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Wieting, Donna ~ Oral History Interview

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Voices from the Fisheries
166 Water Street
Woods Hole, MA 02543

Interview with Donna Wieting by Ruth Sando
Summary Sheet and Transcript

Interviewee
Wieting, Donna

Interviewer
Sando, Ruth

Date
July 1, 2016

Place
NOAA Headquarters
Silver Spring, Maryland

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Use Restrictions

Biographical Note
Donna Wieting currently serves as the Director of the Office for Protective Resources at NOAA's National Marine Fisheries Service. She has a B.S. in Animal Science from the University of Massachusetts and a Master's in Marine Science from Louisiana State University. She has been at the agency since 1989 in various roles.

Scope and Content Note
Interview contains discussion of: Endangered Species Act, Marine Mammal Protection Act, Magnuson-Stevens Act, consultations, regional vs. national responsibilities, authorizations, public education and communication, advances in science and how it impacts her office's work, cooperation with stakeholders, Take Reduction Team, inter-agency collaboration, international collaboration, Sea Grant Fellows, North Atlantic Right whale and shipping speed regulations; monk seals, white abalone, environmental intelligence, partnership building to leverage capabilities

Donna Wieting provides a detailed account of her work including how NOAA co-manages the Endangered Species Act and the Marine Mammal Protection Act with the U.S. Fish and Wildlife Service. She also discusses her work with various fisheries, the Magnuson-Stevens Act and its' impact on the work of the office, working with related environmental organizations and agencies, government, academics, and lawyers.

Indexed Names

Bridges, Lloyd
Cousteau, Jacques
Heyerdahl, Thor
Johnson, Lindy
Knauss, Dr. John
Sullivan, Dr. Kathryn

Transcript

Ruth Sando (RS): This project is being conducted as part of the Voices from the Science Centers project funded by the Northeast Fisheries Science Center. It's also part of the Voices from the Fisheries project that is supported by NMFS Office of Science and Technology. I'm Ruth Sando and today I'm speaking with Donna Wieting at the NOAA Headquarters in Silver Spring, Maryland. We're meeting on July 1st, 2016, at 10 o'clock in her office. Thank you, again.

Donna Wieting (DW): You're welcome.

RS: Ms. Wieting is the Director of the Office for Protective Resources at NOAA's National Marine Fisheries Service. She has a B.S. in Animal Science from the University of Massachusetts and a Master's in Marine Science from Louisiana State University. Thank you for your bio. [laughs] Let me start by asking you to describe your current role at NOAA.

DW: NOAA co-manages the Endangered Species Act and the Marine Mammal Protection Act with the U.S. Fish and Wildlife Service. The two agencies are responsible for those two acts, the premier environmental statutes and for us, for marine wildlife. Within the Fisheries Service, the Office of Protective Resources is the lead Headquarters office to ensure that we're carrying out the Endangered Species Act [ESA] and the Marine Mammal Protection Act [MMPA] appropriately. We work very closely. Each of the regional offices and science centers have staff that work either on the ESA and MMPA, I'll use that shorthand, within the regions or support ESA and MMPA through science. Our role is to ensure that we are coordinating effectively across the regions and the centers and Headquarters, that we're providing the kind of guidance and policy and standards for us as a national program to follow and be able to carry out these statutes and that we're ensuring we've got the science, policy and management, and legal interests reflected in the kinds of actions, decisions, considerations we make under these statutes. We have programs that we run. So, regulations that we actually write here, reports we write, briefings that we give, and then we also have this national role of ensuring we're consistent, coordinated, and taking a strategic view on endangered species and marine mammal protection and conservation.

RS: Can you speak about the history of the Office of Protected Resources? When it got started?

DW: That might be a little bit before my time, but I came onboard, at the time it was the Office of Habitat Conservation, which included the habitat program and the protected resources program, and this was back in 1989. I came out of LSU as a Sea Grant Fellow, we called them at the time--they're now Knauss Marine Policy Fellows—and served in that office included both

protected resources and habitat. Over the years, those over the next five to some number of years, those programs were split out to separate programs. The Office of Protected Resources as its' own entity probably has been around since the early ‘90s, but I can’t be quite sure about that. The ESA and MMPA were written into law back in the early ‘70s and so the responsibility for those laws has been around since that time. The agency was responsible for implementing the Congressional law and establishing regulations. It was a very small group of people at the time who were trying to write all these regulations, but certainly as those regulations went into place and as people became more aware of what the requirements were and the responsibilities, the program built up and it was more and more need.

So, from the early ‘70s through the ‘90s, those first 20 years, there was a slow but steady growth of the responsibilities for the program. Since the ‘90s, there’s been a number of amendments to the statute, particularly MMPA. There have been a number of additional species listed on the endangered species list. There have been many different aspects that have made the work more challenging, more complicated, and so therefore the staff and the office expertise and capabilities has had to grow with that.

RS: How big is the staff that supports it right now?

DW: If we’re talking just about this office, the Office of Protected Resources, we’re at about somewhere about 100, including federal employees and contractors.

RS: How has that changed from the early days? You said it had to grow and different skills had to be added; that it was very small at the beginning. Was the big leap in the ‘90s?

DW: I think it might have been then. Again, I came in then, so I don’t really know what happened prior to that. I kind of think that might have been the timeframe when it grew, but there’s been steady growth over the years. That’s been because, again, for the Endangered Species Act, there’s been a number of requirements for consultations and as federal agencies became aware of their responsibilities to consult with us, we’ve had a role in that. In the early days, the regional programs were not as built up as they are now. Much of the authority for all of the consultations were here, but over the years as more and more of these consultations and these other kinds of statutory requirements grew, the regional offices developed their own staffs and really had to build up themselves. So, although I was talking about the growth of our office, there’s been a growth nationally because much of the work is happening in the regions when they’re working with other agencies or supporting science or whatever they might be doing.

RS: Just a quick question in that regard. Can you define what a consultation is?

DW: Within the context of the Endangered Species Act, there’s a requirement for an agency that’s going to carry out some sort of project and it can be any range of project or it could be a regulation and it could be a program. If that program or that activity could have the potential to interact with or affect an endangered species, then they’re required to consult with us or the Fish and Wildlife Service, depending on the species that they might affect. To either confirm that there isn’t going to be a negative impact or that there could potentially be a negative impact and

here's the kinds of things they should do to lessen the impact or reduce the impact to a level that there won't be a problem for the species.

RS: These are issues that are coming in from outside?

DW: Correct.

RS: Okay.
DW: That's the lingo on the consultation requirement. Now, that's just one aspect. There are others kinds of consultations, but that's sort of the idea behind them, that there is a duty for other agencies. It could for non-federal agencies as well to consult with us or the Fish and Wildlife Service so that their actions did not cause jeopardy to a species or to its' critical habitat.

RS: I can see where a lot of that would take place at the state level, so it would go into the people working on this program --

DW: It's a fair amount that's happening, yes. A lot of it's happening at the regional levels. Where we get involved, when it comes to the Endangered Species Act consultation, and that's only one category, there are many others, consultations, is where another agency may have a big major national program. So, if you have an agency that is doing long-term forest planning, which would expand beyond one region. Or if you had EPA [Environmental Protection Agency] putting in some regulations that would be nationwide regulations, then we would be the consulting body within the Fisheries Service because it goes beyond one region. It's multi-regional. Wherever we have multi-regional, multi-state sort of more national or international kinds of consultations, that's where we would come in.

RS: It sounds like there's an awful lot of work that's done with other federal agencies and you mentioned other organizations as well. What are ones that you deal with the most often?

DW: We deal a lot with being a marine agency. We deal a lot with the Department of Defense, particularly Navy, Navy actions. The Corps of Engineers. They have a lot of activities in coastal areas that may have an effect on our species. EPA is one that we work a lot with. Our West Coast region, in particular, works a lot with the Forest Service and with the Bureau of Land Management. There are many others out there. FEMA [Federal Emergency Management Agency], Federal Energy Regulatory Commission. So, many of the big agencies that one would expect would have activities that could impact marine species, coastal species, salmon, and anadromous species. Those would be the one that we would, that would consult with us.

RS: What about BOEM?

DW: Yes, well, BOEM as well. That's a good point.

RS: And I should define it as Bureau of Energy Management. No. Bureau of, B-O-E-M.

DW: Ocean and Energy Management. That's right, yes. So, yes, we work closely with them because, of course, they are regulating and leasing to oil and gas developers and seismic

industry. So, when they're regulating them or when they're leasing submerged lands to them, then they, BOEM, would need to consult with us. So, yes, they are another.

RS: If, for example, if there were an issue around wind farms, they would be dealing with it and they would come to you for consultation?

DW: Correct. So I've talked a lot about the ESA. We also have consultation under the Marine Mammal Protection Act because there are regulations within the, requirements within the statute that protects marine mammals even if they're not listed as an endangered species. If, for example, an oil and gas, a seismic energy company wants to go out and do some exploration, they need to be able to receive an authorization from us that allows them to do their work and we make the determination that they won't harass or won't injure marine mammals beyond a negligible level. That, too, is a consultation that we carry on with industry, so it's beyond the federal agency, but then the federal agency as well. So, it's a combination there.

RS: Once they get the authorization, is that all they need or is there follow up or continuing interaction?

DW: Yes, so the authorization really looks at the project and says okay, need to make some modifications here, so there's less impact here. And then we would set up mitigation measures on how to ensure that those activities would not have greater than a negligible impact and will have really the least practicable impact on those species and stocks of marine mammals. Then there'll be a monitoring requirement and then as well as reporting. Some of these are just one year authorizations. Some are over five years. So, there's different kinds of requirements depending on whether it's a one year or five year, and whether it's only a harassment or an injury related impact. We work with them, with both the agency and with the applicant, on those kinds of authorizations. That would be under the MMPA.

RS: For the MMPA, it could be any mammal, it doesn't have to be on the, you said it doesn't have to be on the endangered species act. So, not matter what --

DW: A bottlenose dolphin is not listed, for example, under the ESA, but it still has protections under the MMPA. California sea lions, not listed under the Endangered Species Act, do have protections under the Marine Mammal Protection Act. Yes, they're different statutes, but they both are meant to be protective in different ways.

RS: Is part of your role educational, then, and making sure that all the interested parties understand their responsibilities?

DW: Well, education and outreach is important aspect of it. That's one that's usually a bit harder for us to do as proactively as we'd like, I think. It's one of those where having a cadre of people who really understand how to communicate to different audiences. That's often not the skill set that we bring as technical experts in the ESA and MMPA. We try to have some ability to communicate, but that's why there are other programs within the Fisheries Service and NOAA that help us to try to communicate to the public, and often for industry as well. We want to be able to alert them to here's what's happening.

We always like to have more voluntary approaches before we have to put regulations in place, but some of that has to do with being able to educate both the industry, other agencies, and the public on what's allowed and what's not allowed and what does it mean to harass an animal and what kind of activities are you undertaking that might lead to harassment and what the impacts are? I think we see that. We've got a, and it's not us necessarily in this office, but the agency has a big promotion now on trying to educate the public not to want to take selfies with seal pups and wild marine animals. People love that stuff, but it really has a negative impact on that animal, either to have them become habituated to humans and then become a nuisance and perhaps have to be removed, or it can lead to those animals, they are wild animals, actually injuring a person. There's a big effort. This is the time of year that we're seeing a lot of pups on the beach. People go "oh, that's such a cute pup. Let me go up. I want to take a picture. Let me put my kid next to this animal." And we are working really hard to educate the public that's not good for a whole number of reasons. One, your own health and safety, but if you really care about this animal, you will stay at a distance so that you won't hurt this animal in the long-term.

Those are the kinds of public education that we support. We're not really those who are skilled at doing that, not necessarily, but we do have communication experts in the regions and here in the agency that do that kind of stuff very well and do public service announcements and that sort of thing. We work a lot with other agencies. We go out and talk to them about what their responsibilities are under ESA and MMPA. Other agencies, they've got their own missions. They're trying to accomplish whatever their mission is. So, although the ESA and MMPA may be a responsibility, they often don't know very much about it because maybe they haven't had much experience with it, and then what we do is try to help them figure out how can they accomplish their mission, which is their responsibility and also accomplish their other responsibility, which is to be in compliance with the MMPA and the ESA. That's a lot of our education with other agencies.

When it comes to industry, we try to communicate through the other agencies, but then we also go to many conferences and those kinds of venues to be able to explain to, and when I say industry, I mean anyone who may be needing maybe an applicant for a permit from any agency and being able to explain to them here's what's going to be required and here's what we want to work with you on to make sure that whatever you're applying for can have minimal impacts consistent with the law.

RS: It strikes me that recreational fishing might be one of the harder targets to educate and to make sure that they fully understand what they should be doing.

DW: Yes. I think there's been a real effort within the Fisheries Service to communicate better with the recreational fishing industry in many ways, right? We, too, have been, particularly at the regional level, trying to do more outreach to the recreational industry, particularly around where they have their bait fish, where they are discarding fish that can attract marine mammals and then those marine mammals can become nuisances, and then when they actually are trying to fish, you've got marine mammals around taking the fish off their lines. Again, it's this part about human behavior is really trying to educate people about how our behavior can have long-term negative effects for ourselves and for the animals, and trying to make people more aware of that.

It's hard, though. I mean, the recreational fishing industry, it's a very broad industry. But we are, we are trying to explain that to them.

RS: Is there any other audience that's particularly difficult?

DW: I don't know. Again, I think it depends on how aware. There are people, for example, when you look at the public, you've got people who live along the coast. They're probably very familiar with having heard these messages. But if you have tourists coming in from somewhere where they've never seen a marine mammal before, are not aware of these issues, that's going to be a whole new world for them. They may not have any understanding of that. I think for some agencies, there are some who are more aware than others. For some industries, the same thing.

So, I don't think there's any that I would say are more particularly difficult than others. I think that it's a matter of how experienced they are and how aware they are. I think most agencies and most industries, once they understand the reasons and once they understand what the goals are, will work with us. They'll work with us to try to figure out how to accomplish what they want to get as well as complying with the law. When they don't, they realize they set themselves up for litigation. It just takes one or two cases for recalcitrants to recognize that it's not in their best interest to not work collaboratively and cooperatively to try to accomplish the goals.

RS: Thinking about that makes me think of social media. And thinking of social media makes me think about technology. With your history with NOAA in general, how would you describe the changes in technology in terms of the impact for responsibilities like this?

DW: Certainly around the social media, I think they're really paving new ground, but you're talking to someone who is not media savvy at all. To me, it seems like the agency is really trying to have websites that are more user friendly, be able to communicate with people in very different kinds of approaches. I've been impressed with the growth. I think there are many more technologies it seems that we could be employing within our day to day work. Whether it comes to managing records, which may seem pretty boring, but is really a big part of us being able to get data and information in and in a format that we can use to make effective decisions, and then to get the decisions and the reasoning for those decisions out to the public. That whole process is really what so much of government is about, and yet I think we're very behind the times in how all of those pieces work.

RS: Are your databases on a long-standing mainframe system?

DW: Some of ours, it ranges, right? We have some databases that are just old and outdated and just need to be changed, but sometimes because of the system that they're in, that's a lot harder than it seems. Off the shelf kinds of products sometimes works, sometimes don't work. Frankly, the resources, the budget, to be able to really have a high tech system, it's hard to do that in our budget environment. We're having to carry out the main responsibilities that we've got and so that's where the focus of our money goes. Being able to, sometimes getting the job done now, that overrides trying to develop a more efficient and effective process. We're trying to do that as we can, but it's really hard. So, I think the agency has tried to move there, but the agency as a whole has the same limitations when you've only got so much money, you're putting it towards

the things that are really sort of eating your lunch today, right? And it's harder to plan for and develop the processes that might make you more effective in the long-term, even though I think that's the goal.

RS: So, the end result is you probably can't do some of the analyses that you would be able to do?

DW: Well, they take longer. They probably take longer than they would normally. I think there are some ways to express or to describe to the public the analysis we've done in a way that's more understandable. You know, GIS [geographical information system], for example, has become such a great technique and technology. One, because it's so visual and people can see. Oh, I get it. I get how these pieces fit together. But GIS takes a certain kind of expertise. It takes a certain kind of support systems. It takes a development of a capability that takes you away from doing the here and now. So, we're trying to move in that direction. We're trying to get more people either trained up in GIS or hired on that have that expertise, and I think over the next five years we'll see more and more of those kinds of products that are easier to understand. The public can more easily understand it. And we'll be able to do analysis more easily. I think we're still doing those analyses, it just takes us longer. It's maybe not as easy as it could be.

RS: How far back does GIS date at NOAA? Do you know?

DW: Oh, I don't know.

RS: What about other technologies? I'm thinking of things. I mean, I was reading about underwater drones. Are there other technologies that you've seen that made you like, wow, life is really different using this?

DW: Well, I think the, call them the UAS, the Unmanned Aerial System, which is what you're referring to with the drones. Those, for our scientists, can be very effective in helping us gather scientific information that was either would be much more expensive otherwise, or have safety considerations. So, for example, when you're up in the Arctic and trying to do surveys of--I'll use marine mammals as examples--surveys of marine mammals in remote locations. In the past, you either didn't do it at all, or you took a boat out there and you had people with a potential, with rough weather, of really safety concerns for those people. And sometimes you couldn't get out because of the weather or you couldn't see very well.

With the advancement in UAS technology, the scientists can launch these systems. And these are very sophisticated, these are not the ones you might see in the back of a magazine--these are really sophisticated systems—to be able to capture the information you want more remotely. So, you're being more protective of people, probably getting better information, and if you can't get information that day, the cost is not as significant as it used to be. We're seeing that in many other cases where scientists are able to do some really neat research using these unmanned aerial systems. So, that's one.

I think there are a lot of advances as well in genetics, so from the science world, and also in the toxicology world. For us, for example, Southern Resident Killer Whales, the orcas in Puget

Sound area, well-loved, iconic species. Their population continues to decline and we continue to, we have ideas about what the problems are, but really being able to grab on to what the significant problems are and how to address them is more challenging. We think there's certainly an impact from toxics, runoff from land, maybe from industrial processes; it's not quite clear. So, there's a lot of work going on in our Fisheries Center there, our Northwest Fisheries Science Center, on toxicology to better understand how marine mammals and in this case, orcas, are picking up these pollutants and these toxins and how that is affecting their system. Is it affecting them, their reproductive system, so that's why they're not calving, or is it something else? Especially for our coastal species, they're interacting with a lot of stuff. They're interacting with fishing nets. They're interacting with ships. They're interacting with coastal pollution and habitat loss, sound, all sorts of things. So, being able to tease apart what are the impacts from each of those kind of human caused threats so that we can really target the ones that are most important. It's really key for us to be able to spend our money wisely.

RS: I'm thinking of, and in your description of all of these challenges that the species have in the coastal waters, so if the scientists discover that there is a particular toxic that's having a bad effect causing a cancer or something like that, and that information comes to you. As an example then give me…you talk about what you do with it and what the implications are for your work.

DW: That might be a little bit more challenging example because we don't directly regulate pollutants, right? And not knowing where it's coming from it may require another agency. So, in that case, what we might do is take that information and if we could identify it with a certain source, then we go to the agency that might be responsible for regulating and say, "hey, we really need some help here. We're really having these impacts, so let's try to do something about this." Or a state may than take that information and use that information. So, it may not be us directly.

RS: But you're sort of advocating?

DW: Exactly. Right. Or at least alerting and providing information and saying "hey, we really should do something about this." Now, there may be some regulations we could put in place, but it might a little bit more secondary in some cases. In other cases, where we might have much more direct-- Let's say we're finding that we're getting marine mammals entangled in a certain type of fishing gear and we've been able to identify it to the gear, we've got it to the area, then that's certainly something that the Fisheries Service, we could say okay, this is a problem. We have processes in place to deal with those kinds of impacts and we would bring it to that process. It's called a Take Reduction Team and say --

RS: Take? T-a-k-e? Reduction team?

DW: Yes. So, take under the Marine Mammal Protection Act and ESA refers to many different kinds of impacts that negatively affect the marine mammals. So, it could be mortalities. So, it could be killing the animal, but it could be seriously injuring them. It could be hurting them in a way so they can't migrate the way they normally migrate or they can't feed. So, there are a lot of different aspects to take. So, that's why it's called a Take Reduction Team and it's set up for different marine mammals and marine mammal groups.

If we found that we had North Atlantic right whales, for example, now they're listed under the ESA, but there is a Take Reduction Team for North Atlantic right whales and we said "okay, they're getting entangled in a certain type of fishing gear." We would go to the take reduction team, which is really a, it's intended to be a consensus team made up of fishing representatives and state representatives and academics and federal government and a number of non-governmental, environmental organizations. Say "okay, we've got this information. We know that this is where its' coming from. We need to do something about this. So, let's figure out what we should do, how should we regulate this fishery is a different way, and what should those regulations be?" We would try to work through that consensus organization to come up, they would provide recommendations to us and say, "okay, we need to regulate this fishery. We need to eliminate this gear or we need to not allow this gear to be used during the season, certain parts of the migration pattern". Anyway, along those lines. That's where we would go to try to, and then we could go ahead and put those regulations into place. That's what we've done in the past.

For example, for lobster gear in the Northeast, we knew that there were interactions with right whales. We went to the team. The team with the support from the Fisheries Service developed technological improvements called weak links, the idea being that there's a part of the gear that under normal circumstances wouldn't break, but if you had a right whale or a whale that ran into that gear, it would break so that it wouldn't become entangled around the animal. It hasn't reduced all entanglements, but it certainly has helped reduce the number of entanglements. So, it would be that kind of thing. We might look at a gear technology or we might look at again either eliminating the gear from certain areas at certain times. So, different ways that we would address what the scientists or science tells us. Sometimes it's about going to regulations. Sometimes it's about education. Sometimes it's about policies. That sort of thing.

RS: Thinking back over time, how has the decision-making process changed in regard to sort of leading up to implementing a new regulation or something?

DW: Well, I think if you're talking about over the history of protected resources generally, I think that in the early days they were developing the foundational regulations to implement the statute. But they didn't have much to go on.

RS: That would be like the '70s after it was passed?

DW: Yes.

RS: Or '80s?

DW: Right, exactly. But since that time, we have a lot more experience. There have been modifications to those regulations along the way when we said, "hmm, maybe this part isn't working so well. We need to do this a little bit differently". Or, "we really could be a lot clearer here". Or "we need to add something else that we didn't even think about was going to happen". So, the regulations have been modified over the years. We've had a lot more science. So, we understand, in one sense we understand a lot more than we did. We still have a lot of questions, and there are new challenges like climate change, which certainly adds to our uncertainty in many cases, but we know a whole lot more about many of the animals, not all of the animals,

than we did then. So, that helps us in devising regulations or policies or guidelines in a way that's based on good science.

We've got court history, so there's been a lot of litigation and court decisions, particularly on the ESA, over those years that really helped to guide us in the interpreting the Congress. You know, Congress puts a law into place and it's really up to the federal agency to interpret it and see, "okay, what did they have in mind here and how should we really make this happen?" The courts can come back and say well, no, "you didn't interpret that the way it should have been interpreted. It really, this means this, which is different than the way you've been applying it." So, that helps to guide us to either change our regulations or change our practice.

Then, we've just got years of management experience. We know a lot better what works and what doesn't work so well. We've always had to deal with uncertainty. We've gotten better at figuring out how to do that and still have a scientifically based decision. I think that's how it's changed. We have a whole lot more challenges because we have more needs. There are more human activities in the ocean. There are more needs to use the ocean. There's more public that lives on the coastal areas. So, there's a lot more need, which adds to the challenges of what we do. And we have new environmental issues, whether it be climate change or ocean acidification. And yet, we do have more data and information over the last 20 years and more experience and more legal guidance.

RS: You have a lot more variables to be concerned with.

DW: [laughs] But, in the one sense, we're more practiced in being able to deal, I think, with those variables. Not to say that we wouldn't like to know a whole lot more about a number of things, but I think we have a good management history of how we do that.

RS: Have the outside groups and agencies always been involved? Or, has their involvement become greater over time? I'm thinking both like the NGOs [non-governmental organization] and as well as other agencies, but then maybe international governments?

DW: Um-hm. Well, certainly environmental organizations have always been involved with the Endangered Species Act and the Marine Mammal Protection Act. Over the years, I think, depending on the organizations themselves, you know, they have their own focus areas and sometimes they're more on our stuff and sometimes they're less. New organizations pop up and some of them are more about lobbying; some of them are more about litigation; some of them are more about policy support and policy development. So, we've always seen an active environmental interest in what we do.

From the industry side, I think, and by industry, again, I mean those individuals or organizations that are trying to accomplish something in the ocean or in coastal areas. I think there's been a ramp up in their interest because they've had to get more involved over the years. And, at the same time, there's been more species have been listed on the ESA, so whereas in the early days where you might not have had an endangered species, let's say, on your property, on your coastal property. Or, you might not have run across an endangered species as a fisherman. More likely than not, there's an increased chance that that's going to happen now because more are listed.

Many of those are Fish and Wildlife Service species, but even for us, 20-some years ago, we didn't have salmon listed. So, now, salmon, we've got lots of salmon listed on the ESA and they affect many, many streams in the Pacific Northwest, in California, and on the East Coast as well. With greater listings, greater regulation, you get more interested involvement from industry.

Congress, I think, again, depending on who's on the Hill, will either be more supportive or less supportive of the ESA and MMPA and we see waxing and waning there on either support for greater conservation or more support for more efficiencies or ease of implementation.

RS: How would you describe it now?

DW: I think right now, for a while there we've had, there's been a lot of efforts to make the ESA more efficient. It all depends on where you sit, I guess, on whether it's more efficient or whether it's undercutting some of the goals of the act. But, there's been more focus on the act and how it negatively impacts landowners and people who are trying to carry on an activity. Whereas at previous times, it's been more about the conservation of species. Again, it waxes and wanes. I think that's the efficiency part and the interaction with humans has been more of a focus for the last number of years.

As far as international governments, we will try to work cooperatively because species, many of the species that we care about are shared in other countries. Right now, an important species for us is the Pacific leatherback. They're really doing terribly. Population number is going down. We've worked really hard in our country domestically and our fishermen on the Pacific have regulations in place to reduce the take of Pacific leatherbacks, and we have a stranding response where we try to go out there and protect them. If they strand on beaches or if they're entangled in fishing gear, we really have an active response.

They're being caught in foreign fisheries. They're being poached in foreign countries and their eggs consumed. In those sorts of areas, we really try to work diplomatically with other countries to educate them and to try to help provide science, help provide some capacity building so that they can deal with some of those real enforcement issues. In those cases, it's enforcement. In many cases, it's enforcement and many countries just don't have the resources to be able to manage that. It's to our best interest to try to work with them on that, so we'll do that. The other species where we have a lot of international collaboration is around the vaquita, which is in the Gulf of Mexico--Gulf of California, I'm sorry--which is within Mexican waters, this small porpoise is in real trouble.

RS: Can you spell it for the transcriber?

DW: Sure. It's v-a-q-u-i-t-a. Vaquita.

RS: Thank you.

DW: It gets entangled in fishing nets.

RS: Is it a large --

DW: It's fairly small porpoise. Their numbers are declining precipitously. There's a great fear that they may be extinct within the next five to 10 years. Again there, a lot of this is an enforcement issue and it's an economic issue as well. You've got fishermen who are trying to go out and make money and they're interacting with these species. There's a foreign trade in one of the fish that they're fishing on. It's one of these wildlife trade issues. So, there are complications there I'm trying to deal with the protection of this marine mammal and having to deal with wildlife trade. Us being the animal not being in our waters, but we're certainly part of the trade issue, so we have to deal with our own enforcement there. But, there we're working with Mexico because we really want to help them to protect this animal from extinction. It takes something different when you're working with foreign countries. It's a different approach.

RS: You mentioned enforcement going to the courts. Has there been an interesting case that made it to the Supreme Court? Maybe about ESA?

DW: There have been some ESA cases. I don't have the expertise to reflect on those.

RS: I would think every once in awhile one might make it.

DW: It's really at the district court level, I think, that we see a lot of the standards change based on district court decisions.

RS: Let me change direction a little bit and ask you how you personally got interested in marine science.

DW: I've always been interested in wildlife and animals. As a kid, I wanted to become a vet, but then once I got to undergraduate, I met inorganic and organic chemistry and said "hmm, this is not going in the direction I want this to go, and I don't know if I've got the guts to do it". I ended up getting a degree in animal science, which is really around agriculture and I was a teacher as well for a while. But, there was something about the ocean and marine life that really attracted me. I must say that I didn't know a whole lot about the career choices. I just knew I wanted to work in marine management and --

RS: You went to Louisiana State University. Are you somebody who grew up along the coast?

DW: I grew up in Massachusetts and I grew up close to the coast. I did spend a lot of time at the beach and a lot of time, I wasn't really fishing, but on boats and near the water and had all sorts of dreams about sailing around the world. Those were the days when Thor Heyerdahl—I'm from back in those days—where we saw a lot of that. There was Jacques Cousteau. There were undersea…what was that show with Lloyd Bridges?

RS: Oh, yeah.

DW: *Sea Hunt*.

RS: *Sea Hunt*.

DW: So, there were all those shows that were back in the '60s. Thor Heyerdahl was proving you could take a reed boat and go across the oceans. And there was a spirit of adventure about the oceans during my formative years. So, those were all part of my interest.

RS: It's amazing how much seeing, having a public person out there representing a field, how a difference that makes.

DW: Yes. And it was so much at the same time. And *Flipper*, too. We don't want to forget *Flipper*. [laughs] And, too, my interest in environmental issues. '68 was the Santa Barbara oil spill, right? And there was the blow out there and all the sea otters. So, all of that was very formative for me in my interest in environmental awareness and also ocean awareness. Although I hadn't gone there, sort of in a direct route, I wanted to get there. Frankly, I was switching fields and did not have a background in marine sciences, so the fisheries program was really a good option for me to get my feet wet, so to speak. LSU was able to take me on and offer me a research assistantship, so I took that. Although I was from Massachusetts, I thought it was exciting to go down to Louisiana and be in a whole new place. I sure learned a lot and learned to love it. That's where I did my marine science work. It was on fish. And I did realize that I was not cut out to be a researcher, but I did love the policy aspect of things. I loved thinking about management. My research did support state management of the species I worked on. That part really interested me and excited me about okay, how do you take this science information and then use that to make a regulation or requirement that helps protect them?

RS: You were always interested in the practical side as opposed to the research side?

DW: Yes, yes. That was where I ended up where my, and that whole process of my master's degree where I tended to gravitate. When I found out about the policy fellowship here in Washington supported by the Sea Grant program, my advisor said "hey, I think this is right up your alley. You should check this out." I didn't make it in the first time I applied, but I did make it in the second time, and it really changed my life. Came up here and as I said, worked in what was the Office of Habitat Conservation. That was more on habitat work, but to be surrounded by people who were at that intersection of science and management and law, all of it coming together to be able to guide us to try to do the right thing to carry out our responsibilities to achieve the mission was just really exciting and interesting and challenging. Intellectually challenging.

So, I just really enjoyed it. I loved it. I was able to get a job with NOAA. It was supporting what was then the Office of Ecology and Conservation, really working on national environmental policy broadly. Got involved with some very exciting issues like the spotted owl decisions and really found that this was a great place for me. I enjoyed it, I was good at it, and I was really excited to continue to work on it. So, I've stayed with the agency. I've been in different parts of NOAA over the last almost 25 years, but really have stayed with NOAA since then because it really fits that bill for me.

And being here in protected resources, I had worked here previously in different positions. Had gone on to do something else within NOAA and came back when this position was open because

it's just such a great opportunity for me to come and lead a program that is on the cutting edge of environmental conservation for marine life and to be able to, as I…going towards these later chapters in my career, my working career, be able to be part of really significant conservation advancements and achievements. And to have my fingerprints, whatever those might be, and helping to support the organization to be able to accomplish these significant issues, it's just a great opportunity and I'm really blessed to be able to do this. That's sort of my path to get here. Didn't quite start out the way I think many do, but you know? It's where you end up that's important. [laughs]

RS: Yes. Thinking back, you're one of a number of people who have mentioned coming in through the Sea Grant program. Are there people still coming in under that these days?

DW: Oh yes, yes.

RS: In your opinion do you see young people being interested in working for the government or working for NOAA?

DW: Yes, absolutely. In this office, we are so fortunate. We've finally been able to break open some vacancy announcements over the last number of years. There was a really slowdown there for a while. Now, we've been able to get some vacancies out. We've got some really energetic and diverse candidates that have come in to the office who want to work on our issues and want to work on our topics. I think that's reflected across the agency. We still host, we've got two Knauss Fellows this year. I think we had two last year in this office.

RS: How do you spell that?

DW: K-n-a-u-s-s. It's named after Dean John Knauss, who was really the father of the program.

RS: Two is quite a bit to have.

DW: Yes. Well, they're a great bargain. [laughs] The thing is you've got graduate students. Some of them are Ph.D. students who are coming in and they're here for a year. They're learning so much about how either their science or their law or whatever their background is, is being applied on a day to day basis. They get to be involved in policy development and it's a great experience for them. And it's great for us because we get fresh eyes. People who are just coming out of school who know what's happening with social media. They know what's happening with the most current technology and they can help us see what other possibilities are there.

So, yes, it's a great program. I, of course, have benefitted from it personally, but then also within the organization have benefitted quite a bit. There's lots of folks around who have gone through the program. About half, not quite half, of the applicants that come in on a yearly basis, spend time on Capitol Hill. They actually work in offices or on committees. Then, about the other half work in federal agencies and federal, not quite half and half. So, you've got folks in different parts of government, which is really good.

RS: You may not know the history of the Sea Grant program, but whoever set it up was a genius.

DW: [laughs]

RS: [laughs] No one has mentioned how far back it goes. It goes back pretty far, I assume. Or, why it was started, but it's certainly been a wonderful conduit for talent coming in.

DW: Yes. It really was a great idea. So, you've got colleges that are Sea Grant Colleges, so they're the ones who are part of this National Sea Grant College Program. If you've heard of Land Grant Colleges, it's a similar thing for the Sea Grant. That was a great idea there, trying to establish an academic network of schools that could come together around these ideas, and then to have a program that brings students from their programs to Washington to be able to really put their academics in practice. For many of them, they may be going back to school or they may be doing something totally different, but they've gotten an experience here that they can bring with them. Some of them, like me, say "oh, this is where I want to be", so if they're lucky enough, they're able to get a position and stick around. Regardless, I think everyone comes away with a really important understanding, at least a taste of how this stuff is supposed to work. How as a nation we are supposed to be taking our science and academics and our legal foundations and our government, federal government responsibilities, and putting them all in together to try to achieve these goals that have been set out by the people. I think it's a great experience.

RS: You mentioned with these people coming in, you often see that they have some new knowledge, scientific or otherwise, that's helpful. What would you say about your sense of where the gaps are, particularly in terms of skill sets, that you want to build up or is becoming increasingly needed?

DW: I know there are a lot of technological needs. I mentioned GIS. I get the sense--it's not my area of expertise—so I'm not a good person to answer because I don't know what I don't know, right? [laughs] GIS certainly and those types of technologies, I think just the ability to use computer technology more effectively than we do. There are all sorts of capabilities that I think we probably could be using that we're not. I can't name what those are, but I've got to believe --

RS: That it's a general skill set that could be more robust?

DW: Yes, I think so. We always can improve on outreach to the public and how we message and communicate and how to, so much of what we do, we get in the habit of being very bureaucratic in our responses. Although that probably fits the bill for what we're trying to accomplish, it doesn't really reach the people. Being able to, I don't know whether it's write in plain English or communicate in plain English, is always a skill set that I think we would benefit from. You talked about social media. Beyond communicating through Twitter and Facebook and all those sorts of things, understanding how to effect change in people, that's a real sociology --

RS: Behavioral change? Or attitude?

DW: Behavioral change, right? What may motivate me, which to be more conservation minded, may not motivate other people. So, how does one motivate them or hit to their interests that it becomes an important subject? We're bombarded by information out there. I go to look up something on the web and it takes me a long time to get there because I see something else that looks interesting. There's all sorts of information out there and in many ways, many of us are clamoring for public recognition and understanding of our issue, but there's so much that people have to deal with and there's only so much bandwidth that we each have. How do we communicate in a way that's direct, to the point, and it's the kind of issues that people care about?

I was in some sort of a training once on this and we had some social media experts in the sense of, and they didn't call it social media. It was what I'm referring to. Where they were trying to get folks in the Chesapeake Bay area to be more concerned about the pollutant loads. So, when they're putting fertilizer on their lawns, trying to get them to change when they did that and do it in a different way. The message they were giving is that we love to eat blue crabs and they had pictures of blue crab and crab cakes and eating blue crabs. To eat blue crabs, they need fresh water. And to do that you got to change the way you put your fertilizer. Evidently it was a very successful campaign because it went to what people cared about. People love to eat blue crabs. [laughs]

RS: What's in it for me?

DW: I would have gone in and said save the blue crab, maybe. [laughs] That wouldn't have been as effective. I think that's a skill set or a skill area that I think would benefit us so that we can communicate better with the public who we're serving. Much of what we do is inside baseball talk and the regular citizen who has an interest in what we do is probably not as engaged as they should be because it's not as clear to them why it matters.

RS: Right. Then all that feeds up into the message that Congress gets.

DW: Exactly. "This ESA is just hurting my economy, making my life more difficult" --

RS: And nothing's important about it.

DW: Yes. That can be a message that goes there. That's right.

RS: Let me ask you to think about some of the memorable projects that you've been involved in over time. Is they any one that you're particularly proud of your role in?

DW: Yes, I'm really proud of the work we did with shipping speed regulations. Going back to North Atlantic right whales, I was quite involved with them and the challenges we had with North Atlantic right whales and their population level, this would have been about what year is it now? Ten-plus years ago. North Atlantic right whales had been the right whale to hunt. That's where their name came from back in the days of whaling. Whaling stopped, or commercial whaling stopped, in the mid-'70s, but their population was not, has not been increasing, had not

been increasing. Back about 10 or so years ago - I'm trying to make sure I have the right time here, yes, 15 years ago - their population was maybe 250, 300.

RS: This is around 2000 or 2001?

DW: Yes. Sort of in the early 2000s. It was not increasing. There were two main threats. One was interaction with fish, fishing gear, and the other was they were getting hit by ships. We had been trying to deal with the fishery interactions and had made some inroads through these Take Reduction Teams and in trying to change the gear, modify the gear, have gear only there at certain times. We also had, we were building up a disentanglement network, so if you did have animal that got entangled, we had experts who could go out and disentangle them. A very dangerous job, but that's what we worked on.

The other big impact was not regulated and that was ships running into and killing them. There were a number of challenges. Many of these ships were run by foreign nations, foreign companies. The ships themselves, they're just coming into port with a load of stuff. It happened many times. They didn't even know that they had hit something. These are big, big tankers in many cases coming in; some a little bit smaller. So, we embarked on a way to try to reduce their speed. We did a scientific analysis to look, to see why where they getting hit? What was it? Did they not notice that the ships were coming? Was there a way to understand why they tended to get hit as frequently as they were? There was research to support that the speed of the ship creates its' own sort of a suction, so if the ship was going fast enough and the animal was in a certain location, it was very difficult for the animal to move out of the way because of the speed that was created and sort of this cavitation and drawing in of the animals that were in the area.

So, we decided we were going to, we worked with the industry to try to voluntarily slow down and also to alert them when we knew there were animals in a certain area. We had aerial surveys alerting them. But we realized quickly that we really needed to regulate the speed. That was a huge, huge deal. We were getting into an area of regulation that we had never been in before. We have never regulated shipping, certainly never regulated speed. Had not had to deal with international maritime organization on reducing ship speed, and there was a lot of resistance in a lot of sectors. It was, of course, a team of folks. We had lawyers, we had scientists, we had policy people and managers all together working really hard to make sure we had our data correct and our information correct; that the proposal we had was right for the animal and would not have a significant impact on the industry and economy analyses. So, it was a many, many year long process. I actually left the agency to go to another part of the agency before it was finalized, but had brought it the bulk of the way, had been with it to bring it the bulk of the way. I was one of the players. That was really an important accomplishment for the agency.

RS: Was the main challenge communication? Persuasion?

DW: Well, yes, they didn't want to do it because we tried voluntary, but that wasn't working, so it was just this one case where it really had to be a regulation and this is where we had to have enforcement be able to send notices and tell them you've got to slow down in certain areas. Again, lots of resistance. Yes, it was a big achievement for the agency and it's had tremendous success.

RS: What kind of lesson was learned from that process?

DW: Persistence is key. Having a diversity of expertise at the table. We could not have made it happen without the science. We could not have made it happen without a lawyer who was, Lindy Johnson, who was willing to fight hard at IMO [International Maritime Organization] and convince this international organization to do something that they didn't want to do. [laughs] It took a fortitude from the agency when there was a lot of political pressure to maybe not do what we wanted to; that maybe we do something a little bit differently. It took all of those sectors to really get us across the finish line. I think that's the lesson I learned.

RS: How long was that process?

DW: That's a good question because I can't remember exactly when we started it, but it's got to be a 10-year process, I think, overall. From the very start where we were really trying to gather the data and information, that took a few years, and then to try to work with the industry and get out there and be talking to them about the problems, and then to put the regulations together, and then to try to get it through all the clearances. There was an administration change at the time. Anyway, so all sorts of stuff that had stops and starts, but yes.

RS: What's been the impact on the Right whale population?

DW: The number of deaths from ships has decreased. We just put out a paper. I think probably 80 to 85%.

RS: Wow.

DW: Yes. So, significant.

RS: Yes.

DW: The population had been doing very well. We had been seeing a real increase in the population. Partly attributable to reduction in deaths from ships, but other factors as well. We've just seen some information that suggests that they may be having some challenges. We've got to figure out what those are, whether it's one of these issues or whether it's something different like climate change or something else. But yes, it was huge, huge, huge impact for the species and we saw the population really increase significantly and partly attributable to this reduction in deaths. I was very proud to be part of that.

RS: That's quite the success story.

DW: Yes, yes. Well, we've got a long way to go on Right whales, generally, just so you know. I mean, even if we increase them by 50, that's not as much as they need to recover. But to be able to achieve a regulation to an industry that had not been regulated before to an industry with many different sectors, some of them domestic, some of them international, and with a lot of economic pushback, yes. It was a huge achievement.

RS: You were affecting their timetables and --

DW: That's exactly it. And that was the concern that it was going to cost more for them and they weren't going to be able to get them into the port in time. I think we proved in economic analysis that the impact for that industry would not be significant, given that it's a multi-billion-dollar industry. It would be fairly minor in the grand scheme of things. The economic impact would be smaller. I think it's even been proven out that our estimations of the economic impact were high. That actually the impacts have been even lower than what was expected, so yes.

RS: Since you started out as an environmental policy specialist, I wanted to ask you about your thoughts over the what? about 20 years or so that you've been with the agency, the development of strategy at NOAA. I was looking on your webpage on that current strategy. How has that changed over time? What kind of process is it? And is it a lot more complicated in terms of the development of NOAA's NMFS than it used to be?

DW: I'm not sure I understand when you mean strategy.

RS: The webpage that Angie sent me to read over - Here's our mission. Here's the strategies to fulfill the mission. Here's our various areas that we're working in.- It's sort of laying out for the regional offices and for your staff where the emphasis is going to be.

DW: Is this like our strategic plan?

RS: Yes.

DW: Oh, okay. That strategic plan on our website is for us and our program. The agency also has a strategic plan and an annual priorities document. I think the evolution of the Fisheries Service has been an interesting one. It started as the Bureau of Commercial Fisheries way back a long, long time ago. [laughs] With the creation of NOAA, and 1968 was the Stratton Commission, and the Stratton Commission, which Dr. John Knauss was part of, recommended that this agency be created, NOAA be created. So, NOAA was created from different pieces, from different other agencies pooled together and then expanded. It started out really as an environmental prediction kind of program with the National Weather Service and then going from a data organization to a satellite and data organization, and then expanded to ocean research and Ocean Services, which is next door, and the Fisheries Service, which at the time, again, was really the Bureau of Commercial Fisheries.

So, it's a very economically focused and driven organization, which expanded with time because of the laws from Congress, the Magnuson-Stevens Act, which really gave the fisheries management part of NMFS a much broader and more challenging mandate to manage fisheries in a more ecosystem approach and with many other factors to think about, including habitat. And then with the signing into law ESA and MMPA and many other environmental statutes in the early '70s, that expanded the role even more. I think because of the beginnings of the Fisheries Service, the fisheries management component or aspect of the mission was really the paramount mission. It's really been more recently that the agency has very affirmatively talked about its'

two mission areas being recovery of protected resources and sustainably managing fisheries. - I didn't mean that recreational fisherman. I almost said commercial fisheries. - [laughs] Sustainably managing fisheries. That has been a big change in the stance of the Fisheries Service.

RS: When did the sustainability concept come to the fore?

DW: Managing fisheries sustainably has been around for a long time, many years. That has been the goal for the fisheries management responsibility. So, that's been around for a while. The change, really, has been in sort of this public face of the agency, clearly describing the two main mission areas as recovering protected resources and sustainably managing fisheries. I think in the past, in the past past, the fisheries management responsibility was seen as the primary one. So, I think this has been a big change for the agency to say these are both our missions and we are taking both of these quite seriously. And the recovering protected resources is more than our responsibility. It's our goal. It's our mandate. It's our mission and we are going to push that and do as much as we can to make that a reality. That had never been voiced before by the agency leadership, so this has been a sea change, if you will, for us and a real recognition and acknowledgment of that responsibility for the Fisheries Service, which has been a sort of what I've seen in the evolution of the organization.

I think the other things I've seen in the evolution of the organization, and this is probably true for other agencies as well, is the recognition that collaboration, partnerships are essential for us to carry out our mission. I think for many years, the culture within the federal government or the Fisheries Service ourselves was, we felt like we had to do the work, right? All of the work. That we had to accomplish it all and we would write regulations, but we weren't really reaching out as effectively to partners, to shareholders, to other organizations that are equally invested in the mission--they want us to succeed--and that we can work with to accomplish those goals. That's something where I think there's been a really cultural change in the way we look at things.

For us in protected resources, that's certainly the case. In fact, one of our strategic objectives in our strategic plan is called cultivating collaborators. Finding those organizations, finding those groups that maybe we didn't think about before that really do want protected resources to be recovered. They want them to be managed well and they want to work with us to do that. There are some organizations, they're maybe not so much about the collaboration, they want to go with litigation. There are others who really want to see some changes and maybe don't know what they can do to contribute. We're reaching out to many different organizations, new ones, that I hadn't worked with before, to say "hey, how can we work together? We have some similar interests. Let's figure out what might work."

One example is the Association of Zoos and Aquaria. We have a relationship in one sense as a regulator and regulated organization. But in other sense, they reach millions of people. Millions of people are going through zoos and aquaria around the country and they provide an educational message to the public about many of the species that we care about and manage. So, how can we together work to ensure that we've got healthy wild populations through many of their captive, the captive information that they have and the venues that they have? They're so much better at the social media than we are. That's what they do, right? So, let's find out. Hey, let's not think

about this other stuff, right? The regulated/regulatee thing, but hey, what can we do to expand the message on monk seals?

We just had some monk seals that could not be released into the wild. They had eye problems. The Minnesota Zoo took them on. They had been in another facility and they're now at the Minnesota Zoo. So, these were ambassadors in Minnesota for marine life. You've got monk seals there and we have been working with them on how we tell the story about the importance of monk seals. So, if you've got somebody from Minnesota going to Hawaii, they will have a better appreciation of this endemic endangered species and perhaps better understand how to protect it and support protection and interact with it more responsibly. So, making sure that we're working together. I think that's one of the big changes is this recognition that there are a lot of people out there in organizations that we want to work with and we should work with and it's really about partnerships and shareholders.

RS: It sounds like that's going to be a big effort going forward.

DW: Yes, yes. For us, and highlighted in our strategic plan, looking at ways that we can work closely with them. For each endangered species, there is a recovery plan, so it really lays out in a scientific way and also in a management way how do you get from where the species is now to a stage where they're considered recovered? In other words, they're at a population level or they have the habitat, have reduced threats, that we think they're going to be a healthy population for the future. What we've been doing is working with different organizations to say" okay, here's a laundry list of measures that we think need to be taken. Let's pick the top ones and say these are the five most important actions that we need to take to be get the species recovered. Can you help us?"

We've got a species, white abalone. It's an invertebrate. It's a shell. I'm sure you've seen abalone shells. They're quite beautiful. They're in southern California waters and they got to such low population levels that they have not been really reproducing in the wild. So, we've had to capture many of them to bring them into an aquarium, right? To be able to try to get them to breed and raise young abalone in the lab. We don't have a lot of facilities there. We have some, but not a lot. Again, working with zoos and aquaria, we have found aquaria there that said "sure, we've got some space. We'll go ahead and help raise these white abalone and also try to develop scientific methods that help them to spawn more effectively and be able to survive so that we can raise them and be able to reintroduce them into the wild."

RS: Does the aquarium then do the raising? Sort of assist the reproduction, do the raising, and then release them? Or does NOAA then come in and handle the --

DW: We would be doing the releasing cooperatively with them. Yes. So, it's those kinds of things we're really trying to do more with others.

RS: How is the reception on the other side? I mean, are they eager to be working with NOAA?

DW: Oh yes, people are loving it. We've highlighted it as our species in the spotlight, so I hope you get to look at that. This was last year. We identified eight species that are listed on the

Endangered Species Act as in most danger of extinction. They're endangered. Their population is declining. We're not at the stage where we can think about them recovering. We just want to stabilize their decline, stop them from going downhill. Stop that decline so that at least they have a chance to try to recover, because right now they're going down. We launched our species in the spotlight initiative and that, with the action plans we came out with, was what I mentioned. We'd picked the top five recovery actions that we needed for these species and we have gone out and have talked and talked with folks. We've got great interest in many of the species with other organizations. Atlantic salmon. In fact, the State of Maine has been so interested in Atlantic salmon, our species in the spotlight initiative, they've been talking about a bond initiative to help with helping streams so that there's better access to Atlantic salmon. And Hawaiian monk seals are one of those. We've got the Marine Mammals Center, which is a private foundation. They built a hospital, a monk seal hospital, on the Big Island, the Kahuna Coast. So, when we have monk seals that either get entangled in fishing gear or they've got hurt in some way, they will rehabilitate them and then NOAA will take them out and release them in a safer place. So, we've got a lot of those things happening around the country that are really encouraging.

RS: It sounds like you would have to be doing it with a lot of partners to carry out that kind of scope.

DW: Yes, and that's it. We think that there are probably other partners out there that don't know they are. [laughs] Our role is to try to reach them and find ways that they can help contribute. It's not necessarily contributing money as talked about. It could be they've got a facility that could help rehabilitate something, an animal. Or, when it comes to the states, we worked with the State of California to look at, they had a grant program and we had some species that need some help. So, they just modified the grant program so it better complemented the geographic scope of the species, one of our species in the spotlight. Sometimes these are minor changes that can make a big difference. Sometimes they're big initiatives like the monk seal hospital in Hawaii. But, yes, there's all different ways that partners and interested people and organizations can help.

RS: Can you think of an example involving climate change where you would have the same sort of coalition building in order to do something that was too big, too complex, cross too many boundaries for any one agency or a group?

DW:I don't have a good thought on that. I think we're at a stage where we're still trying to figure out what to expect. I know that we've been working, our office has been working with the Office of Science and Technology within NMFS to try to get a better sense of what species populations do we think are going to be most vulnerable to climate change? They've done a lot of work on that with the fisheries populations and we're starting to do this with marine mammals. If I were a manager in the West Coast region, I have lots and lots of species and stocks to think about. Which ones should I be concerned about with climate change? So, having a tool to assess that vulnerability and then maybe having some information about how do we predict how they will respond? So, we may be able to say that this species is going to respond significantly because of its' life history factors. But we may not know exactly how or even have an idea of how. So, we also then need to have some techniques to know well, what does that mean? Does that mean that the species will change its' patterns of migration? Will it change its' prey? Or will it just die out? Can it not move? Understanding that, I think, then leads to the

question you have is if I knew that a species was going to move and have a different migration pattern, then I might be working with other agencies, other organizations to say "hey, you've never seen this here before. You're going to be seeing it here now. We need your help in educating and maybe putting some buffer zones or whatever it might be, or helping to protect habitat that we hadn't done before because we didn't think we needed to for the species and now we do." So, I think we're still at that stage where we're trying to learn enough about the species that would lead us to those kinds of conversations, because we just don't know enough right now.

RS: It sounds like there's going to be a lot of work in that regard going forward.

DW: Yes, exactly. We're getting close on the vulnerability assessments we're testing now. If we run these species information through this assessment tool, will we get information that we think makes sense?

RS: In other words, you're running it through a model?

DW: It's kind of like a model. I think it's more, yes, kind of like a model. A simple model.

RS: Based on the output then, you can start making some decisions about resources?

DW: I think so, yes.

RS: And direction. Let me make sure I'm covering everything. We're kind of moving around.

DW: Yes. [laughs].

RS: Which is great. You had mentioned about in terms of the regulations, that sometimes it's going to go to court. How does that handoff happen? What happens where it ends up? You were saying okay, we have to take action. There's going to be litigation involved.

DW: Let's say we make a decision.

RS: You can use the Right whales if you --

DW: Let's say we make a decision not to list a species, okay? Someone has come in and petitioned us and said "we think this sea slug should be listed under the Endangered Species Act and here's the reasons we think it should be." We have a certain process we have to go through. We look at the information they provide and say "well, did they provide enough information that we should take a harder look and actually convene an expert panel?" Maybe they provided enough information about species, population decline, and the loss of habitat or people are eating them or whatever. So, we say "okay, it looks like there's enough info there. We need to go do some more analysis." So, we go and do the analysis. We bring in an expert team. They look at more detailed information and then we come out with a decision on whether we're going to put it on the list or not. It has to meet certain factors.

Let's say we say "no, it doesn't meet the factors. We're not going to list it." So, we come out with a rule that says, or decision, that says "no, we're not going to list this on the act." The public can re-petition. The public can say "you haven't made a good decision. Your decision was arbitrary and capricious. You didn't look at the factors. You didn't look at the information." And can bring that or other kinds of decisions to the court and say "we're filing in the court that the agency did not carry out its' responsibilities appropriately." Oftentimes it's that kind of a standard, an arbitrary, capricious standard that is used to see whether we've taken a hard enough look and made a good decision. Those are the kinds of, so it's not really a handoff in that sense. It's a sense that we make a decision on something, yea or nay, or we say "you, Industry X, need to do whatever you're doing differently." And then someone will bring that to court and say "that was not, that decision was not well founded. Not enough information was gathered. The agency didn't apply the factors that are in its' own regulations appropriately", and then we'll make that charge. Then it's up to the court to decide - did we apply it appropriately? Did we give it a hard look? Or were we arbitrary and capricious? That's how they determine one way or the other.

RS: Thinking about one of your main audiences being commercial and recreational fishermen, how would you describe the relationship of NOAA with them over time?

DW: That has been, I think, I'm sure some of them will not characterize it this way [laughs], but I think it's been --

RS: This is your opinion.

DW: Yes. I think it's been a great, a success over time. I'll focus on the commercial industry. In the early days, going back to the '90s, there were a lot of challenges and that set up internal dynamics in the agency, being the sons and daughters of the Bureau of Commercial Fisheries and having a very strong commercial fisheries focus in this agency. And to have another part of the agency trying to regulate that set up a lot of tension and set up a lot of not so positive interactions, right? It was often very difficult.

Many agencies and many industries that come and realize that they have to do things around Endangered Species Act and Marine Mammal Protection Act, as you can imagine, there's a fair amount, often a fair amount of resistance in the beginning. They don't understand why. They feel like they're carrying out their mission and they're doing a good job of it, why do they have to do this other stuff? For some fishermen, they never see an endangered species, so they're, like, how can this be a problem? There's often a denial of the problem, there's a questioning of the science. So, there's all of that stuff that goes on in the early stages and not just the fishing industry, but other agencies as well.

Over time, we get beyond that and sometimes we're able to get better data and information. We're able to work through the reasons for why this has to happen. And then once the regulations are put in place, there's often a lot of conflict and controversy around those because everyone will have their own opinion on whether they make sense or they don't. But over time, since the '90s, there has really been an arc of much better understanding, I think, better relationship-building. Is it perfect? No. There are always areas where there are greater problems than others. But I think that we have become much better at working across those statutes—the

Magnuson-Stevens Act—so the regulations that the fishing industry has to undergo for fishing purposes, right, for fish population purposes, and then the ESA and the MMPA, which is they're unintentionally interacting with marine mammals and endangered species. They don't want to interact with them, but they do. So, the fishing industry is having to really work across all these statutes.
So, there's a lot there for them, but we've come such a long way, I think, from my perspective in the relationship, that whereas those conflicts were probably 80% of the job here in this office in the '90s, they're not anywhere near that. They're probably 20 to 30%. I think it's shifted significantly. We have greater challenges with other agencies than we do within the fishing industry right now. I think the fishing industry by and large has implemented a lot of changes to their fisheries, some quite drastic, and as I said, there's still areas where there's interactions that need some work, but I think our domestic industry has done a lot to try to reduce the incidental take.

RS: Do you think the fishermen have sufficient voice in some policy development and in the discussions to make their voice heard?

DW: I certainly do. Within the structure of the Magnuson-Stevens Act, there are, I believe, eight Fisheries Management Councils, so those councils represent, are made up of individuals that represent the fishing industry as well as related industries and environmental organizations, academics. It depends on who's on the council, but there are Fishery Management Councils in each area that really are the ones who are proposing the management for the stocks under their purview. The agency, NMFS, makes the final determination, but the Fishery Management Councils have a lot of influence. It's their responsibility to look at the status of their stocks and to propose regulations and management controls, whether it's the total allowable catch that they would have in a year or whether there are other kinds of measures that they need to have in place. They have a very strong voice through the Fishery Management Councils. I think they also have a very strong voice certainly through their Congressional representatives. We hear from them a lot. I think in the grand scope of things, they do have a significant impact, some in a more formal way on the Fishery Management Councils, and then certainly within the Congressional connection.

RS: If somebody were developing a program similar to this in the future, the fact that you said that maybe the level of complaints or the issues that the fishermen had went from like 80% to about 20% --

DW: Well, I don't know if they're complaints.

RS: Issues.

DW: They probably still have a lot of complaints, but the conflict that we had around fishing and fishery impacts, that has shifted. Maybe to say it a different way. Back in the '90s, we were spending maybe 80% of our time on issues that had to do with fisheries impacting marine mammals and endangered species and trying to regulate that. Many of those regulations have gone in place, so that's not where we're having as significant interactions or conflicts as we did back in the day.

RS: So, it's a maturing of the --

DW: It's a maturing of it, right.

RS: Yes.

DW: I mean, it's similar to anything. If in my community, a new law went into place about recyclables on the curb or whatever, during whatever initial phase, there would probably be a lot of pushback because it's a change and it's something different and it would probably have a cost to me as an individual and there would be a lot of pushback, there would be a lot of interaction, there would be a lot of people who would not be complying. The town would be trying to figure out how do we make this work? Where are the problems? How to identify those problems? How do I get that homeowner to do what they're supposed to do? Why aren't they doing it?

But then over time people get used to it, one, but they also maybe find a way to work through the system to say hey, "we don't think this is the way to do it. Let's try it a different way." And then the town is more receptive as well. So, I think that's kind of how our relationship has evolved to one where the discourse is maybe a little bit more effective than it had been. Part of that is that we're more used to having these regulations in place. We have better data and information. So, we're able to communicate maybe more effectively.

RS: And you worked through all of that stuff.

DW: Yes.

RS: Yes. Would you have any advice for anyone who was developing a program where you have a key stakeholder, like fishermen, are your key stakeholder and have an issue? I mean, the species you're protecting are essentially voiceless. You're in the middle there, trying to make sure that these voiceless species are sustainable and yet there's the economic issues of the fishermen. What lessons have you learned about dealing with stakeholders effectively in that kind of situation?

DW: Science is key. Data and information may not totally get you where you need to go, but it's an essential foundational piece. If you don't know about the species and how they're being impacted and have good supporting information, it's very hard to make a change or to convince someone that this will be worth their while, especially if there's an economic impact, right?

RS: Um-hm.

DW: So, that to me is one of the key factors that having that scientific understanding. And in this case, we've got to understand how the fisheries work, right? How are they prosecuted? We have to understand the economics of that fishery and we have to understand the science and the biology of the species. So, that's part of it. I think having, again it's that strong legal foundation, for some agencies being able to say the Endangered Species Act is not my statute, it's not a Fisheries Service statute, it's all of the federal government statute and you actually have a

responsibility, Agency X, to comply with it. Sometimes you have to use that as more of a hammer. Say yes, you have to carry out your mission, I get that, but it says right here you also have got to carry out this one. So, we're here to help you do that and you can resist us if you want, but you're going to get litigated and you will lose because it says right here.
So, sometimes you've got to work through that and sometimes that's more effective. But I prefer to try to find where we, using that but maybe not with as much of a hammer, but certainly with a nudge to say "okay, so given that, let's figure out how we can make this work." I think convincing them that we're not here to shut them down. We value whatever role that they have, whether they're catching fish to market to feed people or whether out training sailors to be able to protect our country or whether they're dredging ports so we can get our products in. Whatever the mission is, we value it as part of our nation and our interests, right?

RS: Yes.

DW: I think recognizing that and being able to clearly say that and then to also say "but we have this other important mission that the country has said is important to it. Let's figure out how we can do both of those things. There will be a cost. Let's not gloss over this, but we're going to try to work with them to try to make the cost as reasonable as can be given the standards that we have to meet." So, I think the science is key. Data and information, trying to understand the other organization, agency, industry, and what they're trying to achieve and try to bring them together.

I mentioned the Take Reduction Teams. This was an addition to the Marine Mammal Protection Act in the 1994 amendments. It's really, I think, a unique, I don't know of other similar groups required under statute. So, basically, it's saying you're going to try to manage, you're going to manage marine mammals and marine mammal takes incidental to commercial fisheries and beyond through a group, through a group made up of all these stakeholders. Environmental groups, academics, fishing industry, states, maybe there's other industry there and federal government, and you're going to say "okay, here's our goal. Our goal is to reduce takes by 10%", let's say, to be able to meet the act, the standards of the act. How do we do that? And to try to come up with a consensus-based approach to do that.

That's really a unique process in the law. It has been, I think, quite effective. I mean, we've got people with very different agendas; things that they're trying to achieve. Things that are really important to them and have a real impact on their lives and on what they're about. Having them come together and try to work through these issues is challenging, but I think for the most part has been quite successful. That's a model, I think, for us to look to and I think probably is one of the ways that I think we've been, there's been an evolution in the way that we work with the industry, commercial fishing industry in this case. The early days were tough in those Take Reduction Teams. They were hard, but again, we have matured, all of us have matured, in how we deal with these and how we work through them. I think in a way we're learned and we've improved. [laughs]

RS: It's like getting through a bad marriage and when everyone gets too tired to fight anymore.

DW: [laughs] I don't know if I'd use that analogy. [laughs]

RS: I mean, when you get people with such diverse goals, the early days could be really difficult.

DW: Yes. And you read a lot in leadership about, you know, get the shared vision, and that all sounds good, having a shared vision. But, there's a lot of shades of shared vision. Although I can say that the statute says we've got to get here, 10% reduction and whatever, that may be an understood vision, but getting there, there are lots of different ways to do it and there's lots of timeframe to do it. It all depends on how hard it's going to hurt.

RS: Yes. I am almost out of time. Is there anything that hasn't come up that you think should be in included or anything else that you would like to mention?

DW:I think that NOAA is a very interesting agency. We are a science-based organization. The majority of what we do is about prediction, whether it's weather.
[BRIEF BREAK]
Yes, NOAA is an interesting organization. As I said, so much of what NOAA is about is prediction, whether it's weather and data collection and being able as Dr. Sullivan, the current Administrator of NOAA, calls it, environmental intelligence. It's so much of what we do. Our research on atmosphere and oceans, and even the navigational charting, it's very much about providing people with the data and information that they need to be able to do what they do.

Then there's this other part of NOAA, which is a more regulatory management side, and much of that is in the Fisheries Service; some of that in the Ocean Service. I think there hasn't always been a seamless integration of those pieces in NOAA. I think the next evolution of this agency will be trying to bring, I hope, will be trying to bring all of us together a little bit more seamlessly. I know that we're trying hard within the Fisheries Service to work more cooperatively with other parts of the organization, whether it be on water prediction, which is really key. For example, on the West Coast with all the drought, how do we predict where the water's going to be, when it's going to be, so that we can manage fisheries--those salmon runs for an endangered species and other fisheries effectively? How do we work with NOAA's research arm to better get the kind of physical and oceanographic data that we need, again, to be able to understand and manage our species more effectively?

So, I think as we progress, when we're talking about partnership building, even within the agency, greater partnerships, greater leveraging of our different capabilities will be a really important part of the future of NOAA. I see us going in that direction and I think that will be the next evolution of NOAA being a more integrated agency that can answer our questions for us as managers more effectively. I see that happening. And I see a bright future for protected resources, but I'm a glass half full kind of girl, so I see that we are making progress in many, many ways and I think that as a nation, we value our natural legacy. Sometimes we don't know how to best protect it and accomplish the other things that we have.

So, I'm hopeful that we as a nation, as long as we can keep getting kids out to the environment. If we can get kids out to the water, really support programs that keep kids engaged with nature, I think that we can have a good future and be able to protect species and still be able to do all the

other stuff that we need to do to be able to live a high-quality of life, but we do need to have people interacting with nature to be able to make it something that's important to them and understand the value of it. So, I think those are my final comments.

RS: Thank you. I appreciate you taking the time today to meet with me. I know it's hard to get a block of time like this. I'm going to turn this off.