

Stephanie Scull-DeArmey: It looks like it's recording. This is an interview for the Maritime and Seafood Industry Museum and the University of Southern Mississippi. The interview is with Mr. John Watson, and it is taking place on May 28, 2010, at 10:30 AM in Hattiesburg, Mississippi, on my end, and in Moss Point, Mississippi, on Mr. Watson's end. I'm the interviewer, Stephanie Scull-DeArmey. First, I'd like to thank you, Mr. Watson, for taking time to talk with me today and get a little bit of background information about you. So I'm going to ask you, for the record, could you state your name, please?

John Watson: John Watson.

SSD: For the record, how do you spell your name?

JW: J-O-H-N-W-A-T-S-O-N.

SSD: And when were you born?

JW: May 23, 1948.

SSD: You just had a birthday.

JW: I did.

SSD: I did, too. I was born May 24 –

JW: Really.

SSD: – 1954. So, where were you born?

JW: Baton Rouge, Louisiana.

SSD: Okay. Can you tell me your current position now?

JW: I'm actually retired from NOAA [National Oceanic Atmospheric Administration] Fisheries, and I'm a private consultant.

SSD: Okay. When you retired, what was your position at NOAA Fisheries?

JW: I was director of the Mississippi laboratories in Pascagoula, Mississippi.

SSD: Okay. And can you give us a brief description of what you did there as the director?

JW: I basically oversee all of the operations of the laboratory, research cruises and [inaudible] supervised one hundred two employees [inaudible]

SSD: That's a pretty big operation.

JW: Pretty big. Yeah.

SSD: I don't know why we're getting all this static on the line. Okay. It looks like it's better now. Seems like it's better. Okay. So we'll just dive into these questions from the museum. What role did you play in introducing TEDs [turtle excluder device] to the shrimping industry?

JW: Well, I actually supervised the research and development of solutions to the problem of turtle mortality in shrimp trawls, supervised a group of Fisheries technicians and Fisheries scientists in trying to develop a solution to the problem. That was early on. We developed the first prototype for excluder devices after several years of research. And after that, our group was in charge of certification of new designs, industry-developed designs. We're also responsible for developing the regulations regarding TEDs in the industry.

SSD: So what did research look like in terms of painting a picture for someone who might be listening to this in a hundred years? How did you actually do the research?

JW: Initially, when the Endangered Species Act became law, it became – it was actually illegal for catching and killing of turtles in the shrimp fishery, which at that time was not really well known, but there was a lot of research with observers onboard vessels to have an idea of what the impact was of the industry on sea turtles. At that point, we determined that it was a pretty significant impact, and in fact, would probably affect the recovery of all these turtles. All species involved were either endangered or threatened at that time under the new act. Our initial approach was to try to determine the nature of that interaction. Our group conducts behavioral research. We have scuba divers and ROVs [remotely operated vehicles]. We actually just studied the interaction of turtles with shrimp trawls to see how they would interact with the trawl. From that point, we used that information to try to develop some sort of technical solution to prevent them from being killed by the shrimp trawl. So it took about two or three years of looking at different ideas from the industry and ideas from technicians, and we had a few missteps – we initially tried to block the front of the trawl from letting the turtles enter the trawl, and that worked somewhat, but not very effectively. It caused quite a bit of loss of the shrimp catch, which was unacceptable. I just had a lot of technical problems [inaudible] device, which actually came from a modification of a device being used by shrimpers in South Carolina to prevent jellyfish from getting in their trawl and was modified to allow turtles to actually escape after they entered the trawl through an escape hatch. A lot of research and development [inaudible] and getting it to work. We demonstrated that it could reduce the turtles, and then it was a matter of it being a practical design in terms of commercial fishing operations.

SSD: How were TEDs viewed in the early days? Let's say by –

JW: By industry?

SSD: – industry and by conservationists and by you guys at NMFS [National Marine Fisheries Service] who are responsible for getting one to work.

JW: Well, it was a pretty difficult problem to try to solve, and we felt like, from NOAA's standpoint, that it was a gear modification, rather than – the only other options were closures of

the fishery or more draconian measures. So, to us, the technical fix was the best [inaudible] most of the environmental groups, environmental community, after the test results came out were [inaudible] probably the best solution to the problem. The industry, on the other hand, you can't really paint the industry with a broad brush; there was there's a whole spectrum of the industry, and the initial research and development fisheries organizations were very helpful in assisting with that and viewed it as necessary, necessary for the industry to survive, including the Texas Shrimp Association and Southeast Shrimp Association, namely Ralph Rayburn and Bob Jones. But the individual fishermen, I think, across the board and a vast majority of the industry were totally against having to use any type of device like that. There were some individuals that volunteered to use it, and some actually liked it. But the big problem we had from the industry, from an individual standpoint, particularly individual fishermen, was they really did not understand how they impacted the turtles. They might catch none; they may catch one or two a year. The problem was, in terms of the magnitude of the industry, talking about six-thousand offshore vessels and thirty, forty inshore vessels, and that amount of catch was significant, but it was hard to convince an individual fisherman that they had that sort of a problem, or they were the problem with turtle populations. On the other hand, they were all afraid it would have significant economic impact on their operations – cost of the gear and the fact that they would not be able to maintain the same catch level. There was a strong belief in that. There were segments of the industry, Louisiana Shrimp Association for one, with Tee John Mialjevich that really had a significant campaign to try to resist any kind of regulation. So, sort of a mixed bag there. But, I think, in terms of the total number of shrimpers, they were definitely against – weren't so much against it initially when they were testing. But once it became regulation, then there was a very strong resistance to it.

SSD: The shrimpers I've talked to seem to be a very independent group of people.

JW: Right.

SSD: So I think it might have been difficult for them to see themselves as a collective group – five thousand boats times two turtles is ten-thousand turtles a year.

JW: Exactly. That, in a nutshell, was the problem. They couldn't understand why they would have to pay several hundred dollars for the gear and have to maintain the gear and possibly lose some of their catch to save one or two turtles. It just didn't make sense to them.

SSD: Did they realize, you think, that the other pressure that they might be facing was closing the shrimping grounds?

JW: I don't think they ever really thought that because, at that time, the shrimp industry was pretty powerful politically. I don't think that they actually felt that would ever happen. They didn't understand the strictness of the Endangered Species Act. It's a very strict law, and it could easily have shut them down. But I don't think they ever – not initially, anyway. I think, later on, they realized that as things progressed, but initially, they didn't. I think, in fact, if there would have been some closures, they might have had a different outcome or a different process. We tried voluntary acceptance at first, went through [inaudible] with the industry and environmental groups. The regulations came to be, and that almost completely stopped the

cooperation that we had with the industry prior to that. They just did not want mandatory use. It was bad. It was political – demonstrations and not-so-good things happening.

SSD: Blockades of some ports, I think?

JW: Yes, blockaded ports. We had to have enforcement officers go with us when we went to the dock to try to talk to them or try to demonstrate TEDs. We had to have police protection. It was that bad.

SSD: Did you ever feel like your life was in danger?

JW: No, not with the protection I had. There were some scary moments. We had to slip out the back sometimes.

SSD: Wow. At the public meetings?

JW: Yes. We had both state enforcement and NOAA enforcement. They were so vocal and so adamant, confrontations became pretty serious. We never had anything physically happen to us. It was mostly verbal, but the potential was there.

SSD: Sure. Do you have any comments on what the conservationists thought about the TED?

JW: I mean, in most cases, I think they were in favor of the TEDs. I don't know. Again, you're talking about a broad spectrum of conservationists. But they're the ones that came forward and actually threatened lawsuits because the Endangered Species Act wasn't being enforced. They thought TEDs should be enforced. That led to the mitigation, which eventually led to regulation, so that certainly the environmental groups that we had any contact with were in favor of whatever it took to solve the problem, really, from a sea turtle standpoint.

SSD: You didn't have them saying, "Look, we're not interested in a bycatch reduction device. We just want to close the shrimping grounds?"

JW: Well, I think there were some groups that proposed that. They weren't necessarily sure that the TEDs would work, but I think – I don't remember. I mean, there was pressure, certainly, to do that and language to that effect. But I don't think they were against the TEDs necessarily. Some of them probably were proposing closures. They were probably proposing closure. I don't remember much detail on that.

SSD: Okay.

JW: I didn't have that much interaction with the environmental groups at that time.

SSD: Well, how do you think TEDs are viewed today by the shrimping industry?

JW: Well, I think the majority of the industry has accepted TEDs, and they work well in those cases. If they're good fishermen and maintain their gear well, they work. In fact, we've had

situations where the TEDs – [inaudible] temporarily suspended TED operation due to hurricane debris and stuff like that. I had the fishermen tell me their deckhands insisted they put them back on because it actually has a benefit to them in terms of reducing other trash and bycatch that they don't want to catch anyway. But there's still a segment of the industry, I think, that it would as soon not have to pull them and probably still, not necessarily following regulations. I know there are some fishermen that are borderline marginally in terms of economics, and it's a cost to them. So there's still a segment, I think, that it would just soon not have to use TEDs.

SSD: Right. But there were some deckhands who were saying, "I know we don't have to pull it, but look, can you –?"

JW: Yes. "I want it back."

SSD: Do you know why? Can you think of any examples that are concrete?

JW: Well, what we've heard, and a lot of our technicians have worked closely with the fishermen during those times where they're sampling for debris. Basically, it reduced the work on the deckhands because you have a lot less to sort through to pull the shrimp out, and it's a lot more work and a lot of trash. Once they found out that it's not going to be a great economic loss, and there was certainly benefit, there are areas that – I had fishermen come into my office, shut the door, and say, "I don't want you to ever tell anybody else this, but TEDs are the best thing that ever happened to us." I actually had that happen with one of the boat captains. He was in a situation where he can tow longer, he doesn't catch as much trash, and he was actually doing really well. He knew how to use them. He learned how to use them. He was using them well. I think the better fisherman learn to use them and learn to make them beneficial to them.

SSD: Yes, I was talking to a woman named Susan Shipman, who's on the East Coast. They didn't have the same kind of resistance in their shrimping industry that we had in the Gulf because of the jellyfish. They were already pulling TEDs, and they just didn't know it.

JW: Right. Just had to open it up a little bigger to let the turtles out.

SSD: Right, yeah.

JW: They had a better situation there, but I think a big problem in the Gulf was the diversity of the fishery in the Gulf from inshore to offshore. I mean, a huge fishery. But it was also a lot of misinformation was generated, particularly by the Louisiana Shrimp Association at that time. That was difficult. This wasn't handled as well as it was on the East Coast, but that's a smaller fishery. Fewer boats that they could deal with better than you could a huge fleet like in the Gulf. The other thing is there's a lot of diversity in the gear in the Gulf, in terms of types of trawl size or trawl size of boats. So that was one of the bigger problems in getting the TEDs to work. They worked well, but they didn't work well in every situation or at least the initial designs. Now we have a lot of designs that work well in most situations and with different size gear. East Coast has more uniformity in terms of the gear in their boats, so it's easier to adapt and use them than it was in the Gulf.

SSD: Okay. Can you think of some examples of the misinformation that was floating around?

JW: Well, just numbers of the amount of shrimp loss. There were some things said about my people, in particular, the development, that they were untruthful in what they were saying. I don't have any specific examples, but just very upsetting. But it was mainly – the misinformation was that we're not responsible for the turtle situation, that it's harvesting the eggs, or whatever, and on and on – that it's going to be devastating. "We lose thirty, forty, fifty, sixty percent of shrimp," which just wasn't true. It caused real problems in trying to approach these fishermen and to use gear when this information was being spread around. It just was totally misinformation.

SSD: So, two areas of misinformation? One [was] exaggerated shrimp loss because it's more like ten percent, isn't it?

JW: Yes, or three. At the time, we were only getting three.

SSD: Three percent.

JW: In fact, sometimes, we weren't getting any, but it's – occasionally, you have a problem. It clogs up or something, and you may lose a whole drag, which could be several hundred pounds or a hundred pounds. Every tow-in/tow out, there's a lot of variation between nets anyway. It's very hard to measure that when you have that much discrepancy between two trawls with no TEDs. It can be five or ten percent between them because there's a lot of rigging adjustments to optimize a trawl. So the best numbers we could get was around three percent at the time. In the early design, we weren't actually losing any shrimp. In fact, we had a slight gain.

SSD: Wow.

JW: But that one was just really too hard to use, very cumbersome and expensive, and you had to keep [inaudible] really well. So fishermen didn't like it from an operational standpoint. They preferred a simpler design. Even though it may lose more shrimp, it was easier to use and cheaper.

SSD: Interesting. Yes, very interesting. The other piece of the misinformation was that they were only catching two turtles each, and that didn't seem like a lot.

JW: Yes, they weren't the problem. They were pointing fingers – everybody else is causing it. The eggs were being taken on the beach, which was true. I mean, that's what caused the decline in the first place. But at that time, there was total protection on the beaches. The shrimp fishery was the main source of mortality at that time. Had we not solved that, I don't think we would have seen recovery in the ridley, and/or the fishery would have been closed. There's no doubt in my mind.

SSD: So the problem would have become not having enough mature female turtles laying the eggs because they were being drowned in nets.

JW: Right.

SSD: Okay. Well, what were some of the challenges faced in developing TEDs?

JW: Well, I think we've been through quite a few of them. [laughter] The big problem, really initially, was what type of design to come up with, to develop, because it was a complex problem, particularly the complexity in the types of gear, the variation in types of gear. The boats and the types of ground you're fishing in and what you catch. So it was not a simple solution. It was a very complex solution. That was difficult. The other difficulty was convincing the fishermen to try them and demonstrate, and then to solve technical problems. Once widespread use of TEDs occurred, there were lots of problems that, over time, working together with the fishermen, we were able to solve almost all of them, but initially, they were – it would work really well on this boat and this condition. You'd put it over here, and there was a problem – some sort of trash clogging it up, grass or whatever. So the complexity, I think, was a major problem – complexity in the fishery. Although it seemed like a fairly simple solution at the end, it was very difficult to develop it and to make it operationally feasible, and maintain the shrimp catch at an acceptable level.

SSD: What would be different in fishing grounds? What's the diversity in fishing grounds in the Gulf of Mexico?

JW: It's tremendously diverse. In terms of the organisms, there's probably fifty species of animals in the Gulf. It's a subtropical fishery. So compared to a temperate fishery, the number of organisms – that was one of the real problems we had initially was that the size of the animals we're dealing with – it was a spectrum of size of animals we're dealing with, all the way from sharks down to really small animals and trying to sort them out, keep the turtles out and keep the shrimp in when they're very small. So it's a very diverse habitat.

SSD: In terms of the bottom, is there a great difference in the Gulf of Mexico and what you find at the bottom of the water column?

JW: Well, primarily is the same mud bottom. There's not a lot attached to – there are areas that have soft coral. Certainly, in South Florida, there are coral reefs. But the vast majority of shrimping grounds are pretty clean in terms of not much impact of trawling on the bottom fauna itself, other than invertebrates. Some attached soft corals could be impacted in some areas, but on the bottom, diversity certainly is a lot less than a coral reef or any area like that. Live bottom, we call it.

SSD: Are the soft corals protected in the same way that the coral reefs are protected?

JW: Yes, they're closed areas like flower gardens off of Texas [Flower Garden Banks National Marine Sanctuary. Most of those areas are closed to fishing.

SSD: What are some of the invertebrates that are found in the sandy bottom?

JW: It's mostly crabs and mollusk shells, that sort of thing.

SSD: Does pulling a shrimp trawl over a bunch of crabs – does that harm the crabs?

JW: Well, actually, quite a few of the crabs can get out through the TED itself. They're pretty hardy. They actually survive the trawling operation, even with a normal trawl. They come up on deck alive. Provided they're put back in the water fairly quickly, they stay alive because they're hardy animals, not like a fish or shrimp or something like that. But there is some benefit in a lot of these. Now, not only do the fishermen have to pull the turtle excluder device, but they also have to pull – it's called a finfish reduction device. It's either another modification or modification to the TED that will actually let a lot of that bycatch out as well as the turtle. So it's very beneficial to the environment.

SSD: So they're pulling two different bycatch reduction devices now. They're pulling a turtle and a finfish.

JW: Yes, right.

SSD: Okay. What's targeted with the finfish?

JW: Snapper's the main emphasis for developing it. The red snapper population was very, very low. So the emphasis was to try to recover that population. Shrimp trawl fishery, again, had a huge impact on the young snapper, one and two-year-olds. They don't impact the adult snapper because they move onto the reefs and the oil rigs and things. But they were, I think, somewhere around fifty, sixty percent mortality on those very young red snappers. So that was the emphasis for that program and developing devices to reduce that. Of course, they reduced all the other fish as well, but that was a primary target.

SSD: Red Snapper, I just will say for the record, is highly valued in both recreational and commercial fishing.

JW: Yes, it's one of the most valuable.

SSD: We've touched on number five a little bit also. But is there anything you want to add to the challenges faced in getting the shrimping industry to use TEDs?

JW: That was the main thing and just convincing the fisherman or demonstrating to the fisherman that it was a viable fishing option, that they could still make a living doing it. That was our greatest fear and the most significant challenge to overcome.

SSD: Looking at question number six, can you just give us a graphic of the first NMFS TED. Let's say somebody listening to this a hundred years from now, and it's the only record we have of what the NMFS TED looked like compared to the, I guess –

JW: The modern TED?

SSD: Yes, the modern TED.

JW: Basically, it was similar to the modern TEDs in terms of – it was a grid, but it had a frame around it. It was actually a box, a rectangular box if you will, made out of metal, and it had a trapped door initially on the top that let the turtles out. Like I said, it worked well. It was up to ninety-seven percent effective in letting turtles – actually, the door was on the bottom originally, but it was turned over to the top because it was more efficient for releasing turtles. It worked well for the prototype. The problem was that it was fairly large and very heavy and very cumbersome and awkward to fish. It would spin around and twist the net up. It worked well when you had a boat with two large nets, which, at that time, a lot of the fishery was. About that time, those fishermen started pulling four nets, two on each side. So you had four of these big devices and these trawls. It was just the operation of the fishermen – a lot of the fishermen didn't like it. Even though it didn't lose any shrimp catch, it was hard to use. The more modern ones really simplified the design to just a simple grid, like a barbeque grill that was put into the device. The reason we put a frame on it initially was to hold the angle. The angle of the grid is very critical in terms of allowing the turtle to get out and maintaining – that angle of that grid is very critical. So the frame was put in there to hold it in place. So we went to a simpler grid. It's easier to use, to put in. Operationally, it's better, but you have a difficulty in tuning and keeping that angle right. We had to work through some designs, modifications to be able to do that, but it's essentially a barbeque grill put in a net with a slit cut at the back to let the turtles out. There's an opening flap on it. So it's a lot simpler the – a lot of the early simple designs had significant shrimp loss. We had to really overcome near twenty percent or better. There were several modifications working with the industry, and the gear technicians were able to develop modifications that solved those problems. The beauty of that design was it can be used in a variety of sizes and [inaudible]. It's more uniformly, operationally better. Then there were some other designs that allowed the grass to go out. There were some curve bars put in. There were a lot of technical things that evolved over a ten-year period that really perfected it to where it is today.

SSD: Okay. Anything else you want to add to that?

JW: No, I think that's basically it.

SSD: I think we've covered number six, how early TED models compared to later models. Is there anything you want to add to that?

JW: No.

SSD: Okay. Do you have any experience with protests against TED regulations that we could put on the record?

JW: [laughter] Probably not. I can tell you that it was one of the most difficult things that I've ever done in my career was to deal with the protests, and the civil disobedience was pretty difficult. Luckily, we got through that.

SSD: Were you ever involved in enforcing compliance regarding the use of TEDs?

JW: Our group was in terms of our technicians. The NOAA Fisheries technicians actually provide training for law enforcement, for the Coast Guard, for NOAA fisheries enforcement officers, and state enforcement officers. We provide technical training so that they understand the gear and how it works. When there's a technical problem that causes it not to work within the regulations, the technicians also go to sea with both the state and federal law enforcement to do the boardings, to assist in assessing the TEDs, and they're working. In most cases, what's done now, rather than write them a ticket, if it's a minor violation or technical problem, they're able to advise the fisherman how to solve it. That's been real critical, I think, to the relationship between the enforcement and the industry. The enforcement officer's technically qualified due to that training, and rather than write him up, they can explain what the problem is and have them correct it. That cooperation between NOAA Fisheries technical people and the enforcement, I think, has been an exceptional program.

SSD: Yeah. Okay. Do you know how compliance regarding the use of TEDs has changed over the years?

JW: I'm not familiar with the last two years since I retired. But up until the time I retired, it was very high. It was over ninety-five percent compliance, I think. There's still some pockets of resistance and individuals that are resisting, but from the enforcement we were doing then, well over ninety percent.

SSD: That's great. Do you know if enforcement has changed over the years?

JW: I think it's probably lessened now than it has been, with fishermen using them pretty much voluntarily. What happens now if we have an instance of turtle mortality, we have wash-ups in a certain area, then enforcement goes in. They have a strike team that goes in and assesses the situation to see if there's a couple of boats out there. They do more intensive boarding. So it's more of a hotspot type of enforcement. Other than that, I think it's just normal boardings when they're boarding for other fisheries things. They just check the TEDs when they're – the Coast Guard and the enforcement people. They do have a capability to go in when turtle mortalities are detected in an area. Usually, the mortality ceases almost immediately. [laughter]

SSD: Interesting.

JW: If it's related. I mean, there's other sources of mortality besides fishermen. In some cases, it only takes a boat or two that are not doing what they're supposed to be doing to cause some turtle mortality.

SSD: Yes. With the oil spill recently, it's hard to know what's true and what's not, but somebody told me that some of the turtles that have washed up – now, I don't know if this could be true. I found it a little hard to believe – they had apparently drowned in trawl nets and were marked by the net. Do you think?

JW: It's not usually marking that takes place. But there are still incidents of wash-ups in areas, particularly when the turtles become very concentrated. I don't know. It's hard to say. It's very hard to show trawl-induced mortality. It's very difficult. It's usually a fact that the turtles are

washing up in the area, and you have a lot of activity offshore. If you can correlate those two, then that's an assumption. Unless you're actually on the boat when you're trawling or find some boats that are out of compliance, then it's hard to tell. I've not seen any situations where you can actually look at the carcass and tell that that's what caused it.

SSD: Yeah, I found that a little hard to believe. But you know, it came out in the media, which

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JW: Yes, I know. I saw it.

SSD: Unbelievable. You have touched on number eleven also, that you engaged with training Coast Guard, NOAA, and state officials. Is there any other way you can think of that your agency engaged with other agencies in enforcing the use of TEDs?

JW: Working with states – the only other thing would be working with Sea Grant agents through more technology transfer but not necessarily enforcement. Just going in, in an enforcement situation, if there were a technical problem, to go in and work with fishermen to try to solve it. Our main emphasis with enforcement was training and assistance, actually, with all the enforcement agents in terms of providing that technical capability.

SSD: Yes. Education, information.

JW: Yes.

SSD: How have TEDs affected the shrimp industry, you think?

JW: Well, I think it's kept them an active industry. I think without TEDs, I'm convinced there wouldn't be a fishery.

SSD: Because they were going to close them down?

JW: Oh, yes. That's the big thing. I think also, there's a large segment of the industry now, at least, people I deal with, that are a lot more ecologically involved or – not that there weren't before. There are a lot of fishermen that are as good ecologists as everybody else. They make their living out there. But I think the industry as a whole is aware that they have responsibilities [inaudible] that's going to – I mean, we have a lot less trouble with the finfish excluder devices than we had the TEDs because – I think it's because they went through the TED issue. They're more aware of their responsibility in terms of the ecology. That's, again, a broad spectrum. There are certainly individuals that are just bad boys out there. But that's everywhere. But I think that's the two things. One, there's still a fishery. Two, I think they're more acceptable and more aware that they have to be responsible for what they do.

SSD: How have TEDs affected the sea turtle population?

JW: In terms of the Kemp's ridley, I think it's probably the main factor that caused the current recovery that's going on with the population. I think that and the beach protection, of course,

hand in hand in that. But I think without turtle excluder devices, you would still be seeing tremendous mortality with the adults. I think all turtles – they've certainly been reduced to that level of mortality. We haven't seen the effect in terms of loggerhead populations increasing as much as we had with ridley, but the ridley has a ten-year – they mature in ten years, where loggerheads mature in twenty-five. So I don't know that there's been enough time. TEDs have been used well to see that increase, but the other problem is we have lots of forces of mortality for those turtles because they're a lot more ranging in their habitat and distribution. There's other fisheries that impact them, particularly the longline fishery and a lot of foreign fleets. They have their life cycle of seven years of going around the Atlantic and back to the coast. I still think TEDs have significantly – well, I know it's significantly reduced mortality in those animals, but we're not seeing it in terms of the population increase, at least in nesting populations, as we had in the Kemp's ridley.

SSD: Are the leatherbacks the really big ones?

JW: Yes. Huge.

SSD: So they couldn't necessarily get out of a TED that was designed for Kemp's ridley because the opening wouldn't necessarily be large enough, would it?

JW: Well, we actually modified the design, I think five or six years ago now, where they actually will release the leatherbacks. We've increased the size of the grid and the size of the opening. But the Atlantic leatherback is actually in pretty good shape. Their populations are doing well. But we did modify the design to address that. That's a product of the fact that they are doing better, but we started seeing more interactions. Early in the TED work, we didn't see any interactions with leatherbacks or very few. But as their population increased, we started seeing more interaction, particularly on the East Coast, not necessarily in the Gulf, but East Coast certainly was the case. The TEDs were actually – the size of the grid, and the size of the opening, and the type of opening were made to actually allow them to escape as well.

SSD: That's great. Susan Shipman told me that actually, they'd had a couple of nestings of leatherbacks on the East Coast.

JW: Oh, really?

SSD: Not a lot, but it's just kind of interesting that maybe there were two or three.

JW: Yeah, that's right. Well, the Trinidad population certainly increased tremendously – the islands there. Atlantic is in a lot better – population is actually increasing there. They're another animal that has a shorter time to maturity [inaudible] recovery [inaudible] protection. There's certainly protection on the beaches now and a lot of work going on with them. The Pacific is another situation there. They're in very dire straits there.

SSD: Are there any birds that are in use on the Pacific Coast?

JW: Well, the problem with the animals there is that they nest in Indonesia and other places [inaudible] no protection for them. I think that drift gillnets cause a real plummet in their population.

SSD: Just for the record, could you define what a drift gillnet is?

JW: Well, it's just a huge gillnet that actually drifts in the ocean. But it's not like one near-shore, where you're anchored on the bottom. They've pretty much been banned in almost all the countries. At the time they were in use, they were devastating to the population.

SSD: Why are they called gillnets?

JW: They gill [inaudible]. They have large meshes that an animal runs into and actually tangles up and gills them. The term came from the fact that the fish run into the square mesh, and it gets in behind their gills, they're caught.

SSD: They're trapped?

JW: That's where gillnet came from, the name.

SSD: Okay. So if it's drifting out in the ocean, it's not anchored?

JW: No. The boat stays with it.

SSD: The boat stays with it. Okay.

JW: [inaudible] back in. [inaudible]

SSD: Okay. I wondered how they would find it again.

JW: Yes. But almost all countries have banned it. There are still some countries that use it, but it's been banned by most countries because it's very non-selective in what it catches.

SSD: Well, yeah. So if you're killing a lot of fish that you're not using, then you're just wasting natural resources that you could be selling at the market.

JW: Absolutely.

SSD: Anything else about number thirteen, how TEDs have affected the sea turtle population?

JW: No, I think that's about it.

SSD: Well, why do you think sea turtles are important?

JW: Well, I think it's from a perspective of all of the diversity of the fauna in the ecosystem that they're part of that. From a human standpoint, you want your children and your grandchildren to

be able to enjoy that animal as anything else. I don't know what niche they fill in terms of the ecology, but they're part of the ecology. So they're important from that [inaudible]. To me, any animal that becomes extinct because of man's activity is not a good thing.

SSD: It's so final, isn't it?

JW: Yes, it is. Of course, at one time, there was actually a fishery for turtles, the meat and the shells and all, but I don't know that that will ever happen again. The population gets large enough – but they're just a unique and very interesting part of our ecology. It would be a shame to see them disappear.

SSD: Well, this is a question that wasn't on the list. It's kind of blindsiding you, catching you off guard. You can, of course, decline to answer any question. But what do you think the oil spill is going to do to the turtles?

JW: Well, it depends on where the oil ends up and, of course, whether they can get it capped or not. It's bad now, but it could be tremendously worse if it's not capped until August. But in terms of specifics, I think – I'm not sure we know the impact of turtles actually being in the oil. It can't be good, but they're a very tough, hardy animal, and whether they can escape that. I think the big problem from my perspective is going to be if the oil goes into the Louisiana marsh. In a great extent, it's already there. But that's one of the main feeding areas for the young Kemp's ridleys. If they get into that oil or even consume animals that have been contaminated with oil, then I think we're going to have an impact on those animals. The other thing is if it happens to make it to Mexico, which I don't know where the current is going to take this oil, but if it were to end up in Rancho Nuevo, it's the only nesting area for the Kemp's ridley. It could be totally devastating.

SSD: Yes, that would mean even the head start program that's taking the eggs and taking care of those hatchlings would be affected.

JW: Right. That would be the worst scenario, I think. But even in the best scenario, I think we're going to have an impact on the ridleys. I'm not sure about the other turtle populations that are more oceanic. The loggerheads are mainly – they feed on crustaceans, but they're widely distributed. I don't know how many would be in that affected area. I'm sure it's going to have an effect on some of them, but I'm more concerned about the wetlands and the effect on the Kemp's ridley.

SSD: Have you seen any of the photographs of the pelicans?

JW: Yes.

SSD: The little white – what are they? I guess they're the herons.

JW: Little egrets, yes.

SSD: Egrets, yes.

JW: Yes, that was heart-wrenching, I'll tell you.

SSD: Just dying in its home. Nothing we can do about it. It's really sad. Well, that covers all of the museum questions. If I had been interviewing you strictly for the Center for Oral History where I work, I would have started with question sixteen, asking you about where you grew up and asking you tell me a little bit about that because, in years to come, what seems very ordinary today will be of interest to people. So do you have time to talk about that a little bit?

JW: Sure.

SSD: Okay. Tell me about where you grew up and what it was like.

JW: Well, I was born in Baton Rouge, Louisiana. My dad was in the Air Force, so we traveled around quite a bit. I spent three years in Japan; actually, started school in Japan. But he spent a better part of his career in Florida – Fort Walton Beach and Panama City at the Air Force bases there. So I essentially grew up in that area, Fort Walton and Panama City, in my formative years, up through high school and college. I was enamored with [inaudible] water and surfing. I was a lifeguard – and diving. So I naturally leaned toward a career in that environment. But I spent a lot of time on the beach, surfing and scuba diving and a lot of water activities. [inaudible]

SSD: How old were you when you learned to scuba dive?

JW: Actually, I was in high school – I think my freshman year of high school.

SSD: Boy, that must have been a lot of fun for you as a teenager.

JW: Yes, it was.

SSD: Tell us about your best scuba dive that you ever had. What was that like?

JW: Well, the best experience I've ever had was – I was actually an aquanaut in HydroLab in St. Croix, Virgin Islands, where we lived. I did two missions there, where we actually lived underwater for weeks at a time.

SSD: Wow.

JW: We went down and did some research in the saltwater canyon there. It goes down about three thousand feet. Living in the ocean – actually, in the habitat, there's a big dome, plexiglass on one end, and it was like the fish would all come. It was like we were the aquarium [inaudible] looking in at us.

SSD: [laughter]

JW: That whole experience was just unbelievable. With the nitrogen saturation, you're euphoric the whole time. You're kind of on a high, anyway.

SSD: Wow.

JW: It was just a magnificent experience, almost an inspirational experience. That's probably my fondest and most memorable experience. I had a couple of encounters with sharks over the years that were sort of memorable, too. Luckily, nothing – actually, I had an encounter with a big mako shark one time and a blue shark one time. It was pretty close.

SSD: Why do you think they chose not to eat you?

JW: Well, in terms of the mako, I actually had a – there was a Navy lieutenant diving with us, too, and that shark was circling. I was on the deck of a freighter that had sunk in the war. The shark came in around me and just started circling me real tight and doing the posturing. I think he was definitely intending to do me harm. But this lieutenant came in, saw him, and he had a bang stick and actually killed the shark.

SSD: What's a bang stick?

JW: It's a shotgun shell on the end of a pole that's used for defense underwater.

SSD: So you just have to poke them with it.

JW: Yeah, poke them with it. It hits the firing pin. The blue shark – we were actually doing research off the Tongue of the Ocean in the Bahamas, and we were able to – we had a shark cage down there while we were doing our work. The shark came in, and we were able to get in the cage. He actually attacked the cage, but that saved us from being attacked.

SSD: What was it like to be attacked by it in the cage?

JW: Well, at first, I was just sitting there with my eyes wide open and agape, and I realized I had a camera with me, so I started taking pictures. I was safe in the cage. But I started taking pictures. It actually was – once we got in the cage, it wasn't a bad experience. But when he was coming in – we weren't sure he was going to attack. He was just coming in. But we were working with fish in cages, and we had a lot of scent in the water and a lot of fish that were dead. So I think he came into that scent and was in a feeding mode.

SSD: You guys were asking for it.

JW: That's why we had the shark cage there.

SSD: Yes.

JW: But I've had encounters with hundreds of sharks, and those were the only two times I've ever felt like I was threatened at all. Most of the time, they mind their business if you mind your business. But those two instances were – and that instance with the mako was, I think, a little bit

self-induced, too, because we had a lot of divers down there shooting fish with spearguns, so we'd have blood in the water. We had a lot of fish that were thrashing. I was [inaudible] –

SSD: Making those –

JW: – trying to find some artifacts. But I think that spearfishing and the scent in the water brought him in, too. Because most of the time, when I've been diving on scientific dives and not doing that sort of thing, sharks will pass by. They might scare you, but they're not aggressive. That's the only [inaudible] time I've ever had aggress – and I've been diving since, like I said – forty years and only had two instances in all those years.

SSD: Well, I have a few questions about the dome. What was in there with you? Were your beds in there?

JW: The habitat? Yes.

SSD: Yes.

JW: Actually, I think it was on display in the Smithsonian not too long – I don't know where it is now. Oh, it's in the NOAA headquarters, the display. But it's essentially a ten-foot diameter steel tube with a Plexiglass window on one end. It has a hatch below that you come into, and it had bunks. It had a control panel for controlling the pressure and the oxygen, all the life support. It had a little hot plate that we heated our meals on. It had a little shower – shower, bunks, and an operational center mainly was what was in there.

SSD: You had to put on scuba gear to get down there and enter it.

JW: Right. [inaudible]

SSD: You stayed how long?

JW: We were in and out every day. You go out on missions. You slept in there at night, and then you came out in the morning. There were support divers that brought down double tanks, and they had them in stations outside the habitat. Then all along, we would make excursions out to the – we were saturated in fifty feet of water. We'd make excursions down a hundred and twenty feet on a (can?). We were doing research out there. Actually, had some gear that we were doing behavioral research on. We would go out and work every day and then come back in for lunch or come back in the evening.

SSD: Now, what does behavioral research on gear mean?

JW: Basically, filming the behavior reaction of [inaudible]. At that time, we were testing midwater structures to see if we could attract pelagic fish in closer to the coastal waters. There were different designs, and we would go out and take population counts and photograph the fish around these devices and how it grew over time. That sort of thing was one of the programs we did.

SSD: Would that be like an artificial reef?

JW: Yes. It was a midwater artificial reef. What was happening at that time in the islands was that most of the coastal fisheries had been completely fished out or overfished, but there was a vast resource of pelagic fish, free-swimming fish, in the ocean – tunas and that sort of thing – that passed by the islands, but they wouldn't get close enough that the local fishermen can fish them. So what we were doing was putting these artificial reefs on a long line that stretched out into the open water. It would actually lead the fish in closer to the shore so that the fishermen could have a fishery there.

SSD: Did it work?

JW: Yes, sure did.

SSD: Wow. That sounds like a lot of fun. I actually got certified to scuba dive when I was about, I guess, twenty-eight. But it was really a little too expensive for me to continue to do.

JW: Yes, it can be, especially the trips to go anywhere to really have nice diving.

SSD: Yes, yes. I guess the truth is I didn't have a lot of confidence in my ability to make good decisions. It's just one of those sports, where if you make a bad decision –

JW: Yes, you better be –

SSD: – you can get in big trouble.

JW: – know what you're doing and be comfortable with your gear, that's for sure. You could still do some shallow diving. Snorkeling is fun, too.

SSD: Snorkeling is the thing. I really love snorkeling. We took a vacation to [John] Pennekamp [Coral] Reef [State Park] one year, snorkeled out there,

JW: Yes, that's neat.

SSD: Yes, it's amazing. There's just this whole other world under there.

JW: Oh, yes. It is.

SSD: We, most of the time, don't think about it too much, but I guess you have been thinking about it most of your life.

JW: Quite a while, yes.

SSD: Is there anything else about growing up in Florida that you think would be interesting to put on the record?

JW: No. That was the only thing that [inaudible] I guess that got me involved in wanting to have a career in fisheries science or ocean was the fact that I grew up and had the watersports, and then I watched Jacques Cousteau all the time and said, "That's what I want to do."

SSD: Yes, Jacques had the life. [laughter]

JW: He did. That kind of steered my career. It was fun growing up in Florida. Panama City was a great place back then. It's a little too big for me now, but it was very nice.

SSD: So in the '40s -? When were you there? In the '50s?

JW: '50s and '60s, yes. Well, actually '60s and '70s. I moved there when I started the sixth grade. So it would have been in the '60s and '70s.

SSD: So what was it like? Can you paint a picture of a day in your childhood there that's maybe not available for anyone anymore because things have changed?

JW: No, not really. Well, I guess one of the things that I enjoyed was going out to the sand dunes in the evening and having a fire and pulling some shrimp, drinking a few beers. Had these huge dunes, and there was no development. It was just beautiful. Now it's all high-rise and parking lots. That's one big difference, I think.

SSD: Yes. So kids can't do that anymore.

JW: No.

SSD: Well, can you tell me a little bit about your education? What did you study and where?

JW: I went to Gulf Coast Junior College in Panama City, just basic classes. Then, I actually got a scholarship to the University of West Florida in Pensacola, and I completed a bachelor's and a master's degree there. The bachelor's was in zoology, and the master's was in behavioral science. I actually took a job as a co-op student when I was an undergraduate and came to work for the NOAA Fisheries Lab in Pascagoula for a summer. Actually, I arrived here one day and left the next day, went back to Panama City where they were doing a study on the midwater artificial reefs, and spent the summer diving and [inaudible] fish and living at home and getting per diem. I thought, "This is great."

SSD: [laughter]

JW: After I got my bachelor's, they actually called me and offered me a job. I was going to graduate school then, but I said, "No, I'm going to go work for a year." So I came to work for them and then took a leave of absence and went back to get my master's. Came back to the NOAA lab here in Pascagoula and actually did my thesis on the job. That was my whole career. I've never had another job. I worked forty years in the same place, so loved it.

SSD: That is so fabulous. You're one of the lucky few.

JW: Yeah. I wouldn't change anything about my career. But I have grandchildren now, and I have [inaudible] I just decided it's time to retire and enjoy life [inaudible] do some consulting.

SSD: Well, after forty years. So, tell me about the consulting. What is that?

JW: When I retired, I got a lot of requests from – I've done a lot of international work in my career with a lot of organizations in different countries and some universities and organizations in the US. They called me and asked me if I would be interested in doing any consulting. I said, "Well, depending on what it is and when and if it doesn't interfere with playing with my grandkids." So I've had several jobs. A lot of it's just working at home, reviewing manuscripts or proposals. I've done some work with WWF [World Wildlife Fund] in the Smart Gear program, which is a great program that I helped initiate, where they give prizes for individuals to develop solutions to marine problems, fisheries problems. It's a great program. I'm a judge in that.

SSD: That's World Wildlife Foundation?

JW: World Wildlife Fund.

SSD: Fund, okay.

JW: It's an environmental group. I've done quite a few jobs with them in different places. Worked with the food and agricultural organization of the United Nations, mainly reviewing papers and manuscripts and manuals and that sort of thing.

SSD: For example, what would a manual cover?

JW: Well, they've just produced a manual that covers how to develop and test gear modifications like bycatch reduction devices worldwide. They put a manual together that essentially goes through those steps of how to initiate a program, how to conduct it, and evaluation and [inaudible]. It's a huge manual that would go – mainly aimed at a lot of developing countries that may not have all the scientific capability as [inaudible] trying to import some of that into those countries. Any country that wants to do it, going to the people that have done it forever to –

SSD: Not have to reinvent the wheel.

JW: Yes, how-two manual. It's a good thing. I've had a lot of expertise in that area.

SSD: Yes. So I guess the idea would be to prevent overfishing, so there'll be food for everyone.

JW: Right, to solve these problems of overfishing or – certainly, the bycatch is a big problem worldwide, where you're trying to get one species, and you're inadvertently killing other species that could be used or utilized.

SSD: Yes, somebody else might want it.

JW: Yes, or if it's a juvenile and it matures, it could be usable. So it's a big problem worldwide, and they have a huge program to try to address it. Then I worked with – I have a longstanding contract with New England Aquarium, assisting in some of their research programs, in terms of consulting on development of proposals and reviewing results of research and that sort of thing.

SSD: Do you like it?

JW: Oh, yes. Like I said, it depends on when it is and how much work is involved. I've turned down quite a few that would just cause me to travel too much and more work than I want to do. So I pick and choose. But it keeps me involved and keeps the mind exercised. You don't want to totally – I've really enjoyed my career tremendously and the work that I've done, but I got to the point in my life – I'd moved up [inaudible] administration, in terms of lab director, and I did not enjoy that job. It was not fun.

SSD: You weren't diving anymore.

JW: No, I was dealing with personnel problems and funding issues and all that stuff. I always told my kids when they were growing up – I said, "Whatever you do, enjoy it. You're going to spend many, many hours working. If you hate your job, that's not good. Do something else." I woke up one morning and said, "I don't like this job anymore. I want to do something else." [laughter] It was time. Like I said, I have two grandchildren and one on the way. I just love family and spending time with family and doing things, and I want to be able to do it.

SSD: You earned the right. You earned the right to do that.

JW: But I still enjoy staying involved. If I can be of help for somebody, that's the main thing I love is being able to accomplish something and make a difference.

SSD: Well, I think you did. You probably enabled many people along the East Coast and the Gulf Coast to stay in their shrimping business that some of them had been in, I'm sure, for many generations. That's no small feat. Is there anything else you'd like to put on the record that we have not talked about?

JW: No, I think we've pretty well covered your questions anyway. I can't think of anything else.

SSD: Well, thank you so much. I'm going to say thank you and turn off the recorder.

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Reviewed by Molly Graham 10/23/2021