

Stephanie Scull-DeArme: This is an interview for the Maritime and Seafood Industry Museum and the University of Southern Mississippi. The interview is with Dr. Tom McIlwain and it is taking place on Tuesday, February 16th, 2010 at 9:00AM, in Ocean Springs, Mississippi. I am the interviewer, Stephanie Scull-DeArme. First, I'd like to thank you Dr. McIlwain for taking time to talk with me today. I'd like to get some background information about, you that's what we usually do in our Oral History interviews. So, I'm going to ask you for the record could you state your name please?

Tom McIlwain: I am Tom McIlwain.

SSD: For the record in case all the labels get lost or damaged some time in the future, how do you spell your name?

TM: It's M-C-I-L-W-A-I-N.

SSD: When were you born?

TM: November 15, 1940.

SSD: Where were you born?

TM: I was born in Pascagoula, Mississippi.

SSD: Salt water.

TM: Absolutely, running through my veins. [laughter]

SSD: For the record where do you work?

TM: I work at the University of Southern Mississippi's Gulf Coast Research Laboratory. In Oceans Springs, Mississippi.

SSD: What is your title?

TM: My current title is Project Coordinator. Basically what that means is we're developing a new teaching site to the East of this site. My job is to put all of that together. Find the money, bid the projects out, and oversee the construction of it.

SSD: Finding money, that's usually the first step. [laughter]

TM: That's the biggest step.

SSD: Get that one out of the way and rest is a piece of cake.

TM: Right.

SSD: I have some questions here that were supplied by this particular grant that we're working under. So, we're going to just cover those first. And, in the time that's left, I'd like to ask you some questions that we'd be interested in, in terms in Center for Oral History. I meant to ask you about how long do we have for this interview?

TM: That's up to you.

SSD: I'm going to take a look at my watch now; just kind of try to keep an eye on the time. Even though this little recorder looks very small, it holds many, many hours. More than we could possibly do today. What role did you play in introducing Turtle Exclusion Devices (TEDs) to the shrimping industry?

TM: Basically, my role at that point in time was as a research biologist here in the Gulf. We were supplying background information to the Federal and State agencies that were involved in the development of that. By data, I mean we were taking trawl samples across the Gulf of Mexico in both the state and federal waters. Trying to document the impact of the use of TEDs. We were looking at such things as: reduction of fish catching in net; impacts on turtles, obviously; could the turtles survive. Trying to document the data that were going into that. I was not part of the teams that were developing TEDs, or using them, or physically implementing them, and introducing the industry to them. We were supplying background information. Trying to document shrimp loss and TEDs. That was a huge issue. Basically, what you're doing is putting a hole in the net. A lot of times, the net would get clogged and would not perform. Wouldn't get rid of turtles. It would clog the net. It wouldn't fish efficiently. We were trying to document all those kinds of pieces of information that went into the decisions on when and where, and how those were used.

When I first started, it was pretty much limited to the federal waters. In the larger nets. As time evolved and more data were collected, it indicated that there was a problem inshore with the smaller nets. Basically, smaller turtles. So, once again, I was involved with a team of people. We had a program. One of the programs that I was involved in was called SEAMAP. That's an acronym for Southeast Data Assessment. Let's see. Southeast Area. I'm going to have to write it down. It's been a while. [laughter] Southeast Data Assessment Research, I believe is what it stands for. But anyway, it was a program. It was funded through the federal government. It was done in consort with the Gulf States Marine Fisheries Commission. Which encompass both Federal and State agency biologist to collect this information. It was all going into a central database and made available to the industry, as well as, to the scientific agencies that were involved in doing these—trying to implement. Basically was designed to try to reduce the impact of shrimp trawls on turtle populations.

It started out Kemp's Ridley was the targeted species. It pretty much was limited to reproducing on one beach down in Mexico every year. That beach was being overrun. People liked to eat turtle eggs. So they were collecting that. The Mexican Government pitched in, with help from the US industry. The shrimp industry in particular was very supportive of protecting those beaches down there, and assisting in protecting it during the breeding season. The turtles would come to the beach and lay their eggs. There was a program that was set up through the Mexican Government with the US participation. Both from our federal government and from our

shrimping industry. They've sent teams down there during that timeframe. Gathered up the eggs, put them in incubators, and hatched them. Then turned them loose back in the wild.

There were companion programs trying to learn more about turtles that were particularly going on at the National Marine Fishery Service Laboratory in Galveston. Where they were actually hatching turtles. Then the government was using those live turtles in their development program. When they were developing the TEDs, they would actually take these turtles at various sizes that would occur in different depth strata. They would build different kinds of TEDs and then physically send divers down with turtles. Turn them loose in front of the net and see how they responded. They filmed all of this. It was a huge program.

The bottom line in all of this is that despite a lot of agony on behalf of the shrimp industry and frustration on the part of the government, and the environmental community, it basically worked. Kemp's Ridley turtles seem to be recovering. Each year seems that there's a larger breeding population. Not sure exactly how old the turtle has to be before they return to their native beaches. They are imprinted when they hatch. They return to that beach some years later. In the interim they've gone off. Don't think anybody knows exactly where they all go. They have put radio tags, satellite tags on them and try tracking them. They do have a lot of information on their migratory habits but they do go away for extended periods of time. Then after return, or, they do return to that beach to spawn. Or to lay their eggs.

SSD: Do you know off the top of your head, just a ballpark figure. What year would the research have started with the trawl sampling?

TM: Actually, I think our Gulf-wide sampling started around 1981. That was actually before they started. The SEAMAP Program was developed to give us a Gulf-wide database. Cohesive database. Prior to that there had been some state level programs where there was extensive collecting done in all of the Gulf states. That was again, done under the Gulf States Marine Fisheries Commissions so we could have a holistic database rather than what's happening in Mississippi, and tried to extrapolate that out. Then we were looking at these huge databases over wide geographical areas. When you think about it, there are different climate regimes and different things happen. The Mississippi River has a tremendous influence on the currents coming up through the Yucatan Straits influence greatly the distribution of seawater and temperatures in the Gulf. All of which impact the resources here in the Gulf. Rather than looking at little snapshots, we were trying to develop these big programs that would give us a holistic look at these things, and hopefully make better decisions that are management of those resources.

SSD: Did you ever see, or would you expect to see, kind of a short period of time compared to, I guess, geologic time? Would you ever see changes in temperatures and flow of water because of say something that was coming like fertilizer that comes down the Mississippi river?

TM: The answer to the question is yes. It happens almost every year. At different [inaudible]. If we have a flood year in the drainage area for the Mississippi River. You got to realize the Mississippi River actually drains two-thirds of the land mass of the United States. Runs from the Rockies all the way over to the Appalachians and everything in between there drains into the Gulf. So if we have a flood year there's huge impacts and implications resulting from this runoff

in the Gulf. Then we might get some dry years. Then you would have the impacts of the currents coming up through the Yucatan Straits out of the Caribbean [inaudible]. Their flow would be influenced again by the flow coming out of the Mississippi River. You do in short term see some drastic changes almost year to year. A hurricane is another good example of spectacular changes. We've tasted that twice in the last four years.

SSD: Katrina and Camille.

TM: Right. They've had tremendous impacts on the environment. Not just locally but throughout the Gulf area.

SSD: How would you define the Gulf area?

TM: We define the Gulf as a large marine ecosystem. That's basically the confines of the Gulf, United States, Mexico, Cuba. That body of water in there, course the United States exerts influence out to 200 miles off shore.

SSD: Is that federal, the 200 miles?

TM: From three miles off of, that's not entirely true. From the state waters, territorial seas, out to 200 miles is considered federal waters. That's called the EEZ, Exclusive Economic Zone. That was declared when they, I guess when the Magnuson-Stevens Fishery Conservation and Management Act was passed in 1976 and was put under the jurisdiction of National Oceanic and Atmospheric Administration—NOAA it was called. National Marine Fishery Service, which is still today. That set-in motion the management structure that we have today. I say it, territorial seas vary depending on what the circumstances were when that state joined the Union. Mississippi, Alabama, and Louisiana, the territorial waters extend out only three miles. Three nautical miles. Our three statute miles from the Barrier Islands. If you go out 12 miles off shore, our Barrier Islands, and then three miles beyond that is Federal waters. If you go off the State of Texas, it's nine nautical miles. That was the limits of when Texas became a state.

SSD: So they were thinking about it then when they joined the Union.

TM: I'm not sure it was intentional at that point. Relative to this. They just claim that amount of land from Texas when they were brought in the United States. Then that's what they were. The same thing applies for Florida. The Florida territorial seas go nine miles, statute miles off shore.

SSD: Is that from any barrier islands that —?

TM: Right.

SSD: Okay. Wow.

TM: The area left out to 200 miles is federal jurisdiction. Since that time, there's a whole body of law that has developed around managing those resources. To do this, states manage their own waters. Whether it be three miles off shore, nine, the state's responsible for. The federal

government actually has the legal authority to usurp that. It's only been used once. That was on the West Coast in Oregon, I believe, back early on. The governor of that state asked the federal government to come in and intercede.

SSD: What was happening?

TM: I don't remember the circumstances right off the top of my head. But it was a very unusual situation.

SSD: Nothing like that happened after Katrina here, huh?

TM: No. What usually, the federal agency the Gulf of Mexico Fishery Management Council, which I'm a member currently. We make rules that we're under legal obligation to do. Things like stop overfishing. We tried to rebuild the populations to historical levels and that's the law of the lands. We're obligated to uphold the law. So, it's not always a very popular thing. That's what we get back to the TED issue. The ESA, Environmental. Or EPA, Environmental. Endangered Species Act. The Endangered Species Act was the vehicle that was being used to implement TEDs. These turtles were deemed to be about part of the Department of the Interior and Department of Commerce, were deemed to be threatened, or listed as endangered species. So in order to protect them, they had to do something to do that. Their effort to maintain the fishery then this was the tack that was taken to do that.

SSD: What is the fishery? Is that an area?

TM: The fishery really refers to different species. Such as, the shrimp fishery. The shrimp fishery is, and that was the industry that was being gored, sort of speak by the implementation by these Turtle Excluder Devices. The government was trying to figure out a way to allow the industry to keep functioning without hurting it too badly financially. But yet, keep these turtles from becoming extinct. So, wasn't very popular as you well can imagine.

SSD: You said that states manage their own waters. What's involved in managing waters?

TM: Basically, what you are trying to do is maintain all of the fish populations in variance to their environment in which they live. In a healthy condition. But yet, allow the use of those resources for commercial purposes, for recreational purposes, or just for being able to go look at them.

SSD: What's the scientific way of knowing that you are maintaining the living marine resource population?

TM: There in lies the rug. [laughter] We have developed over the history methodologies for going out and sampling to try to statistically figure out what's there. How many fish there are. We do things like record the total poundage and numbers of fish landed by the commercial industry. By the recreational industry. We go out and take from that we get things like ear bone samples to determine their age. We can take an ear bone out of a fish, slice it very thin and you read the rings in it like you would read that of a tree. We tried to look at the age structure within

the population. Figure out how old they –, how long they live. Then too, you try to look at the distribution of those ages. Fish have, depending on the particular fish or invertebrate, a shrimp, or crab, have varying life histories. Some of them live to be very old. Some have a very short life cycle. Like shrimp, the [suez] is considered to be an annual crop. They spawn. This year that shrimp grows up and goes offshore. Then it comes back. It's caught in the industry. Those that survive come back the next year and produce the next crop. Where a lot of snapper or grouper they may live 50 or 60 years.

Usually with the long-lived fish, the older, larger fish constitute the bulk of their spawning capability. Might have a hundred 10-year-old fish that produce a hundred thousand eggs. But you could have ten 60-year-old that might produce fifty million eggs. You want to maintain a good reservoir of brood fish out there to make sure that that population. These are all reasons we look at age, structure, and distribution of those fish over the geographical area that they occur in. What depth of water they come from. All of these things. How many fish the recreational industry catches. We have regulations that say that you can't take, can't keep a fish less than 16 inches. If you harvest them from really deep water then they're damaged because of hydrostatic pressure.

SSD: When you haul them up?

TM: When you bring them up from the deep, deep [river].

SSD: Just like divers get the bends?

TM: Same thing. The things like their stomachs get inverted and their air bladders expand and they can't. So, we've tried to develop methods to overcome that. They can't keep that fish. They have to discard it. We look at discard mortalities. Discard numbers and mortalities of those that are being discarded. All of that information goes into the database and we do what we call a stock assessment. The federal government does this, the states do the similar kind of thing. So many of our Gulf species are what we call estuarine dependent. At some point in their life history the adults generally live in the open Gulf waters but when they then spawn, their larvae hatch in the Gulf and at different places. Some of them near the island. Some way off shore. Out in the deep waters. Those larvae migrate, or most of them migrate back into the coastal area in state waters.

SSD: What do you mean by estuarine?

TM: Estuarine means that there, an estuary would be a mixing zone between fresh and salt water. Such as Mississippi sound. The marshes that fringe the coast. Think of Louisiana. It's a huge nursery area. Shrimp and croakers, and spotted sea trout, and small snapper you see actually near shore.

Every species has a different life history. These are generalizations I'm telling you. They have basically the same but they occur in different places at different times. Different depths. You have to try to sort all this out by species. In a shrimp trawl there are about 300 plus species that you might encounter. To be able to figure out the impact of shrimp trawling on the environment,

on the bottom, it's very, very different. It's an educated guess and you try to reduce the error in your guesses. By sampling and doing it methodically and we have both what we call fishery dependent data. That's the data that you collect physically from the fishermen. Then we have fishery independent data. That's what the scientist goes on. They design a random sampling program as you would in any good scientific approach to anything. You go out and try to sample that stock, or water, or whatever it is you're looking at. Then you take both of those data sets and try to combine them and make sure that you're getting as complete a picture as you possibly can about all of that.

They have developed in our current world of modeling. Obviously, you have to make assumptions when you have a model so you want your assumptions to be as substantial as you can make them. It's not a perfect science and that's where we get criticized. If the fishing industry likes our outcome, we're the greatest people in the world. If they don't like it, then it goes that industry. The science is no good. It probably is somewhere in that range. Between absolutely bad, absolutely good. That's probably the best you can do. You keep trying to refine that information.

One thing you didn't talk about are things called BRDs. That's a Bycatch Reduction Device. We found that when we implemented TEDs you did get rid of some of the unwanted. They really only want shrimp.

SSD: That one species. I was going to ask you what happens to those 299 other species?

TM: They used to get hauled up on the deck of the boat. They would sort through them and get the shrimp out. Then shove them overboard.

SSD: Did some of them live?

TM: Some of them lived.

SSD: Did some of them die? Most of them die?

TM: Lot of them died. Seemed like if I remember correctly. Back when we first started really looking at lot of this stuff, back in the 60's and 70's. It depends on whether you are offshore, inshore, near shore, like a 10:1 ratio of fish to shrimp. In more recent times it got down to maybe four pounds of fish to a pound of shrimps. So, you got to believe that there was some kind of impact going on with the introduction of TEDs and BRDs. We're seeing some of that change and were seeing a composition of croaker, for instance, which is a very common fish here in the Gulf. At one time there was a fishery, directed fishery for what with the advent of TEDs and the turtle pop., that pretty well went away. Because they were concentrating on catching all of these, including the shrimp. Those were used primarily in the pet food industry. It was a huge industry.

SSD: Cat food?

TM: Yeah. In Pascagoula, they packed Kozy Kitten Cat Food.

SSD: Ahh, croakers.

TM: Croaker, that was just one of the predominant specie, and spotfin, and other species. But that industry really couldn't do very well with the TEDs. Then there were other sources of fish protein. They were using byproducts from other processing activities. That went into the cat food. I'm not sure what they do today. That industry does not exist in the Gulf anymore. Was located primarily Pascagoula, Biloxi, Gold Medal, Louisiana.

SSD: Why do you think they moved on?

TM: I think part of it was economic. They found other sources that were cheaper to get than physically own a boat and have to go off shore. It's not a cheap operation at all.

SSD: Especially with gas prices the way they are.

TM: We'll get into that a little bit later. [laughter] Yeah, but you're absolutely right. The industry has changed over the years and shrimp or—. Don't know where to go here. If you want to go back and talk a little more about TEDs, we could do that.

SSD: Just for the sake of the funding agency. Maybe we should focus back on these questions. It's all really interesting and it's really difficult to follow. There's so much information about it. I have questions going off on six different directions. For everything you have told me and I'm sure we can't cover it all today. We'll do our best.

TM: Actually I've been involved in this. I had my first job as a Biologist dealing with Gulf species in June of 1958. Fifty-one years I've got stored away. I've seen a lot of things here and I've worked in the Gulf the whole time. Primarily the —

SSD: You should write a book.

TM: Well, I've thought about doing that.

SSD: You really should.

TM: I don't know if I've got that in me or not. [laughter]

SSD: I think everybody has one book in them.

TM: [laughter] Well, you're probably right. You say that, just right after Christmas my wife presented me with a book that she'd just gotten. Turned out it was written by one of my high school classmates. We grew up together in Pascagoula. Went off to Mississippi State. He stayed and got a degree in Mechanical Engineering. Went into the aerospace industry. Rocket propulsion business. Ended up being a Senior Vice President for [Morton Bicall Corporation]. Back in the 80's he was in Washington, DC as a Vice President of the company. Running their Washington office. Which basically was a lobbying effort. Like any large corporation during that time. But anyway, he's written this book and he started out writing it in 2007 and it was

published in December 23rd, or 29th, of '09. It's a political commentary of our political system. It was interesting in that it was a lot of the things that this fictional account of his vision of what goes in on in our federal government. A lot of the things he wrote about actually have happened in the last year. Which is kind of funny.

SSD: He was prophetic then.

TM: He really was. I'm not sure. I haven't had a chance to talk to him. I've read the book and enjoyed it. Was fascinated with the things that happened in there. That are actually happening today. I have also spent some time in Washington. Working for the federal government and also the US Congress. I worked for Congressman [Loudon] when he was in the Houses. Minority [Wood] and I worked for him in the Senate when he was majority leader of the US Senate. So, I have some inside as well into the inner workings of our government.

SSD: Okay, two books. [laughter] One about the Gulf living marine resources and the other one about politics. Really, after 51 years of Gulf of Mexico knowledge gathering, it would be really be great if you could [inaudible] some of that.

TM: What is interesting is that I've been around long enough to see a lot of things happen and see a lot of people come and go. I really had the opportunity early on to work with some of the really true great scientists that worked in the Gulf. The guys that really wrote the books that we used for textbooks when I was going through college. That's on the side.

SSD: That's fine, we take a lot of the sides in oral histories. They lead down all kinds of little side roads.

TM: A lot of rabbit trails. [laughter] They go down. You'd asked some questions early on about early implementation of TEDs, and that was a very, very traumatic time. The shrimp industry was king in the nation for many years. It was the largest dollar fishery in the United States. The Gulf of Mexico produced probably 40 plus percent of the fishery products that were produced in the United States. So, it was really king and it demanded a huge amount of respect; political level, nationally, and regionally.

SSD: What years are we talking about here?

TM: Probably up until the 90's.

SSD: Starting in the 60's, 50's?

TM: Probably in the 50's. Before WWII the primary fisheries were white shrimp and to a lesser degree, pink shrimp.

SSD: What's the difference?

TM: They have different physical characteristics. When you eat them and the bright stripes, you don't know the difference. [laughter]

SSD: Are they both in the Gulf of Mexico?

TM: They actually have three major species and there are probably five or six minor species that are harvested. The three majors are: pink, white, and brown shrimp. Early on, the industry back in the 1800's when it was done without mechanical assist, was of same fishery and it was a nearshore fishery. Where they physically took these huge seines out on sailing vessels and they would drop them off and then they would pull them ashore.

SSD: What is a seine and how does it differ from a trawl?

TM: A seine is a big wall of netting that could be 500 feet long, or probably less. You just stretch it out parallel to the beach. Get people on either end of it and pull it up on the beach and then everything that you; you know, all the shrimp and other things that were there they'd gather them up.

SSD: You actually pulled it out onto the sand? Out of the water?

TM: Right.

SSD: People did that?

TM: Right.

SSD: Person's strength.

TM: Right.

SSD: Did it take two boats when they were out?

TM: Not necessarily. You can drop one end off then go and drop the people off. Of course you did this obviously in shallow water.

SSD: So that they could walk?

TM: Right.

SSD: I see.

TM: It wasn't until after probably WWI when they really introduced the diesel engine. All of this prior to that time was done under sail. Then after WWI, began to introduce the diesel engines, because they had a surplus of those engines after the war.

SSD: Gas was cheap.

TM: Exactly. You could reduce your labor cost by putting that in there. Then the trawl developed so it made the fisherman more efficient and more able to gather up. But again, it was primarily a day fishery, and white shrimp was the object of their fishery.

SSD: What do you mean by day fishery?

TM: It was done during daylight hours and then that rocked along until really after WWII. By this time, the fleet had virtually changed over to power. Again, after the war, there were tremendous number of cheap engines available and they were put into the vessels. They cut the masts off. They cut the bough struts off. Put an engine in and went fishing with a trawl. Then somebody discovered that you could catch large numbers of brown shrimp at night. During the daytime, the brown shrimp burrow up in the bottom. At night they come out, and are foraging for food, then they are susceptible more so to the trawls. Of course, there have been all kind of innovations. Tickler chains, and things to scare them up out of the mud where fish fall on them all the time.

Like the white shrimp, primarily this is generalizing greatly. Along the northern Gulf coast: Alabama, Mississippi, Louisiana, and upper Texas coast, then the big brown shrimp occur along this whole area as well but at different times. Brown shrimp occur in early summers through the mid to late summer. Then the white shrimp come on in the late summer, early fall and peak in the late fall, early winter. The pink shrimp, primarily a fishery that occurs off the coast of Florida, down off Florida Bay. But, pink shrimp are again distributed all across the coast so you do catch pink shrimp pretty much, primarily with the brown shrimp. They co-occur with them. Those are the three major fisheries of shrimp across the Gulf.

They all have a similar life history. We talked about being estuarine dependent. The shrimp physically spawn offshore. Their eggs hatch out there and then they go through a series of development. Different larval stages and they transition to what we call a post-larvae. Which is about a quarter of an inch long and begins at that point in time to look like a shrimp. Prior to that it's a little round ball. It's got little fuzzy legs. Because of where they're spawned and the currents, and what have you, they're pushed up into the marshes. When they get here they're little larval shrimp. The post-larval shrimp. Then they get into the marshes which is very, very highly rich area for feeding because of the degrading plants that wash off, that run off from the land fertilizing there. The shrimp grow. By the time they reach what we normally think of as a shrimp, which would be a hundred, hundred-fifty millimeters long, then they're subadults at that time and they're starting their migration back offshore. That's when we open the fishery to start harvesting.

Different states primarily harvest different size shrimp. Mississippi and Louisiana, at much lesser degree. Alabama, start harvest in smaller shrimp. We open the fishery here on the 68-count shrimp. That means it takes 68 of them to make a pound. So it's a fairly small shrimp. Louisiana has these huge marshes, primarily. So, they catch a lot of them. That's where the bulk of the shrimp are caught, there in the upper Texas coast. Then, Texas delays their opening down in South Texas. When the whole Texas coast, but more so down for shrimping effort, is down in the southern part of the Texas coast. They delay their opening until later in the year so that they harvest big shrimp. Maybe 21/25 count shrimp.

Again, when they started talking about the TEDs you've got all these fishers so they're going on basically year-round. Different times, different areas, looking at different size shrimp to meet different market demands. Not everybody wants a huge shrimp. A lot of people want a small shrimp to put in shrimp gumbo and chowders, and what have you. Other people want to barbecue a big shrimp. That industry is going on all the time. But, obviously it's impacting other things.

One of the things it was impacting was the red snapper industry. Since early 90's, late 80's, early 90's, that's become more apparent. We began to learn more about the life history of the snapper and its interaction with the shrimp fishery. Basically, in the late 80's that fishery started managing the red snapper fish. Because it was deemed to be overfished then, was undergoing overfishing, and was in danger. It was hard to find a large snapper.

SSD: Wow, amazing.

TM: We started implementing regulations at that time. We continued to fine tune those regulations. Even today. The Zero-year class and the One-year-old year class were the ones that seem to be highly impacted. You get a big snapper, it doesn't seem to be a problem. Because they are not in the same areas where they're shrimping. They can escape the nets. Where the Zero, which is a fish up to about two and a half inches, to One, which is maybe four inches, five inches; those were the fish that were being impacted by the shrimp trawls. Those are the bulk of the population. On any given day or year. Began to look at that interaction. Again, this is where the BRD used for, Bycatch Excluder Devices were really beginning to be developed. That was in the 90's, early 90's.

SSD: But that was for the snapper?

TM: That's primarily for snapper.

SSD: The Turtle Exclusion Device happened prior to that?

TM: Prior to that. Basically, we'd launched into a rebirth of the issue of TEDs because here we're going to put them. Not only did you have to have a TED in your net, you had to have a BRD, which basically was hole in the net that fish could get out of. Then they started looking at behavioral problems with snappers. Snapper are attracted to structure. They like to be around things. They single out fisherman or so they -. They occur on artificial reefs. They occur on natural reefs. They occur around oil rigs, which is basically a stand in artificial reef. They like structure. They would get in the nets and they would get in the TED, or they would get in the BRD. They would sit there and just swim along the net. The croaker would go out. The spot would go out. The trout would go out.

SSD: They liked it.

TM: But they'd just swim right along with the nets. Really difficult.

SSD: Yeah.

TM: That problem back in the early 90's we developed, we, the Gulf Council, started looking at bycatch, basically quotas for snapper. That you had to have a BRD in your net and you had to have a TED, obviously. We looked at ways to restrict the amount of fishing effort that went in to reduce the impact on the snapper population. Because it was deemed that if we didn't impact that, then there was no way that the snapper population would survive. Because of the increased effort Gulf wide, we're talking about hundreds of thousands of hours of fishing. Earlier on, the council had implemented license, Gulf wide. Where, you were set a controlled date. Meaning, that up to that date, it put the fishermen on notice that there were going to be some rules, regulations implemented. If you wanted to be in that fishery then you needed to get your ticket. Your license. So that you could physically fish in the Gulf waters. After that date, they wouldn't be available—other than by transfer between individuals.

Trying to limit that effort, and it worked, somewhat. Still there was a huge amount of effort. We had a lot more effort available in the Gulf than we really had resources to support them. Both from the shrimping fishery, shrimp fishery effort, versus directive fishery for snapper by commercial recreational fishing. All these times it's a continuous act of trying to balance and make that resource available. Yet, maintain it for the long haul.

SSD: Well, sure, I mean if the shrimp, if the fishermen who were going after the snapper were killing shrimp, then the shrimpers would want you to go to bat for them as well.

TM: Exactly.

SSD: But I guess they don't always see it that way.

TM: No.

SSD: So how did it play out in the early days, how did you know that the shrimpers were not happy about Turtle Exclusion Devices?

TM: Like any of these regulations that we're proposing to put in place. We have public hearings. We say, this is what we are proposing to do. We want your input on this and you tell us what you think about them. What you think it's going to do to your industry? How do you think it's going to function, etcetera? Whatever you want to tell us about it. We still do that today. Anytime we are going to try to implement a regulation, or propose a regulation, let's take it out to public hearings so that the fishermen can see what they're dealing with.

SSD: Was it pretty negative in their allegiance?

TM: It was extremely negative.

SSD: What kinds of things did you hear?

TM: I know that there were public hearings where we had hundreds of fishermen show up objecting to it. There were some hearings in Louisiana, where Governor Edwards, who was quite

a colorful Governor in Louisiana. Don't have to say anymore. Where he rallied the troops and showed up at the public hearings—there were several. Our representatives from the federal government who were charged with implementing these acts, physically be escorted out of town with law enforcement people. The Regional Administrator of the National Marine Fishery Service out of St. Petersburg, there was a guy that was charged with implementing. He was threatened on numerous occasions. It was not a pretty sight. Particularly in Louisiana. It seemed to be there were one or two individuals that actually made their —, took up the cause of trying to [inaudible].

SSD: Went beyond threats?

TM: Well, not beyond threats. I've never [inaudible] anybody that ever got killed over. A few people might have gotten beat up a little bit. There was a fellow named [Tejon Mahalovich] from Louisiana who assembled a group of people that were really adamantly opposed to these things. And he tried politically, and every other way, to thwart the implementation of these regulations. That obviously didn't succeed but it sure made life miserable for a lot of people. I can understand a fisherman. You are threatening their livelihood.

SSD: Was it really threatening their livelihood?

TM: Well, that was the perception. That we're putting whole in their net. They're struggling to make a living.

SSD: They perceived it as a threat but did it really make a difference in the number of shrimp they caught?

TM: It did make a difference. It reduced the number of shrimp that they caught. The percentages were varied dependent what kind of TED, yeah TED. There were a number of different kinds of TEDs that were developed and the National Fishery Service Lab, in Pascagoula, they have a gear research laboratory there.

SSD: Gear? G-E-A-R?

TM: Right. They develop fishing gear. That's what they do. They've been doing that since back in the 50's. That lab still exists today. The basic TED was developed there. The basic BRD they are looking today at ways to make longline fishing less environmentally damaging.

SSD: For the record, what is longline, fishing?

TM: A longline is primarily used in the more deep-water fisheries. Maybe a line that might be anywhere from a mile to 25, or 30, miles long. Every so often, every 100 feet, every 500 feet, it has what we call a gangion. It's a little clip that goes on the longline that has a shorter leader on it with a baited hook. You reel this thing out, it goes to the bottom or it might float in the water some depth, predetermined by weights and floats. They string this out over whatever distance long, distant longline they have. After they get it strung out they go back to the other end and they start all on the back in the fish that have been caught on it.

SSD: What are they targeting?

TM: It depends on the, there is a longline. There was a longline fishery in the Gulf for swordfish. There is a longline fishery that one time there was a tuna fishery.

SSD: There are tuna in the Gulf of Mexico?

TM: Oh yeah. There is a tuna fishery in the Gulf of Mexico. For yellowfin primarily.

SSD: Are they caught in nets?

TM: No, they're caught on longlines. There are bottom longlines for shark. For grouper. There was a bottom longline fishery for red snapper off the western Louisiana and Texas coast. There's a controversy going on right now in the Gulf relative to grouper fishing. For using longlines and their impact on another species of turtle.

SSD: Oh turtles.

TM: Turtles see the bait standing. They go down, gobble them down and get hooked up, and they can't get back to the surface.

SSD: And they will drown?

TM: They drown. In the last several years we have actually had to implement some regulations to limit the longline, as to where they can fish, and when they can fish.

SSD: Do you know what percent of bycatch they might be getting with the longline?

TM: That's pretty well targeted.

SSD: Not too much bycatch.

TM: No. Turtles are a bycatch that they don't want.

SSD: Right.

TM: That's been a problem in all of the longline. Particularly the pelagic. Pelagics, meaning up in the water column, as opposed to being on the bottom.

SSD: How far deep?

TM: Depends on the fishery.

SSD: Okay.

TM: Remember the “Perfect Storm”?

SSD: Yes.

TM: Those boats were longliners that were involved.

SSD: I remember the hook catching the guy in the hand as it was being reeled out.

TM: Right.

SSD: Just took him right overboard.

TM: Fishing is probably, I think, one of the most dangerous industries in the country.

SSD: It’s a big ocean out there.

TM: And the equipment you use out there is dangerous. It’s big. It’s heavy. Things break. Or if you make a mistake, it’s lethal. A lot of fishermen been killed over the years. Cables breaking, get caught up. When you are retrieving nets and get caught up in it. Cables, and get wound up in a winch and, man, they’re just a myriad. Or, something breaks and falls on you, or if you don’t fall overboard, a stuck arm might be there. It’s very, very hazardous. On TV now, on the Discovery Channel, I think, they have a dangerous fishing; guys fishing for king crab off of the Alaskan coast. They fish under horrible, you know, terrible conditions. That is just a dangerous job. It’s no different here in the Gulf. It’s just different fisheries.

SSD: Not as cold as Alaska.

TM: No.

SSD: Most days. [laughter]

TM: Right.

SSD: Do you think that the TEDs are viewed differently today than they were initially?

TM: I don’t think anybody still loves TEDs. I think it’s basically been accepted that they are going to be there. They have impacted turtles by reducing specifically, Kemp’s Ridley turtles; and to a lesser degree, some others. Primarily, Kemp’s Ridleys. They appear to be coming back and doing reasonably well. Probably, without the TEDs it would be a different story today. We’re talking a period of 30 plus years now.

SSD: It’s made a difference.

TM: Turtles are long lived. They produce a small number of eggs.

SSD: Compared to fish. [laughter]

TM: Oh yeah. Exactly. There is some interesting research going on here right now. We have one of our researchers just working with whale sharks. Evidently, at certain times of the year here in the Gulf we have these huge populations. We're talking hundreds of whale sharks but these are 50, 60-foot fish that weigh megatons. They're plankton eaters. They are not carnivores. They eat the stuff in the ocean. They scoop it up and filter it out of the water. We found these concentrations off the mouth of the river out in deep water a couple of thousand feet. They're in schools. Physically scooping up and sieving huge quantities of Gulf water. So, we've been looking at what they're eating. To one: determine what they're eating; and two: start getting some idea what they're concentrations of fish eggs and larvae they're doing that time of year that those whale sharks come there –

SSD: They're competing with us. [laughter]

TM: That's right.

SSD: For our food.

TM: That's exactly correct. Plus a fascinating, uh, that's something that really was unknown until fairly recently.

SSD: So not only are the shrimpers gathering up the shrimp but these big whale sharks are gathering up the larvae. It's not always just our impact.

TM: Right. Not particularly shrimp larvae. It's primarily other like snapper, and grouper, and other things like that. Particularly, possibly bill fishes. Like swordfish and marlins. Fish like that. It's just an interesting, and everything is all tied together. Trying to sort it all out. And, if you manage one particular species in a particular way, then you're probably impacting something else. Our job is a continuous thing trying to learn more and more. And put all the pieces together in the puzzle. Then to accommodate, one, the resource of it. It survives and then make that resource available to the public. It's a public resource. But, we are charged with maintaining it.

SSD: Otherwise, it will no longer be a resource.

TM: Probably not. Our history is such that we just keep on, keep on, until it's usually not economically viable to take it.

SSD: People don't want to believe that the oceans are not infinite.

TM: No.

SSD: But they are infinite.

TM: Oh, absolutely.

SSD: No, they are finite. They are not infinite.

TM: They are finite.

SSD: They are not infinite. They are finite.

TM: And these particular species of fish have a range, a depth range, a temperature range, which is related to latitude. You transition from one area to the other. There are different species and you get from shallow water to deep water. Add all the changes. The continental shelves are very rich in species diversity. Course, we're learning more and more about the big migratory fishes and sharks offshore. Such as, the giant bluefin tuna. We have an organization, an international organization called ICCAT. It's International Association for the, I can't remember all these acronyms [laughter].

SSD: We can Google it.

TM: Yeah.

SSD: We'll get it. We'll figure it out.

TM: But anyway, that's the international organization that manages bluefin tuna, among other species. They are primarily focused on that. In the North Atlantic, it encompasses everything in the Eastern and Western Atlantic Oceans above the equator. So you've got multiple countries that are involved in the fisheries there. There have been arguments for years that we've got an Eastern Gulf stock. That our Eastern Atlantic stock has spawned in the Mediterranean. Then we got a Western Atlantic stock that spawns in the Gulf of Mexico. So you can't take bluefin in the Gulf, legally. You can get a permit, I think, to catch one on a recreational vessel but it has to—

SSD: Just for fun.

TM: Oh yeah. Then we are talking fish that, we caught one here a couple of years ago, it was 1000 pounds. I mean this is a huge fish. They're worth a huge amount of money. I just read recently —

SSD: What? They're stuffed and put up on a wall?

TM: Oh no.

SSD: Or to eat?

TM: They're for sushi, yeah.

SSD: Sushi.

TM: Sashimi, I guess would be the [inaudible]

SSD: Wow.

TM: I mean fish would go like 30 or \$40,000 per fish.

SSD: Good grief.

TM: So, that's a highly priced resource. But it has to be caught a special way and handled in a special way. Most recreational vessels aren't equipped to do the high quality. These things are huge. They exert a tremendous amount of energy and generate heat, which can kill them. And, before you even land them –

SSD: I guess it's important to know how long they've been dead if they're going to be eaten.

TM: Right. The quality of it, I don't understand that market. That's primarily an Asian market. I've had the opportunity to, I was in Sydney, Australia, and went to the fish auction a couple of mornings and they brought in fish from all over the world. They would have these huge tunas. Swordfish and things lying out there and the people would come. We got to go down there at four o'clock in the morning. And, people were already down there looking at the fish. Like buying used cars they were looking at the carcasses. Then at five o'clock, the auction actually started. Then they would start auctioning off these fish.

SSD: Auctioning fish, hmm.

TM: That was a fascinating thing. Then they have those auctions. Tokyo, I think, is the biggest one in the world. I've not ever been to that. They have them in Taiwan and over in a lot of places, I'm sure—I've been told.

SSD: You know, I saw on television tubs of turtles in China. Chinese like to eat turtles. It was really discouraging. You know. There were thousands of turtles.

TM: There are thousands of people there that need to eat. You know.

SSD: You know, and they were trying to crawl out of their tubs, that they were in tubs about the size of this room. It was pretty sad.

TM: You know they raise puppies to eat.

SSD: Oh, I know. Yeah, I know.

TM: But, when you've got the number of people they have, food's food.

SSD: Yeah. [laughter] That was good fishing [inaudible]. [laughter] I think we've talked about the first four questions. The fourth question is what were the challenges faced? Well, we really didn't talk about the challenges faced in developing TEDs. I guess in terms of figuring out what works.

TM: Yeah, there was a whole body of, a group of people. Primarily the gear research specialists started the process. And then, the idea was to get it out to the industry and let the industry participate in the development of it. They knew how their nets worked. They knew where they fished, what obstacles that they ran into. Get the TED out there and let them test it in the real-world situation. Then determine what the problems were and then try to fix those problems so that it would lessen the impact.

We were looking at things like: what's the least amount of percentage of shrimp that you could lose; different TED designs loss different volumes of shrimp; different designs were better or not as good at releasing turtles; the way you configured it in the net; where it was configured in the net, way back, up forward; whether it had flaps or covers on it; how those were installed. All of those things were factors that influenced the way these things operated. They got it out. Then there were open competitions trying to reward people for doing that innovative design. Trying to incorporate those designs into the existing TEDs. Then the government turned all this information over. They developed a couple of TEDs that were certified using all of these criteria. They said, okay industry, these are the TEDs that you are going to have to use. Then they took those designs and put it out. Anybody could take it and go manufacture and sell them. Sort of developed a whole different industry. I mean, it has always been a gear industry out there. But this was a new tool. Basically, the same process is followed with the BRDs in later years. Those were some of the challenges that were faced and some of the ways they went about doing that.

We also had, through the National Sea Grant Program, most of the states had outreach programs. Where they had field agents that worked for the Sea Grant Program, that went to the docks, that helped fishermen learn how to sew these things into their nets. How to rig them. How to operate them. They collected information alongside the fishermen trying to document the problems with them. The impact on the industry versus their effectiveness and all. So it was a continued effort of a huge number of people throughout the Gulf area, and the South Atlantic. They use TEDs as well on the South Atlantic. As well, up to about North Carolina. They have somewhere fisheries as we have here in the Gulf. All of this was a learning process. Both for the management community, for the gear research guys, as well as for the industry. It was let's do it together. The law says we have to conserve turtles. We can't kill them off. So we've got to do something about it. Let's get together and work. It wasn't always the most pleasant thing. But I think overall TEDs have been accepted as a fact of life. They're going to be there. You live with the consequences of having to use them.

SSD: How would you think that the early models, the early TED models, compared to later models? Was there a big difference?

TM: There were a lot of variations early on. People tried a lot of different ways to get rid of turtles. And different configurations, and different nets. But it's pretty much boiled down to a federally approved TED today, which isn't totally foreign to the early TEDs. It's just been refined to a level that unacceptable shrimp laws. It's never to lose any of never acceptable. But if you got to lose some, you want to do it to the least amount.

SSD: Do you think the shrimpers see y'all as friends now?

TM: I think some of them do. The intent was not to destroy the industry. Not to harm the industry. The intent was to be able to maintain an industry but yet comply with the law. The law of the land is, thou shalt not make turtles become extinct. Turtles is not just the fishing industry. It's impacting the turtles. It's a huge combination of factors. Increasing numbers of people. The development reproducing our beaches. Boat strikes. Off the coast of Florida where they have gillions of power boats; the number of turtles that get killed every year by boats running over them is huge. Other fisheries impact them. For years we've eaten them. Their turtle eggs probably make the best pastries. They're rich, rich in oils.

SSD: Amazing.

TM: I can remember as a child, growing up here on the coast, people prized eating turtle eggs. They would go to the islands, dig them up, and bring them home and eat them. It's not just here in the United States. It's throughout the Caribbean and other parts of the world that turtles have been under [an err]. An ancient reptile, they've been around for years.

SSD: Longer has. And hasn't changed much either.

TM: No, none of them have really. Geologically, as we view them we're here just a snapshot of time. The fishing industry is just one thing; and sometimes I feel like the industry's picked on. I've felt this way more recently. I guess I've been more intimately involved in the longline fishery and their interactions with the turtles. I've tried to negotiate some compromises between the environmental community, the government, and the fishery. Hadn't worked too well. They hadn't been able to. The government hasn't compromised very well.

SSD: I don't see how you could exclude turtles from being caught by longlines. They are going to take the bait and get stuck on a hook. Or, they're not. It's really up to the turtle. The turtle is driven by there's a piece of food.

TM: Right. There are some innovative ways to, kinds of baits to use. Kinds of hooks to use.

SSD: There's a hook that will hook a fish but not a turtle?

TM: Well, it's less likely to hook a turtle. It's a circle hook. We use those in other fisheries as well. A J hook which is just your standard hook. It'll hook. The circle hook is more directed at hooking the lip and does less damage if the fish gets off, or doesn't survive.

SSD: So how does that work with a turtle?

TM: It's less likely to catch a turtle.

SSD: Because of the way their mouths are made?

TM: Yeah, they have that really hard mouth and more difficult to hook them. Unless they swallow the thing and it gets down in their guts. We've digressed here. [laughter]

SSD: Digress is good in an oral history. It's unavoidable actually. We've talked about your experience with protests against TED regulations a little bit. Were they limited to the forums that were open to people? You said that you would have meetings where you wanted the input. Where there any other kinds of protests signs?

TM: Oh yes. They had rallies against government. Everybody, they had NOAA signs with the big red circles and an X across them. Get rid of the NOAA fisheries. There were demonstrations, and blockades of harbors. All of the ways you could protest something like this.

SSD: Threats to people's personal safety. We talked about that.

TM: Oh yeah. There were those. I don't know of anybody that actually got killed. Maybe beat up a little bit. But, not physically killed.

SSD: Beating up is pretty bad though.

TM: Yeah, that's not fun.

SSD: No. [laughter] Do those happen here along our coast?

TM: To much lesser degree. More so in Louisiana and the upper Texas coast.

SSD: What about people taking it to their legislatures?

TM: Oh yeah, that goes without saying. It was a tremendous lobbying effort against, primarily federal. Because they're federal laws that we're dealing with and looking at ways to try to change those. The way the councils and NOAA fisheries works, the councils recommend rules and regulations for fishing and then the Secretary of Commerce reviews those. They have the right to reject them or send them back to us and ask for changes, or they can implement those. For the most part they're implemented and then NOAA has an enforcement division which is a fairly small cadre of people. The NOAA enforcement guys are usually onshore for the most part doing investigative work. Looking at people trodden the law from over harvesting. Such things as that.

SSD: Do they go down to the harbors and the slips where the boats come in? How do they do that?

TM: They do that some but the at sea enforcement, like on TEDs, is done by the US Coast Guard primarily. And in consort with the federal agents. Then the National Marine Fishery Service applies X number of dollars to each state. We deputize the state enforcement officers and provided them with the equipment, boats, and other assorted gear. To be able to also enforce those laws. So, like on TEDs, they could actually pull up to a vessel that was shrimping, drag in his net, and demand that he pull the net back so we could see whether there was a TED in there. We spent a lot of time, I worked for the federal government for ten years. We spent a lot of time during that timeframe training both state officers and Coast Guard officers to recognize a TED, a

particular type of TED. Instructing them on how it was to be installed, the net, how it was to operate.

Many cases we found one of the violations. The one was obviously was they didn't have a TED in their net early on. Later, they would put the TEDs in their net but then they would sew the openings up. The TED was there but it was non-functional. One of the problems was with the thing if you picked up debris, which was common, or is common, then it would jam the net open then all your catch would go out. There were problems with them. There still are problems. Then they had the right to then to write them a ticket. Then they had to go to court and defend themselves.

SSD: Is that a pretty hefty fine?

TM: I've seen some of them up in the 25, \$30,000 range. But I don't think that's the norm.

SSD: What do you think the smallest one is?

TM: I really don't know. It's all dependent on case by case basis. But for multiple violations, or repeat violations, I've seen some of them. They have the right to actually to confiscate their boat. Their equipment. Take their license. That's very rarely done. Unless you've got somebody that's a total repeat offender.

SSD: Sure, yeah.

TM: That's not done too often. I think the compliance today is very good. It's probably up in the upper 90 percent would be my guess.

SSD: Wow, that's great.

TM: I haven't seen any figures recently. But, I know a few years ago every council meeting we would get an update on compliance rate. Number of arrests. I was trying to find some of those things but I lost a lot of stuff in Katrina and don't have much. My data when I was at one time Director of this research lab. For five years I was an Assistant Director for 15. All my collected papers during that timeframe when I retired from here in 1994, I gave to our library here. So that along with the previous Director's, was a continuous paper trail of whatever activities occurred during my watch. I went to work for National Marine Fisheries Service, NOAA Fisheries. I worked for them from '94 until '03. So, at that time, all of my personal papers that I had accumulated during that 10 years; plus my book collection of about 600 volumes, I guess, I donated to National Fishery Service. All of that's gone. Left in Katrina.

SSD: What actually happened here in Katrina? Surge?

TM: This whole property was inundated. This trailer and the building next to us did not go underwater. The buildings all around here had anywhere from two feet to three feet of water in them.

SSD: The bay is just right, it's not far away at all.

TM: A hundred and fifty feet over there. But we were just that much higher. The dormitory you saw when you came in had about two and a half feet of water in it. The dining hall had a couple of feet of water in it. This building over here had about three feet. This one behind us has about three feet. Everything on the front of the campus was gone.

SSD: Good grief.

TM: I mean the buildings just don't even exist anymore.

SSD: I'm surprised that it was only two and three feet out here.

TM: But you got to realize this is about 19-foot elevation here. You had all of that. We had a program over here. The stripe bass program that I'd started 1967 and it was still going. All of their equipment and stuff was still here. It was totally wiped out in the storm. The building, it housed the offices and the laboratory. All of our culture facilities. Just gone the next day. It was pretty astounding to see that.

SSD: When you saw Katrina on the television filling up the Gulf of Mexico, what did you think?

TM: Thought that's one hell of a big storm. [laughter]

SSD: Did you think it would be as bad as it was.

TM: I was here for Camille and I thought that was the storm of storms. I told my wife I wasn't leaving. I was one of those stupid people that stayed here. I did go to my daughter's house. My home's right down by the small craft harbor here.

SSD: What happened to it?

TM: My home had no damage.

SSD: Unbelievable.

TM: I lost maybe, I lost the ridge [emeralds] off my house.

SSD: Good grief.

TM: I went to the local lumber yard a week or so after the storm; bought a couple bundles of shingles.

SSD: Put them back on.

TM: Nailed them back on and went on my way.

SSD: You were lucky you could find shingles.

TM: Oh yeah. The water came up to my threshold and my front door. I'm 21 feet, six inches above sea level. I physically was not at my house. I was at my daughter's house. Which is over near the hospital here. On the other side.

SSD: Biloxi Regional or Singing River?

TM: Ocean Springs. Which is part of Singing River. My daughter lives right behind the hospital over there. The subdivision there. We watched the water come up around us. My daughter, my wife and my two granddaughters evacuated. My son-in-law and I stayed here. And then stayed at his house. Sat there and watched the storm.

SSD: Did it come in the house?

TM: No.

SSD: No.

TM: No. It didn't. Her house is actually elevation-wise higher than mine. We were never threatened with water.

SSD: Where you afraid?

TM: No.

SSD: Were trees going down around you?

TM: Trees were going down but that's, you know, that's what happens in a storm. [laughter] You just hope they don't fall off on you.

SSD: You lived here all your life, so.

TM: Yeah. At my earliest recollections of hurricanes was in the 1947 storm. Before they even started naming them. I've been through every storm since then.

SSD: That's a lot of storms. [laughter]

TM: That is a lot of storms. Can we take a quick break?

SSD: Sure.

[Break]

SSD: I think we've touched on some of this stuff. We'll just go through the questions for the sake of the Maritime Museum. We talked about how the enforcement of the use of TEDs has

changed over the years. We touched on how your agency is involved with other agencies with the enforcement of the use of TEDs. Can you just summarize that a little bit? Number 11 there.

TM: Basically what happens is the federal government is charged with the implementing and enforcing these regulations. And to be able to do that, at Sea Force Enforcement, we have worked with the US Coast Guard and they primarily do the at-sea boardings. Then looking for TED violations among other violations as well. Then the federal government has supplied funding to the states to train their officers, to deputize the state enforcement officers to be able to allow them to enforce federal regulations. They provided them with equipment, such as, boats to be able to gauge in at-sea activities for longer periods of time.

I think as far as the agency, National Marine Fishery Service, they only got like 13 agents in the whole Gulf of Mexico. I work with the state enforcement guys, and the Coast Guard guys. Then there's a whole series of activities where they are, spend, primarily National Marine Fishery Service trains both Coast Guard officers, and Coast Guard [women], as well as, state enforcement guys what a TED is supposed to look like. What a BRD, how it's supposed to be utilized. Where it's supposed to be placed in the net, etcetera. The training is pretty extensive. Then they take that out and apply it in the field. They do boardings. I think the compliance by the industry is really good. I think it's well in the upper 90 percent.

SSD: That's good news for turtles.

TM: Oh yeah. It's worked. Kemp Ridley's turtles seem to be recovering in the Gulf and that's a good thing.

SSD: That is fabulous. How have TEDs affected the shrimp industry?

TM: They had an impact early on in that the best TEDs still release maybe 10 percent of the catch, which is a significant amount of shrimp. When you think of maybe 250 at one time, 250 million pounds of shrimp, 10 percent of that is a bunch. That's money out of the pocket of the fisherman that lost it. That impact was, when you break it down to an individual fisherman, it's significant to that individual. If he's a small guy working on his own boat by himself, he's obviously catching a small amount of shrimp. Ten percent of that is significant. Overall, the industry's adapted to it. The problems that we have in the industry today are not specifically related to TEDs. Our problems today are related to fuel costs and international competition. And then, hurricanes. Prior to Hurricane Katrina, there were efforts to limit the amount of shrimping effort in the Gulf. Because of their impacts on red snapper.

SSD: On red snapper.

TM: We've continued to refine those data sets and we were in the throes of implementing some regulations. We used years 2001-2003. The average catch of those years was what we used as a base number. Our regulations today say that you have to reduce your shrimping effort 75 percent below that level of fishing effort for the average of those three years. Fortunately, that didn't come into play until after Katrina. Katrina laid waste to the fleet here in the Gulf of Mexico. It was already experiencing severe problems, from fuel costs and from international competition.

United States currently consumes well over a billion pounds of shrimp a year. We can produce probably a 180 to 200 million pounds here in the United States. So there's no way we can produce all that we need. We just don't have the resource to produce all that we can consume. Aquaculture around the world, particularly in the Far East. China, India, Ecuador, other places around the globe have developed aquaculture—pond raised shrimp. They could do it with cheap labor, with no regard to the environmental consequences of their actions. They use other chemicals, antibiotics, other things to be able to raise these things under these conditions and put them into the world market. There just seems to be an insatiable demand world-wide for shrimp. There are three major markets. Those being the United States, EEU (European Community), and the Japanese. Then the producer nations, as I said, like Mainland China, for most. Vietnam to a lesser degree. India. Just throughout that whole part of the world.

SSD: They are mostly aquaculture? They are not going out into the ocean to get —?

TM: No, they are mostly aquaculture. Like I say, they have cheap labor. They haven't in the past taken very good care of the coastal environment; which they are finding out today is a severe mistake. Lot of them are spending a lot of money trying to rehab those coastal environments.

SSD: So how do we know it was a mistake? What evidence is there?

TM: The wild stocks that are dependent on those mangrove marshes and all are declining in those areas. As one of the ways we do that. We've had outbreaks of diseases in wild populations as a result of the aquaculture. The disregard for the impact on the environment. You can raise the minnow in an environmentally clean manner; but you can't raise them to the degree, or the density, that you would if you don't use some of these other poor management techniques.

SSD: They want to maximize their yield.

TM: Yeah.

SSD: What is it in aquaculture that causes harm in the environment?

TM: Well, one they have gone into a —. It depends on where you put it and how you manage it. The shrimp industry world-wide is basically gone into mangrove marshes, or mangrove wetlands; and bulldozed them up, and pushed up dikes, and built ponds. That's virtually destroyed them. So, any interaction with the aquatic environment off of those areas is virtually eliminated.

I talked early on about the estuarian dependency. As a result of this, we have a huge volume of shrimp on the world market. They can produce them cheaply year-round because of the climate. So, there's a huge volume of shrimp out there available. It's kind of a two-edged sword. We import probably three-quarters plus of the shrimp that are consumed in this country. We do over a billion pounds. We eat. We produce 180 to 225 million pounds annually. Recently, it's been a little less. But yet, there's that demand. That's the most frequently eaten seafood in the United States today. It's surpassed salmon and tuna. Tuna historically was, and salmon came to the top.

Now it's shrimp. So they're widely available. There have been incidences in recent years where various agencies, FDA and Farm Agriculture inspectors, have found shrimp that have been contaminated with like antibiotics.

SSD: Does that happen in the aquaculture environment?

TM: Yeah, they use antibiotics. Some of them use antibiotics to put in there. Feed the shrimp in their ponds so that they can –

SSD: Crowd them.

TM: Crowd them up. A couple of years ago there was a situation where that there were a bunch of countries that were doing that. The European Union and their testing protocols found that. They started rejecting all of the shipments from those areas. Because of our inability to really check everything, they started dumping shrimp in this country.

SSD: What does that mean dumping shrimp?

TM: They couldn't sell in Europe so they flooded our market with it, and we bought it. We don't have the info-structure with the Food and Drug Administration, USDA inspectors, and others who are responsible for doing that, to check all of that. So, we got a lot of shrimp dumped at cheap prices.

SSD: Why shouldn't people eat shrimp with antibiotics in them? Why is that a contaminant?

TM: It's an age-old thing. You build up an immunity to these various bacteria and it can lead and probably will at some time in the future –. Just like anybody abusing antibiotics. That you develop an immunity to it.

SSD: The strong bacteria are the ones who live because the weak bacteria are killed off by the antibiotic.

TM: That's right.

SSD: The strong ones that are antibiotic resistant then are the ones who reproduce. And now, you've developed an antibiotic-resistant-bacteria.

TM: Exactly.

SSD: Okay.

TM: That's a problem. We try to. We, our federal government tries to inspect as much as they can. You say 750 million pounds of products coming in. Come in by 40,000-pound containers. That container may have shrimp from 50 different shrimp farms. How do you sample that? It's almost an impossible situation. As a result of that, it's pushed the price of shrimp down. The consumer's got, it's a great deal for them pricewise.

SSD: But where does it leave the US fishermen?

TM: It's hurt them severely. Then a hurricane came through and wiped out a bunch of boats, and wiped out a lot of the infrastructure for the industry. The processing plants, the fuel docks, the ice houses, all of the support industry. What it did do was reduce the total harvesting capacity of our fleet back to a; I guess in some cases, more realistic level. The fisherman today who are still fishing, their catch per unit of effort is huge compared to what it was pre-Katrina. Because there are less fishermen fishing, there is less gear in the water and our overall effort Gulf-wide. As of this January, was like 81 percent below what it was the average of 2001, 2003. Eighty-one percent.

SSD: Is that good for shrimp and turtles because they're able to reproduce and they could come back?

TM: Exactly. We've also found that the interaction of snapper and shrimp trawls the biggest area of interaction is between 10 fathoms and 30 fathoms. So we monitor that pretty closely and we have the ability, and it's built in the regulations, should effort in those times during the time of the year that the greatest number of snapper we can actually close those areas to fishing. We've not needed to do that because the overall effort has been, you know, it's 81 percent. Our goal was 75 percent. Our regulations say if we achieve that and we see recovery in the snapper fishery, then we can reduce that down to 67 percent by the year 2012. Then we can reduce it down to 60 percent in subsequent years. Assuming that the snapper fishery continues to recover and the effort doesn't go just sky high.

SSD: Are people really wanting to start being shrimpers if they haven't done it before?

TM: That's an interesting dilemma. So many cases I found the fishermen don't want their children to go into the industry. It's a tough way to make a living. Financially today it's really tough to make a living and you're not sure sometimes as to how they even surviving economically now. Even with the increase in catch. The price is so low. I was told on more than one occasion last summer at the height of the fishery the factories were paying 93 cents a pound for shrimp. Not sure if you can even pay for your fuel at that. What has happened is there is a whole new industry developed. Cottage industry of people harvesting shrimp and marketing on the side of the road. You sell the bulk of your catch to the factory and then you take a percentage of that and you go out and sell it on the street, or off the back of your boat, or whatever.

SSD: You can get more for it.

TM: You can get three times for it. You can get three \$3 a pound. Where if you do down to the factory you got 93 cents. But the factory to be able to remain competitive, they've got to price what they pay for the product so that they can expect to make a -. I can remember back 15 years ago, or more, when under 15 count shrimp was, the boats were making \$12, \$14 a pound. That's what they were paying the boats for. Today, -

SSD: Ninety-three cents?

TM: Yeah. Today maybe, you might get a \$1.25 a pound that at the factory. Where if you took it out on the streets, you probably get \$4.00 a pound, or maybe \$4.50 for them.

SSD: And gas is so much more expensive. Then it was \$12 a pound.

TM: Diesel fuel, I can remember when it was a quarter a gallon. Today, it's, I'm not sure what the cost is today. I bought diesel fuel last summer and I paid like \$2.54 a gallon for it. It's ranged even higher than that at times. So, the whole paradigm of the industry has shifted, in that, the processing industry is dependent on imported shrimp to meet the demands. So they maintain their markets to be able to sell the domestically caught shrimp. If they had to just depend on the domestic shrimp; it's seasonal, it's limited, and you can nowhere near meet the wants of the general population. An average guy in Chicago or St. Louis, or wherever doesn't care where the shrimp comes from, they're just concerned about getting the shrimp to eat. We here on the coast are extremely lucky in that I don't buy frozen shrimp anymore.

SSD: We get it fresh.

TM: We get it fresh. I go buy it. I don't even freeze it at home anymore. Historically for years the first of the shrimp season, or when it got going good, I'd go buy 40, 50 pounds of shrimp and head them, and pack them, and freeze them. And eat on them the rest of the year. The industry used to be that way. Before, one, it grew to the size it is, and two, before the imports became such a factor. The shrimp industry caught and sold shrimp all year but they primarily caught the bulk of their shrimp in the summer and early fall. They would pack that up in various packs and then whereby might be what we call a "five-pound green headless pack." That's a box that holds five pounds of shrimp and they've taken the heads off of them.

SSD: But they are not green shrimp? [laughter]

TM: No, they are not green. They're unprocessed. Then a restaurant buys that five-pound box of shrimp and then they'll pull out what they need and fix you a shrimp po'boy or whatever. It's kind of the chicken and the egg thing. Without the imports, the processing and distribution industry couldn't really exist. So, you've got to have that mix of product to be able to serve this national market.

SSD: Unless the person eating it in the restaurant is willing to pay twice as much for it.

TM: Right. Today, you go to, where was I recently? I went to a fish market and the shrimp were like \$16, \$18 dollars a pound in the market; but it was inland. I don't remember where it was.

SSD: There is a little bit of price added on every time it changes hands.

TM: Every time it changes hands is a little bit of money change. Today, you know, the shrimp industry is coexisting with the circumstances. They've adapted to what we are at this point in time. Like everything else it continues to change. You have to be willing to change and able to change. We've lost a huge number of people out of the shrimp industry over through all of these.

The wants of the people have changed. There's no way we could ever supply every shrimp that people want throughout this country.

SSD: Right. We would be over fishing if we tried to. We'd soon wipe them all out.

TM: Well, that's a possibility. We had the catch per unit of effort pre-Katrina versus post-Katrina. It's significantly different. In other words, each individual fishing today catching a lot more shrimp per trip than he did before. Which still gives you an idea of the fishing capacity of our shrimp industry. It was back in the 90's, it was bigger and better. I've got a 75-foot shrimp trawler and steel and I can catch. Then the next guy comes through and he builds an 85-footer. They were up to 120 feet. A lot of the people in the industry have told me that there is no way that you can catch enough shrimp to feed the big diesel engines that's necessary to push that 100-plus foot boat. It's just economically doesn't work.

SSD: You know there is a move afoot today to grow locally, buy locally, and it seems like it makes sense for the seafood industry also.

TM: I think it does but then you think about the bulk of our population. You know, lives in places like Chicago, or Denver, and what are they going to do for seafood? I historically have been an advocate for everybody using the resource and making it available to everybody. There are a lot of people that would like to see the commercial fishing industry just totally gone.

SSD: The conservationists?

TM: And recreational fishermen. My point is that it is a common property resource. We all own that resource. If I lived in Denver, I would like the right to be able to buy fresh fish. Just as much as I do right here on the Gulf Coast. The response I've gotten is, some of the fish buy from some of the fishermen. Well hell, they need a friend from the coast that can send them a fish.

SSD: Who cares about that? [laughter]

TM: That's not right.

SSD: Damn Yankees. Let them eat corn.

TM: I don't know how you ever reverse that. That movement is good but it's not realistic to fix all the problems. We've got [inaudible].

SSD: Especially with seafood. Yeah, I guess it works better with agriculture because if you live in your land lot, you most likely would be able to grow something. With the price of gas being so much, it makes sense not to ship food way, way far away if you can buy it locally. But you are right.

TM: We've gotten away from the family farm.

SSD: Oh yeah.

TM: You're seeing the same thing in the seafood industry.

SSD: Alright, so we've talked about how TEDs affected the shrimp industry, and we've touched on how they affected the sea turtle population. You said that the sea turtles are making a comeback.

TM: They are. Like the Ridley, Kemp's Ridley, was the turtle that was the target of the TEDs here in the Gulf. And on the East Coast, they have a similar problem but it's with the, I think, it's either hawksbill or loggerheads. To a lesser degree, green turtles. Those are Kemp's Ridley, loggerheads, hawksbill, and green turtles are the four turtles that are primarily found in the Gulf and South Atlantic. One of the issues in the South Atlantic was that the Turtle Excluder Devices used here in the Gulf weren't big enough to get rid of the bigger turtles that occurred on the East Coast. Southeast Coast.

SSD: So did you just make the TEDs bigger?

TM: They had to be made bigger and rigged differently, and what have you. But, those things have transpired. They're better. I mentioned the fact that there are other stressors on turtle populations. Such as: boat traffic, natal beaches, people building condos on the beach and they got all their lights out there and the turtles won't come ashore.

SSD: They head for the lights.

TM: Right.

SSD: Oh no, that's not what you said. The turtles don't come ashore to lay the eggs.

TM: Right.

SSD: I had read also that if the hatchlings do emerge and they see the lights of the city, they get confused and go toward the city rather than toward the horizon out to sea.

TM: That's exactly right.

SSD: So, you got two problems with city lights.

TM: Their efforts to control that kind of development it's not been very effective in my opinion. They've put a lot of stress on the fishermen, cause it's easier. It's a smaller group of people and they are less influential financially than the developers of condo worlds in the Gulf. That's my opinion. But, what they have done, is turtles seem to be on the increase. That's a good thing.

SSD: That's great. Why are sea turtles important?

TM: I think it's like anything. All of the species we have on earth are interdependent on each other. Are indicators of a healthy environment. If you start eliminating species this is a concern

everywhere. Not just with sea turtles but any other species. If you eliminate those things, then you are creating an imbalance in the real world that we live in and then that's not a healthy thing for the world that we inhabit.

SSD: Do you think that ultimately, it's a threat to humanity?

TM: Well, probably so, but that's way down the road—I hope. [laughter] I do, I think we need to maintain as viable a population of the animals on earth and it continues. There's always something coming in. Developing, morphing into something, mutating into something else. There are all those, some that are no longer competitive and they drop away. But that's a natural progression of things. I think we as man expedite some of those things and we need to try to not do that, in my opinion. But we also have to maintain a food source but do it in a manner in which you can maintain that resource in a healthy condition, and continue to harvest that. Not to the exclusion of that resource.

SSD: Do you think that people, scientists can learn enough to; oh it's really hard to put this question into words. Let's say that overfishing got rid of maybe four different species of fish. Is it possible to know whether that would cause like a snowballing affect that, well those are gone and something that ate them is now going to be gone and we could clear out the oceans of all life?

TM: Probably not going to clear it out of all life. Probably what you are going to do is drastically change the composition of it. And it may not be a healthy thing. I think deep down all of us are looking to preserve the world in a condition such that it would be amenable to us—humans. To give you an example, up on the East Coast particularly, they've, I think it's a summer flounder, they have overfished. I think I'm getting the story right. They've overfished that so they've reduced the population down to a level where the blue sharks' population has increased. I think I'm tell you the story right. There has been an explosion of the blue shark population because of the demise of other species. It's not as desirable a fish.

SSD: To eat.

TM: To eat. It's seems to be having an impact on other stocks of fish that they eat. So, the system is not balanced there.

SSD: Is it difficult to establish a cause and effect relationship like that?

TM: Yeah, it is.

SSD: Yeah. Can you ever, or do you just show correlations?

TM: You just try to show correlations between those things. Then once that happens, and they're kind of seeing this in the ground fish fishery. The cod, haddock, and what have you, and the [Jord], the Grand Banks fisheries upon the Northeast Coast of the US and Canada. Once those species have been fished down to some level that they are not capable of reclaiming that

area because other species have moved in there and can no longer compete for that space of that food source.

SSD: That is very interesting.

TM: It's kind of frightening. These things, they don't happen overnight. They take a long time to happen. We've been fishing that fishery since the late 1500's.

SSD: And we've gotten more and more efficient at it. [laughter]

TM: Absolutely. We're much more efficient today. We talk about that as fishing capacity. The ability to go out there and harvest fish. You're kind of on the horns of a dilemma. You won't be able to maximize your profit as a fisherman. But then also, want that resource to be there next year and the year after that. That balancing act as a fish manager; we don't manage fish, we try to manage people that fish. You can't manage the fish. You try to manage the people so that their impact on that fish stock will allow it to continue in a healthy state. That's really the overall goal of fisheries management.

SSD: We talked about the penalty for netting sea turtles. It's usually a fine and if you are a repeat offender then the penalties get more extreme. You might lose your equipment.

TM: Right.

SSD: Your license.

TM: You might be barred from the fishery, period. Most all of fishery regulations are that way. I guess most rules, laws, regulations that we all live with. If you're a repeat offender. One time, we'll give you the benefit of the doubt. It depends on the manner in which you've, if you got your TED and your net rigged improperly that's one thing. If you got it sewed up or don't have it at all, that's a more severe offense. Then, if you do it in repeated times, then it is much more serious. At some point you would like to, probably most effective way to deal with that is to eliminate that person from the fishery.

SSD: Yeah, take that license.

TM: That doesn't happen very often. Most people, they get the word, and I think it's just human nature.

SSD: Maybe it all makes sense to them.

TM: If you look at it from a fisherman standpoint and know if he can catch 10 percent more shrimp than his buddy is by eliminating that TED, and the odds of getting caught are not that high, probably worth the risk, maybe, to do that. In anything, I guess, in any business, or what have you, you got to calculate whatever risk that you're going to take. It'll give you an edge to be better than your competitor.

SSD: Otherwise you just have to find another profession.

TM: Right.

SSD: For some of these shrimpers, that's probably not practical. Not doable.

TM: Not doable. I was going to say earlier, a lot of the folks, the shrimpers that I've known in the past didn't want their kids to get into this business. They wanted them to go to college, get an education. Get into the workforce and not have to be subject to the whims of nature and so much. It's hard work. I admire these guys. You are away from your family for extended periods of time. Puts a lot of pressure on the family structure. When the fishery first started, it was a day fishery. Guys went out, they fished during the day and came home at night. But as the competition grew, and the resource they found in greater further places, they had to develop ways to be able to go and stay for two days, four days, a month. Some of the big boats today stay out a month or better.

SSD: That is tough on families.

TM: One of the innovations in the Vietnamese fleet, Vietnamese came into the fishery probably in the 60's, 70's. Guess a big lot of them came in the late 70's when they were resettling the Vietnamese to the United States. A lot of them migrated to the coastal area throughout the Gulf. I could remember them building boats when first got here. They'd have a chainsaw and an ax, and they built boats and went fishing in. Today they're probably the premier fleet owners at this point. These big boats what we call slabs.

SSD: Yeah.

TM: They steal from boats. One of the things that they've done is they'll have a family unit operate that vessel. Where if I were to operate that, I'd have to go out and hire a crew. If I were Vietnamese, I might have my wife and kids, and my nephews.

SSD: Cheap labor.

TM: Exactly. It probably gives them an edge there that the Americans —. I could remember when they first came. Those guys, they introduced some new fishing gear. The push net. That could just continue to fish.

SSD: Push net?

TM: They had a trawl. They're like two little trawls and they're on these big arms that you lower down in kind of the front of the boat and the nets are suspended between the boat and the arms.

SSD: And they pushed, and the other trawls are pulled?

TM: Pulled, right. And one of the advantages of that push net was that you can, what they call tail end the trawl. The back end of the net, the tail end of the net's back there. Every hour or two

they'd pick it up, dump it on deck, and retie it, and keep fishing. Where, when you're pulling a big net behind you, you've got to stop your operation. You pull that net aboard, dump the thing and then get it all back overboard.

SSD: So, they can empty theirs while the boat was moving and they're still catching fish in the front.

TM: Right. Then they would, when they early came over, they would go to and sort that catch. They'd get all the shrimp out. Then they would grade them according to the sizes, their recognized size groups and by, like a 21/25 count shrimp. That takes 21 to 25 of them to make a pound. Or under 15, or 16/20 count. So they would separate them on the boat and actually head them so when they came to the dock, their shrimp were processed for all practical purposes. So they were getting more for their shrimp than our guys that were complaining about it sitting on a dock.

SSD: They were getting more because they'd already been graded and processed.

TM: They'd already been graded and already been headed.

SSD: So the one's that are coming in that haven't been headed or graded

—

TM: They get a less of a price for them.

SSD: I wonder what the difference was?

TM: Well, the factory, once you dump that into a factory, then the factory —

SSD: They've got to do it.

TM: They've got to do it.

SSD: What does this mean in terms of money? I wonder.

TM: You figure, the head of a shrimp is better than 50% of its weight. So, you're going to increase your profit. I mean, you're sitting down in a boat anyway. You might as well be doing that. Our people locally, I can speak for them. Pretty distraught that they were getting more money for their shrimp. Where our guys would separate them out, a lot of times they wouldn't even wash them very well [inaudible]

SSD: And, they weren't willing to change? They weren't willing to start doing that on their boats?

TM: Some of our people I'm sure did that. I know they adopted the gear. Many of the boats locally are equipped with that gear today.

SSD: The push net?

TM: And they're probably tailing their shrimp heads as well. A lot of these things that takes a while but it gets milled together over time. When it first started, it was very controversial. They were really down on the Vietnamese basically because they are hard workers.

SSD: Right, yeah, that work ethic is hard to compete with.

TM: They had to compete with it. They'd had it kind of easy up until that point in time. Those are all social things that have to work themselves out.

SSD: Part of the culture and how it affects something as practical as shrimping. Catching fish. We've covered the questions that the grant asked us to cover. I guess I should ask you if you want to talk about your own personal life a little bit or if you want to go ahead and end here. We're always interested at the Center for Oral History at USM. We're more interested in your story and we usually start off our interviews by asking you to talk about how you grew up a little bit.

TM: I can do that a little bit.

SSD: Okay, tell me about growing up.

TM: Tell you what, let's do. Let's talk about that for another 15 or 20 minutes and then I'll treat you to lunch in the cafeteria. I'm assuming it's open today. [laughter]

SSD: Okay.

TM: I did grow up in Pascagoula. My family moved to Pascagoula around 1915, 1916. Wayne County area, Mississippi. Then they moved from Wayne County to Richton, I guess at that time

—

SSD: Jones County?

TM: I think it was still Jackson County, you know, southeast of Hattiesburg. Then moved to the coast in 1915. My grandfather was a doctor in them days. He was working at a sawmill and he was the doctor for the sawmill in Richton.

SSD: In Richton.

TM: Prior to that he'd been in a sawmill in a little town called [Secora], which is outside of Waynesboro. Then he came to Pascagoula and opened up a practice there. My father, was the youngest of three children that survived. He had younger brother that didn't survive. They all went through the yellow fever epidemic back in the pre-1920's and survived. One, his youngest brother, didn't survive. Like I said, another brother, and I can't remember if there was a nephew in there somewhere. [laughter] Anyway, I grew up, my dad was a businessman there in town.

They owned a general mercantile store. They also worked at what was an Ingalls Shipbuilding Corporation. He worked for them for 40 years.

Growing up as a child I spent all my time, we lived on the water there, I spent all my time on the water. I fished, I'd swim, I duck hunted. Did all the things a kid does growing up and loved the water. Then in the early 50's the National Fishery Service, which was then The Bureau of Commercial Fisheries under the Department of the Interior, built a research lab and sent a contingent of people to occupy that lab. I was a little kid that always showed up down there with a fish. What is this? [laughter] This is unusual. Bugged them to death I'm sure. But they were always very accommodating. I always had a curiosity about all these things. I guess I was 12 years old when I first, when they built that laboratory and I started hanging around there. I was a kid growing up. Met all the people and I loved boats—always have. Always owned a boat. I bought my first boat when I was about 10 years old. [laughter] I've owned a boat personally ever since then.

SSD: What kind of boat did you buy?

TM: I bought about a little 10-foot skiff. A little rowboat.

SSD: What did you pay for it?

TM: I paid \$10 for it. [laughter] I paid them a dollar down, a dollar a week. [laughter] I converted it into a sailboat. My grandmother sewed the sail up for me out of muslin. My parents were insistent that I be a musician. I was in the band and played a trumpet. During the summer we had band camp. I would get on my bicycle in the morning and ride up to the high school where the band camp was. I would hang my trumpet up in the hedges [laughter] and I would go down to the city docks and I would work on the ice and shrimp boats all morning. Then I would ride back down and pick up my [inaudible]. The ice and shrimp boats, they way they used to before they had refrigeration on the boats, they would load the boats before they went fishing. They would shave ice and would blow that into the hole in the boat. As they caught shrimp, they would then take them below and put them in the hole and put ice on them. I was a kid in the hole with a hose from the big blower and blow the ice into the holes in the boat.

SSD: How old were you?

TM: I was 12, 13 years old.

SSD: Did they pay you?

TM: You know I don't remember. I don't think so. [laughter] It didn't make any difference though. Cause, I was happy as a lark. There were bunch of old shrimp houses and things and I hung around there. I'd go down and buy bait. Watch them picking shrimp. By picking, I mean heading the shrimp. They'd grade them out.

SSD: All that was done by hand.

TM: All that was done by hand, primarily then. Then later, they developed peeling machines, and they had graders, you know, all that kind of stuff. In recent years, in the last 30 years, it's been highly automated.

SSD: Really? They never went back to hand picking?

TM: Well there were some but for the most part it's all automated today and it has been for some period of time. That's kind of the way I grew up. I've always been around the water. I've enjoyed it. I've always had a curiosity. I always said when I was a kid I was going to be a marine biologist when I grew up. I could remember, gosh, I don't know how old I was. I was less than 10, I'm sure. We had some old screens that they'd taken off the house and I would take them down, and weight them down in the bottom on the edge of the marsh, and leave them there for a little while. Then go pick them up, real quick, and they'd always have all these little shrimp and fish, and I was fascinated.

SSD: Just wanted to see what was there.

TM: That's really, I've always had this interest in. Then I graduated from high school. Well, actually, my last two years of high school were spent in Washington, DC.

SSD: How did that happen?

TM: I was appointed as a Page in the US Congress by, then, Representative William Comber from the 5th District of Mississippi. He was an old what they called in those days a Dixiecrat. They were a very conservative southern Democrats. Strom Thurmond was in that group and others.

SSD: Now what year did you start as a Page?

TM: I started as a Page and I went in 1957, and 1958. Back in those days the Congress wasn't in but about six months out of the year. They went into session by the end of January. They went home in June. Usually, fairly early June. Unlike today, where they are there year-round. Which I like that system much better. I kind of grew up in a conservative atmosphere. Fiscal responsibility, what have you. During my tenure there I went to a private school there. It was operated by the US Congress, called Capital Page School. I graduated from there in 1958. I had 22 classmates. If you go back and look at my annual, they have a little biography of the seniors. I said that I was going to be a Marine Biologist. Then I came home and, of course, all of my peers that I'd grown up with, well, already made plans to go to college. So I said, well gee, I need to do that too. I applied and got accepted to Mississippi State, and went to State. And got off up there, and –

SSD: What did you study?

TM: I was just under a Liberal Arts curriculum at that point. Taking English, and math, and history, and chemistry, and biology. I got up there and I found out I didn't particularly like being that far away from the coast. Then I probably spent way more time drinking beer than I did going

to school. [laughter] I think it was a mutual understanding that next spring when I left the [inaudible]. They just soon me not come back and I was happy not to come back. Then I was really just kind of at odds. I didn't know exactly what to do. First thing I did, I went to work at a shipyard.

SSD: Ingalls?

TM: Yeah, it was Ingalls. I was working as an Outside Machinist Apprentice. Union apprentice program. I did that for about six months, I guess. Then I had the opportunity to move from, and that was grueling work; but, I worked outside in the ships. It was hot, and dirty, and nasty. But, I learned a tremendous amount of stuff that, you know, I still use it today. I've always had an interest in boats. I own a boat. Maintain that boat. Skills that I learned there I am still using today. I really liked doing that but it wasn't something I wanted to do the rest of my life. Then I went to work in the nuclear power department.

SSD: Of Ingalls.

TM: Of Ingalls. They were building nuclear submarines at the time. My title there was Aide to the Chief Nuclear Engineer. I was kind of his "Boy Friday". While I was working there I had the opportunity to meet Admiral Rickover who was father of our Nuclear Navy. I worked at that until the following late spring and it was fun. It was enjoyable. I learned a lot there. It still wasn't what I wanted to do. So, in 1959, in May, I joined the US Army. I went off to -. At that point in time, they had a six-month. You could go for active duty for six months. Then they had a five-and-a-half-year reserve obligation. This was between wars. Between Korea and Vietnam. So I went. Did my six months. I came back and I went back to school at USM.

SSD: In Hattiesburg?

TM: In Hattiesburg. I was living in, and by that time, I was pretty much back on track that I wanted to be a Biologist. In particular, a Marine Biologist. That was the closest I could find a program that I could afford. Get me where I wanted to go. So when I moved back up to Hattiesburg, I moved into a what was then, a -. What was the name of those dorms?

SSD: Was it, um?

TM: They were the married student apartments.

SSD: Was it Pine Haven then?

TM: No, Pine Haven wasn't even built at that point. This was a, what they called them, McCleskey Hall.

SSD: I was going to say that. That's was where our first Oral History office was.

TM: Is that right?

SSD: Yes.

TM: Well I lived in McCleskey and another one. There were two building right there. That's where the Cochran building is now.

SSD: That's right, yeah.

TM: Bond Hall was brand new. They built that while I was there early on.

SSD: When we were there the walls were cracking and they moved us out and tore it down.

TM: When I moved in there they just moved the married student out of there, or faculty.

SSD: Faculty.

TM: Faculty. There was an apartment, it had a living room, a kitchen, and two-bedrooms, and a bath. All of the people that I got thrown in there with were ex-military. It was me, I'd just gotten out of the Army. One of my roommates had just gotten out of the Marine Corp. Another guy was a little bit older and he had gotten out of the Marine Corp. Then we had a bootstrapper, the guy from Keesler. So there are four of us, just previously in the military and I was ready to go to school. My grades, in fact, from that day until I got my undergraduate degree; I was either on the Dean's list, or President's list, every semester.

SSD: You were really motivated.

TM: I was ready to go to school. We were also, all of us were in physical, we were all in good shape. We built a gym in the living room and we all worked out there, and the pool used to be right there. The swimming pool if you remember that. It was at the end of the apartments and just before you got to the stadium. It was a big Olympic size pool. We'd go swim, then we'd run and then we lifted weights. We just had a great time, we were all in great shape. We all studied, we competed with each other. We had a great disdain for the fraternity boys. I'd been an ATO before I came there and I never resumed any of that. Just wasn't what I wanted to do then. I was good to go until, that was in the fall. I guess, I came back in the winter semester. The winter [core]. Starting in January and that would have been 1960. Then I went back to school and came home that summer and worked as a lifeguard and ran the public pool system in Pascagoula for the Recreation Department. Then went back that fall.

Then I got called back into the military for the Berlin Crisis. When they built the Berlin Wall. They pulled me out of the Reserves and sent me off to Fort Gordon, Georgia, and put me into a unit from North Tonawanda, New York. They were a civil affairs outfit. Civil affairs groups are a group that would come in, say we, like in Iraq today. You go in and basically try to establish a government, set all the infrastructure up, and roads, and power, all the utilities, and hospitals, all of the services. Like they're doing in [Haiti] right? Same kind of people. So, I spent from January until August back on active duty; so that bumped me up over a year of active duty. Which, at the time I loathed but it worked out to my advantage because my serving over a year in active duty, I then qualified for all of VA benefits.

SSD: Did it erase any of your five-and-a-half reserve obligation?

TM: Oh yeah. Actually, I ended up getting out the year I was supposed to. I went in in '59 and I was supposed to get out in '64. I got out in '63.

After I got out of active duty again, I was assigned to an active reserve unit in Pascagoula. I had to come once a month to drill. I was the company clerk. I was the only guy that when I was on active duty I was a clerk. Clerk typist. I was the only guy that knew how to run the orderly room. So I was put there to run that.

One day I came across, one drill weekend, I came across a letter that said anybody that had served in the Berlin Crisis was eligible for early release. So, I sent my papers in. I went down and talked to the civilian guy and he said well, I don't have your papers right now, we sent them up. You are being considered for promotion. I said, why don't we send my papers in and see if I qualify for this. He said well I don't have anything right now, you'll have to wait until we hear from the [inaudible]. I came back the next month. Congratulations, you've been promoted to Sergeant. I said, well, what about this other thing? He said well, if you do that you can't get the promotion. I said, let's try it anyway. To make a long story short, I did get out early.

But in the interim I'd gone back to Southern and I moved in with one of the guys that I had roomed with in the apartment. He was still there. He and I rented an apartment over there on 26th Avenue, North 26th. Right across from the stadium. We were paying \$10 a piece per month for living. It was just a big room with a little area for a kitchen, and a bath. We built us a huge, took a 4x8 sheet of plywood, built us a desk there. We had a refrigerator right there. It was crude living.

But, to go back a little bit back when I was at Mississippi State, I was dating this gal who is now my wife. So, at the end of the year up there, before I left Mississippi State, I was hitchhiking home one weekend. I got as far as Jackson, Mississippi, but I couldn't get a ride. So finally, I caught a bus and came to the coast. Well, on the bus I met these two Arthur Murray dance instructors. [laughter] We had a great weekend. I never even made it to Pascagoula. [laughter] I went back up to Starville. Got a ride from a friend of mine. Then, somehow, then girlfriend, found out about that. She wasn't too happy, so we split up at that point. She went off. Left the area. Went to Ohio. Her sister was living up in Ohio. Had just graduated from Ohio State.

We just kind of lost touch with each other. But what I didn't know was she and my brother had maintained communication. And, I thought about her a lot. When I got out of the Army in 1962 I was curious about her. Actually, we'd started corresponding a little bit earlier. My brother told me where she was and how to get a hold of her. My brother is eight years younger than I am. When I got out in 1962, I called her and talked to her. First time I even talked to her in all that timeframe. Since 1959. I said, won't you come down here and visit with us. Stay at my folks' house. They really liked her, and I did too. She said yeah. She was living at that time in Cedar Rapids, I believe. Or, somewhere out there in the Midwest. She flew down to New Orleans. I picked her up in New Orleans. We drove back over the coast.

SSD: Highway 90, huh?

TM: Yeah.

SSD: Yeah.

TM: Took her to dinner at the Friendship House.

SSD: Aww.

TM: She spent two weeks down here at my parent's house. They had a wonderful time.

SSD: Oh, I bet it was a great time.

TM: We decided to get married.

SSD: How old were y'all?

TM: We were 22.

SSD: Okay.

TM: I thought I was really old. [laughter] And knowledgeable. Worldly. We decided we'd get married the following summer. I was going to go back to school. She was going to go back to work. She went off back up north. I went to Hattiesburg that fall. So along about late October, early November, it's getting cold out there.

SSD: Yeah.

TM: This house we lived in you could look through the walls and see people walking. If it was 20 degrees outside, it was 20 degrees inside. I got to thinking about that. I said, we're going to need [warmth]. Why should we wait 'til June? What I didn't contemplate was the wagging of tongues amongst the female members of my family—immediately. Just before I came home for Thanksgiving, a week or so. I wired her, sent her a telegram and said, why don't we get married during the Christmas Holidays? Couple of days later I get a wire back. How about December the 29th? I wired her back and said that'd be great. Then I left Hattiesburg, went home for Thanksgiving holiday. I told my folks, I'm getting married in December. Immediately, all thought she was pregnant but I knew she wasn't. We did get married that December. I flew up, I took the train up to Rockford. She was at Rockford, Illinois.

SSD: Oh, that sounds like fun.

TM: Rode the train up to Chicago and had a bus on up to Rockford. My family couldn't afford to all come up there. So, my brother came and he represented the family. He was in our wedding. So, we got married and drove back to Hattiesburg and moved into Pine Haven. We had an apartment there and stayed there until summer of '65.

SSD: So what were y'all living on? Your VA benefits? Were you getting money to go to school?

TM: No. I actually was working for one of the people in the department making a few bucks, and my wife came down here and went to work for the Dean of Women. She was a Secretary to the Dean of Women in the Admin building. We made it along. My folks, I'm sure sent me some money. I did odd jobs, what have you. Plus, working in the Biology department.

I finished my B.S. Degree in '64. I applied for Graduate School. I have a double major in Psychology and Biology. By that time I developed an interest in Psychology. So I applied at the University of Alabama, in Birmingham, with their Clinical Psychology program. I applied at LSU for their Fisheries Program. I was waiting on them to let me know. In the interim, USM hired a guy named [Jeff Fish], as a new faculty member in the Biology Department. He'd just come up from Barbados. He was from Canada. He graduated from McGill University. He had a doctorate from there. I was working in the department. He came, and we just kind of hit it off. Got to talking to him. He asked me what I was going to do, you know, I was waiting a year. He said, well why don't you come be a graduate student for me? I need a student. I got a little money. I'm on a grant that I can pay you.

SSD: Great.

TM: So why don't you stay here? I said, well that sounds like a good idea to me. Cause we had a place to live. My wife had a job. We didn't have to move. So I stayed there at USM and finished my, I finished all my coursework for my Masters in the spring of '65. Then I was doing my thesis work out of this laboratory.

SSD: Masters, in?

TM: In Biology. I got away from the Psychology business. I came down here and I was commuting down here doing my research. So I took a job teaching school. Over at Saint Martin High School in West Jackson County. Dr. Gunner, who was Director of the research lab, gave me a place to work here. He let me use the boats, and what have you, to do my thesis research. I graduated and I finished my thesis. Graduated in spring of '66 with my Master's degree.

In the interim, my teaching career, I got destroyed with it. In that, we got into a hassle over our salary. I'd hired on for a nine-month contract. I had enough money coming in per month to be able to survive. My wife had come down here and gotten a job at the VA so she was doing well. The school system changed my contract to a 12-month contract. Spread our salary out. I didn't have enough coming in per month to survive. So as far as I'm concerned, I don't have a contract. So, I was hanging around over here a lot. [laughter] Mr. Christmas, J. Y. Christmas, he was one of the senior Biologists here at the time. Offered me a job March of 1965. So I told the school system and rather than [laughter] [inaudible] and moved over here. And I've been here ever since. With the exception of the 10-years that I was off working for the government.

When I was here before, one of the other things in 1969 I was to start, they were going to give me a sabbatical that year to go back to do my coursework for my doctorate. I was all geared up, accepted, and was going to USM to go get my doctorate.

SSD: August 1969.

TM: Camille came through and virtually destroyed this place. The only building we had left really was this one here, and the dormitory was there. About everything else was destroyed. It was not a good time to leave to take a year's leave of absence. So, I just put my doctorate on hold at that point. In '72, I had a research program developed here. I had some good employees, and they agreed to let me take a year off and go complete my coursework and get my home campus requirements out of the way. I did that successfully and came back. From the fall of '73 I started working, I still had to do a language. I had a minor in that. I took Spanish, a little. I talked them into letting me have Spanish as one of my languages, because most of the work I've done has been in Central and South America.

SSD: No kidding.

TM: That's helped out tremendously.

SSD: Right.

TM: Then the other one, I had a minor in Computer Sciences and Statistics. That fulfilled the requirements for the second language. That took me four years to get all that out. When in the interim I was working on my dissertation.

SSD: And working here.

TM: And working full-time here.

SSD: That's a full plate.

TM: Then 10 years after I was married my daughter was born. So that's one of the longest pregnancies that –

SSD: [laughter] That first baby can come any time.

TM: That's exactly right. The next one takes nine months. I got my doctorate from USM in 1978, so I used my full six years to get it. But, I did it working full time, trying to raise a family, support a family. I'm proud of the fact that I did.

SSD: Sure, yeah.

TM: When I got my doctorate, J. Y. Christmas was head of the fisheries division at the laboratory at that time retired and I was named the Assistant Director of the lab for fisheries at that time. I'd developed a pretty significant research program. I was bringing in a couple of

million dollars a year in extra bureau funding. That carried some sway with the administration. In the early 80's I took a year's leave of absence from the lab and went to work for Trent Lott in Washington. Having had a background of how Washington worked.

SSD: You were the Page, yeah.

TM: So, all the skills that I'd learned there I was able to put them in place and actually use all that. In basic, I became a lobbyist for the for the lab at that time. We weren't under USM at this time. We didn't come under USM until 1988. I took that year off and went to work for Trent, and came back. While I was there I made a lot of good contacts. I was able to develop two different research programs. Both of which are still going on today. I started those in 1984 and '85.

SSD: What are they?

TM: One of them is the USDA National Shrimp Aquaculture program and I was one of two people that actually kicked that program off. When I was in Washington, the Administrative Assistant for shrimp introduced me to a guy from Hawaii. He and I got to talk about shrimp aquaculture. We put together a proposal and listed a couple of other people. We had at that time, Jamie Whitten from Mississippi, who was the Chair of the House Appropriations Committee and was also the Chairman of the Sub-Committee on Rural Development. We had Tufts University. Who, Tip O'Neill, was the Speaker of the House at that time. Then we had Senator Inouye from Hawaii, who was the Chairman of the Appropriations Committee in the Senate. So the three institutions banded together and created this program.

We went out there and testified for our program and received a half-a-million-dollar planning grant. So, while I was in Washington, I had the opportunity to look out over the nation and see all of the people that were doing shrimp research. We physically went to all these people and we said join with us. We're going to put together a national program and get it funded by Congress. Better known as earmarks. They all looked at us and said you people are crazy. You're not big players in this. But we had the political horsepower behind us. So, we put that program together and were funded the first year. Half a million dollars for planning grant. We went back to them and said, join with us, and they still were very skeptical of the program that was placed under the US Department of Agriculture. To make a long story short, the program was funded that was accepted.

Some funny things happened along the way. I went to testify at one of the hearings in the House Appropriations Committee, one day. Jamie Whitten, who was Chairman of the Appropriations Committee in the House, my father's roommate in Old Miss back in the '30s. So he says, they called up Dr. McIlwain, Gulf Coast Research Labs, going to testify and Mr. Whitten looks at me and says, "Tom, how's your mom and daddy?" [laughter] And you could just feel in the crowd like, that guy is going to get his money. [laughter] That was kind of funny.

Anyway, the other program I was involved in while I was there, I wrote a white paper, along with Senator, then Congressman Lott. It was called "Fishery Research Needs of the Gulf of Mexico." After I wrote this paper, and it was basically a [tryst] on what we needed to, research needs that we needed to be able to manage our fisheries more efficiently. In the Gulf. At that

time we were still producing better than 40% of everything. This was before the Alaskan Fishery really took off. The Gulf was a very important part of our nation's fisheries. It still is today. I was able to write this paper and I presented it to Senator, Congressman Lott at the time. Gave me the opportunity to present it to people in the Senate and the House. And, they liked the idea. Then I kind of developed a proposal and had even the opportunity then to present it to David Stockman, who was the head of OMB under President Reagan. I told him I needed 8 million dollars. [laughter] And he said, to me that was a lot of money. And he says, "You know, hell, we lose that much in rounding off the National Budget." But anyway, I didn't get the money that day.

When I left Lott's office in '83, I was working on the shrimp program for one thing and then, I was funded by the Gulf and South Atlantic Fishery Development Foundation out of Tampa, which is a commercial organization, to develop that program and to a legislative package. So for a year I traveled across the Gulf in 1984, early '85 and met with all the researchers Federal and State. What do you need? I'm putting a team of people together. What do you need? What research you need to do?

I did this thing and developed a document called MARF and Marine Fisheries Research. I'm having a terrible time with acronyms. [laughter] [pause] Marine Fishery. Look it up. But anyway, basically it was a compendium of all the research that was needed in both the State and Federal waters throughout the Gulf to be able to better manage our fishery. The next legislative year, in '85, I went back to Washington and had the opportunity to present that to relative committees, and the Congress funded it. About 2.5 million dollars at that point. The funds we set up on MARF and board to be able to -. We had a whole infrastructure set up to do this. In case we got the money. We did that. That program still exists today. Still funding research and it's specifically for research.

The goal of our shrimp program was basically to build a shrimp culture industry in the United States, which pre-Katrina we basically had that industry established. Primarily Texas and South Carolina where the two places they were raising shrimp. We proved that you could do it environmentally sound without using all the chemicals. What have you.

SSD: So Katrina wiped it out in Texas?

TM: It still exists down there, but it's a very small part of that fishery. It was more of a niche. There were farms that were producing a fresh white tablecloth product. Most of them were -

SSD: What does that mean?

TM: They were producing the shrimp and when they got ready to harvest that shrimp, they would send a truck out from a processing plant. They'd drain the ponds. They'd pull the shrimp right in on ice. They'd take them and process them that night and the next day they were on a truck going to Chicago, Saint Louis, Denver, Philadelphia. It was designated for the plate table plaza, upscale restaurants which paid the highest price for the product.

SSD: Where they ever frozen?

TM: No. They were fresh, never frozen. So they couldn't compete with a commodity market. That shrimp that was frozen.

SSD: Is there any aquaculture for Shrimp going on in Mississippi today?

TM: No. Well, we have an experimental operation here. Again, pre-Katrina we were doing pretty good. Pre-Katrina we were getting production costs down. It's done totally in our enclosed environment. In a greenhouse.

SSD: So it has minimal impact on the ecosystem.

TM: It's a zero-discharge facility.

SSD: Well that's great. I predict that that's going to grow in the future.

TM: Oh, I think it will. I think, its time will come. The things I'm involved in today are directed at developing close system aquaculture and being able to produce the fingerlings that are necessary to develop that industry.

SSD: What's a fingerling?

TM: A fingerling is just a small fish about the size of your finger.

SSD: We don't like fillet them and use them, right? What are they used for?

TM: If you are going to grow fish, you have to have seed to put into your system. Whether it be a closed system, be an open pond, or a net pen offshore. You still have to have those things to put into it.

SSD: The seed fish. Those are the seed fish.

TM: Our goal and our primary mission in our research program here for aquaculture is to develop animal husbandry techniques. In other words, be able to domesticate that fish. Be able to control the spawning time. Then once you spawn it, you fertilize the eggs. Then be able to hatch those eggs. Rear the resulting larvae up to a size of a fish that could be stocked into a system to grow in.

SSD: It must be harder than it looks.

TM: It's much more difficult than it looks.

SSD: It's not like getting some chickens and putting them in the back yard?

TM: Well, no, no. Not at all. It's kind of like that chicken industry was maybe 50 years ago. What we're doing now is laying the groundwork for what will be in the future.

SSD: Very interesting. Very exciting.

TM: Marine Fisheries Initiative, I believe that's what that, MARFIN.

SSD: Okay, MARFIN.

TM: Those are all programs I've been –, I'm currently developing this other site which is Cedar Point. It's quite an undertaking.

[Background noise, inaudible]

SSD: Pre-Katrina.

TM: Yeah.

[Background noise, inaudible]

TM: All of these buildings were destroyed in the storm. These little out buildings were just sheds and what have you. The whole campus was flooded. This building and trailer were the only things that did not have water. This is the Cedar Point campus and this is not enough to move.

SSD: So y'all decided to move to higher elevation?

TM: We were going to do that but as it worked out, specifically, money and the hurricane came along in the midst of all of this. This was the initial plan that we had. This whole area is pretty well built out. You got another big belt that is under construction here. These roads are all in here. This, we kind of put on the back burner. The Marine Education Center that was located in Biloxi is being rebuilt over here.

SSD: Is that the one that is around Point Academy?

TM: Uhm.

SSD: Okay.

TM: That'll be rebuilt there and the legends on that spot totally [inaudible]. And that changes all the time but the main thing is this is all built. Most all these buildings are in or under construction. We've added a couple of extra one's into that mix. Then the last major building will extend this road on down [inaudible] this marine center here.

SSD: Do you know when you might be finished?

TM: No. [laughter] Part of that's been funded by FEMA. So we're still in negotiations with FEMA.

SSD: Oh wow, still in negotiations.

TM: Also we are still in the planning process to determine what it's going to look like when it does get built. It won't be a total replica of what was there. We'll change it. When that building was built, we were an independent lab within the IHL jurisdiction. Today, we're under USM. And we are obligated to fulfill the mission of the university.

SSD: Right.

TM: The character of the building and it's uses will be different. That's what we're sorting out right now.

SSD: Well, it's always changing.

TM: Yeah.

SSD: Always growing. Well, we've come to 12:30 which is 30 minutes past I think what you wanted to do. So I guess we're going to wind it up and I'm going to say thank you so much and just I'll ask you the last question that we always ask at the end of an interview and that is, is there anything you would like to put on the record that we have not talked about.

TM: Probably talked about more than I needed to. [Laughter] I would add that one thing I think is interesting in my history. I graduated from high school in 1958, from Capital Page School in Washington. At my graduation the two keynote speakers were then Senator Lindon Johnson and Senator John F. Kennedy. My diploma was awarded to me by Richard Nixon, who at that time was the Vice President. And, my high school diploma is signed by Dwight D. Eisenhower.

SSD: That's some big chunks of US history.

TM: It don't get any bigger than that, at least at that time. So it was kind of neat. We had our graduation in the House Weighs and Means Committee room, which is a beautiful old stately committee hearing room they have on Capitol Hill. I really enjoyed my time there. Since that time back in 1982, or back in 2000 when I still working for the federal government, they transferred me to Washington Headquarters and then detailed me down to then Senator Lott's office. I was working in his office as a Federal Employee and working on reauthorization of the Magnussen Stevens Fishery Conservation Management Act. Working on behalf of the agency within his department. But again, it was a tremendous learning experience for me. Made a, obviously, a lot of contacts.

SSD: It made a difference in your life, didn't it?

TM: Oh, absolutely. So, it's been good.

SSD: It all started swimming and fishing when you were a kid in Pascagoula.

TM: Right.

SSD: Well, thank you so much for taking time to meet with us today.

TM: I had no idea we'd talk this long. But it's kind of been fun.

SSD: Well, good.

TM: I hope somebody can make some sense out of this.

-----END OF INTERVIEW-----

Transcribed by Darlene Perez 11/15/2022