, one thing I probably should mention that you haven't asked about-- there's no reason



why you would... who am I? Does anybody know who they are really? I'm a deacon in the Catholic Church... and there's a reason why I'm a deacon in the Catholic Church and it comes about because of my concern for other people, and my becoming... much more familiar with Jesus Christ - who He was, what He did, why He did it. I'm not so much concerned about church dogma and church structure and church hierarchy and all of that, it's important but I'm more concerned about who He was and what He did. He argued against injustice. He was there for the poor and the oppressed. I could go on but I won't-- so I like to think that some of my attitude, especially in the last 20 years or so-- some of my attitude towards what I do on the job and how I interact with other people-- the nature of the decisions that I make, relate a lot to the need for social justice, the need for equity and the need to... deal with those who are disadvantaged. Try to prevent people from being disadvantaged through rules and regulations, not always successful but I try to do that. There are the rich and the powerful within the fishing industry. God bless them, I mean, they worked very hard to become rich and to become powerful but at the same time, they take advantage of other people intentionally or not. And without rules and regulations in place to deal with that... inequity that many would say injustice, common property, this is a public resource. Without those rules and regulations I think, we can end up with just a few controlling the whole show, having undue influence, undue power and strength. So... I'm influenced by my faith and by the fact that I'm a deacon. By the fact that I have part of my ministry service and while I don't bring religion into my workplace, it's still influences me because I am ordained. I have Catholic Sacrament, ordination, Holy Orders is the sacrament. So while I'm not full of myself, I don't think of myself as extra special or holier than thou, I don't think of that-- think of myself that way at all, at least I feel good about the fact that what I do on the job that relates to fairness and equity and dealing with everybody who's out there trying to survive these difficult times, that... that I'm influenced by what I know about and what I believe about Jesus. I'll add that.

**MHA:** Okay. Thank you.