

The University of Southern Mississippi
Center for Oral History and Cultural Heritage

Deepwater Horizon Oil Disaster–Gulf Coast Fisheries
Oral History Project

An Oral History

with

Jennifer M. Buchanan

Interviewer: Barbara Hester

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An Oral History Jennifer M. Buchanan, Volume 1043

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AN ORAL HISTORY
with
JENNIFER M. BUCHANAN

This is an interview for The University of Southern Mississippi Center for Oral History and Cultural Heritage. The interview is with Jennifer M. Buchanan and is taking place on January 12, 2012. The interviewer is Barbara Hester.

Hester: This is Barbara Hester with the Center for Oral History and Cultural Heritage at The University of Southern Mississippi. We are here today; it's January 12, 2012. We're at the Gulf Park Campus Library, and it's about three o'clock in the afternoon. I'm here with Jen Buchanan, and I guess maybe I'll just start off. I should ask you to state your name and address and occupation for the record.

Buchanan: OK. My name is Jennifer Buchanan. I live at [the address of the interviewee has not been included in this transcript in order to protect the privacy of the interviewee]. And I work for the (0:02:14.3) Mississippi Department of Marine Resources, Grand Bay National Estuarine Research Reserve, and I serve as the education coordinator for that facility.

Hester: OK. How long have been pursuing this occupation?

Buchanan: Well, I've worked with the Department of Marine Resources since 1984. I've been in the current position that I've been in about ten years.

Hester: And what positions did you have prior?

Buchanan: I started with the Department of Marine Resources in fisheries, as a fisheries technician. And then I moved into coastal ecology, and I served as a permitter. I worked on projects where I served as the assessor for the environmental impacts associated with various projects that were being applied for to be constructed in coastal wetlands.

Hester: I see. It's interesting. Could you explain how the two institutions interact, the Department of Marine Resources and the National Estuarine Research Reserve? (0:03:16.1)

Buchanan: The National Estuarine Research Reserve is really just a department within—I guess I should say it's a division within the Department of Marine Resources. We are part of the coastal ecology section of the DMR, and we are a partnership that's managed jointly by the Mississippi Department of Marine Resources, and we are funded through NOAA [National Oceanic and Atmospheric

Administration]. And then we are also in a unique partnership with the US Fish and Wildlife Service, the Grand Bay National Wildlife Refuge. So we're kind of—we're in a state building. We sit on federal property owned by the fish and wildlife service, and we are funded through a grant from NOAA. So we're a true partnership. (0:04:17.4)

Hester: Wow. That's wonderful. And I understand there is also some element of a partnership with The University of Southern Mississippi, as well.

Buchanan: We have other management partners that include The University of Southern Mississippi, the Nature Conservancy, and Mississippi State University as well as the Mississippi Secretary of State's Office.

Hester: I see. So it has a broad reach, very broad reach.

Buchanan: We do. We have a very broad reach.

Hester: Could you explain a little bit how your office works as far as—

Buchanan: Just like our mission and what we do?

Hester: Yeah, exactly. What is your mission? And both institutions, I guess, pursue the same mission since they're (inaudible).

Buchanan: Well, the Department of Marine Resources, itself, is a regulatory agency (0:04:55.5) that is in charge of protecting and managing and conserving coastal resources for the State of Mississippi. And we fit into that formula through the Reserve, and I'm just going to call it Grand Bay Reserve. (0:05:10.6) We provide research, and then we translate that research, the findings from that research, and then we pass that research on to the community and the coastal decision makers so that they can make wise decisions regarding how they use our coastal resources. So our end users (0:05:33.9) are everywhere from the public, the citizens, to maybe the board of aldermen, up to state legislators, and then all the way up to our national lawmakers. So the whole goal is to take critical issues such as resilient communities, such as climate-change issues, and then we do the research that's needed to answer questions on how to protect and conserve the coastal habitats. One of the main things that we're doing right now through the reserve is serving as a sentinel site for changes associated with climate issues. (0:06:17.7) So we have transects that go all the way from the water's edge, all the way up to Highway 90 so that we can see if sea level is rising. We can see how temperatures are impacting the type of vegetation that occurs along those transects as maybe temperatures rise or fall, or we get more rainfall or less rainfall, and so we're starting that particular, collecting that data so that in twenty years or in thirty years, those small changes that maybe occur on a daily basis, which we call weather, can impact the climate changes, which you see over time. So climate is really just weather events that you look at in large periods of time.

Hester: If you were out there observing along these transects and you saw something that sent up a red flag and it caught your attention and you need to act on it because this is a concern, where would you go? How does regulation start? I mean, I guess that's—

Buchanan: Well, as an educator, my goal, I would pass that on to the researchers, who would then go determine, “Do we need to do a study to see if this is a significant event, or is this just something that is a [strange] occurrence”—I shouldn't say freak—“is a strange occurrence that's going on?” So you start out by—it's kind of like a science fair project. (0:07:54.3) And you make a hypothesis. You create a question, and then you want to answer that question, and so you would design a research project around that question, and then find out the answers over—it could be a one-year project, depending on the project. It could be two-, or three-, or four-, or five-year project. But basically you would bring in the experts in that field. And our goal at the reserve is to kind of—we look at our reserve as a living laboratory, (0:08:28.0) so if we see a problem, we can identify experts that might want to design studies around that. So we work with people from about fifty different universities that come in and look at different problems or issues associated with wetlands, coastal wetlands.

Hester: I see. Interesting. What elements of the community do you work with on the professional side as well as the general public? (0:08:57.7)

Buchanan: My job as the education coordinator puts me with audiences from K through sixteen, all the way through community members. So I work with students, and I work with adults, and we have another person on staff, who is the coastal training program coordinator, and her role is to work with the decision makers.

Hester: So how would you reach the K through adult population? Through the schools? Through—

Buchanan: We have programs that we do on-the-road programs where we go into the school, (0:09:40.8) and we teach the students about different aspects of the reserve, everywhere from climate issues to biodiversity to impacts of marine litter to—you name it; if it has to do with the coastal habitat, we can have a program—insectivorous plants. So there's a lot of fun stuff. We do festivals. We do programs at the reserve where we take people out on field trips, take them out and do—it's all about hands-on learning. So our goal is—you've heard about the no-child-left-inside, which is a play on the no-child-left-behind, but we say, “No one left inside.” So we want to take our programs and get the people outside, connect with nature and become so interested in it that they want to help us conserve it.

Hester: And how do you interact with the professional community, such as in the case here where we're focusing on commercial fishing industry? How would you interact with them to bring the science and the interest in conservation to the fishermen who come to a meeting place? (0:10:55.2)

Buchanan: If the DMR, or if someone else recognizes a need for a community meeting, we have the advantage that we have a really great interpretive center that we can host meetings at. We also have a website that we put a lot of information on. One of the big things that we do is that we collect real-time data at several sampling sites. (0:11:21.4) One of the big things that the fishermen like—and you say commercial fishermen, but there’s really not a lot of commercial fishing in our reserve, and—

Hester: But you do have commercial fishing in the reserve?

Buchanan: There is some commercial fishing in the reserve, like hook-and-line fishing, and so mostly those people like to know, “What are the conditions? What are the winds? What’s the water quality like?” So they can go access our real-time data online, and they can find out what the salinity is; they can find out where the winds are blowing from, and if the water’s all blown out. “Maybe I shouldn’t put the boat in today.” So we provide them with some initial data that they can use to make a decision on whether or not they want to go fishing that day. But we also have these databases that archive data (0:12:13.6) over several years since we’ve been in operation, so that if they wanted to look at reasons why maybe the oyster reefs are closed or something like that, they could go back and look at the data to see that these occurrences happened. And they could see that we got twelve inches of rainfall, and that’s why they had to close the oyster reef. They can use it for that reason. But they could also—we’ve had like how—you were telling me earlier that you knew Norm Yandell who does, he makes his own cast nets. We’ve had classes (0:12:56.7) on cast-net making, and we’ve had classes on how to fish. And so there’s a lot of things that we do to try to engage the commercial fishermen in protecting the environment so that it actually protects the water quality so that will give them more days of fishing. So we kind of go in the back door.

Hester: And to me, I see a common interest, and it’s maintaining a healthy environment, a healthy marine environment because their profession, their occupation depends on it, and you’re the overseer to make sure that the environment stays as healthy as possible would be the way that I see it. But do you ever have run-ins or where you have disagreements and—

Buchanan: In my portion of the Department of Marine Resources, we’re not regulatory, so we don’t really see that fallout whereas the main office, the fisheries people, they kind of take that brunt. We’re lucky to be kind of buffered from that because we are mostly research and education and stewardship. (0:14:05.0) We’re all trying to work together to make sure the resources are going to be there in the future for them to be successful in what they do. So we don’t get too much of that where we are.

Hester: How do you perceive the drawing together of the exploitive interests, if I’m wording this correctly, of fishermen who are making a living out of this with stewardship? How do you bring the two together?

Buchanan: Well, I guess you've heard this, but one of the slogans at the DMR started a long time ago was, "No wetlands, no seafood." (0:14:43.4) And as you educate and allow the fishermen to experience the importance of the salt marshes and the adjacent coastal wetlands as well, they begin to understand how what they catch is connected to how the water quality is. And so as they begin to realize that they've got to protect the water quality so that the fish they catch—there's no warnings on the fish. There's no restrictions on limits because you're managing populations. They become more engaged in helping with the resources. Like we have one fisherman in particular, which is Traci Floyd's father, Pete Floyd—

Hester: We actually interviewed Pete Floyd.

Buchanan: OK. So you know Pete Floyd. So Pete, he started off. He's been a commercial fisherman many, many years. And then when he found out about us, he became one of our boat captains for giving our tours, (0:15:50.8) and there's just no better person that you can get to help you with your boat tours than someone who grew up in the area, that knows it like the back of his hand, and that can actually add that enjoyment to the people who are coming to take the tours, by jumping out of the boat and going after a turtle or just being excited about seeing any kind of fish that is brought in. So we try to utilize the fishermen when we can in order to supplement their income at the same time. So we try to work with the fishermen and include them in what we do. So that's the best thing you can do.

Hester: I see. Dr. Kyriakoudes is with us today. I probably should have announced that at the beginning of the tape, but if you have any questions, jump in at any time. What would you say would be some of the challenges you face in maintaining healthy wetlands and making it a good place to spawn fish? (0:17:06.3)

Buchanan: Well, habitat loss is probably one of the biggest things that we face today in the wetlands (0:17:18.9) is that over time, wetlands have been filled in. But fortunately, since wetlands have been recognized (0:17:26.6) as a nursery ground and as an area that takes up excess flood waters and filters the pollution from the upland areas, people are becoming more and more used to the idea that these are important places that we need to conserve, and it's been a great help to be able to present workshops on how to use wetlands as a soft shoreline protection instead of making a hard bulkhead. As sea levels rise, as it's predicted over time, if we don't have a place for those marshes to move and migrate inland, in the future there won't be any marshes. So our big push right now is to really educate the people on why the wetlands are important, but why also that it's important to maybe leave a little buffer so that there's a place for them to move and expand into if the sea level rises as predicted. (0:18:31.0)

Hester: I see. In our area in particular, what are the strengths of the wetlands, and what are the weaknesses? (0:18:37.7)

Buchanan: The strengths of the wetlands are all the values that they bring to the table. They provide so much for our coastal inhabitants. A lot of people don't recognize all the importance associated with them because you have wetlands that are associated with the fringe along the edges of the ocean. And I guess one of the big things that our message is going out this year is that there's one ocean. OK. Y'all learned all the different oceans when you were in school, but there's really one because they're all connected. And so when we talk about estuaries, we talk about the edges of the ocean. That's why we call ourselves *ed-ucators* in estuarine education. Humor. But people see different kinds of wetlands. We don't really have that hard of a sell to protect those estuarine wetlands. It's those inland wetlands that are really being filled in for development (0:19:51.0) that really have more—I guess they're more at risk because people look at that as, "It's a mosquito hole." They still do. But they're important for all kinds of wildlife. They are areas that recharge the groundwater that we get our water resources from. And over time people are becoming more and more open to the idea of protecting these areas. It's just been a little harder sell inland than it has been down on the Coast. The Coast went through its time when they filled in a lot of areas for industry, but now that most of the industrial sites are already up and operating, so much impact as, I would say, that the early 1900s experienced, we don't have to that degree.

Hester: Can you maybe talk a little bit about your experience with the wetlands and how they've changed since you started in 1984? (0:21:04.1)

Buchanan: Well, I guess pretty soon—I think they estimate it by—and I don't want to give you an exact date, but within about ten years, they say 50 percent of the population in the United States is going to live near the coast. And in the twenty-seven years that I've been working with the DMR, that heavy influx of people moving to the Coast, except for a period after Hurricane Katrina (0:21:34.3) when people moved out—there's a lot of pressure on waterfront areas, a lot of pressure, not so much from the actual filling-in of the coastal wetlands, but in the pollution associated and the secondary impacts associated with that development. You've got roads being built. You've got areas that were never accessed by people before, being accessed. You've got more sewage associated with those people. You've got more trash associated with those people. You've got more fertilizer on the lawns that are now washing into the water. And so it's really the secondary impacts of those people, moving into our area and then having that storm-water runoff impact our coastal areas that's really the main problem that we're trying to address now. (0:22:28.3)

Hester: And how would you say this would impact commercial fishing? How does it impact the commercial fishermen on the Coast? (0:22:36.3)

Buchanan: Well, commercial fishing is associated one-on-one with habitat, and whether or not that habitat has been degraded, or if that habitat is clean. A lot of people look at the Mississippi Sound (0:22:51.5) and say, "It's brown. It's dirty." But the Mississippi Sound is an estuary, and so freshwater and saltwater are mixing together, and the sediment that comes down the rivers, it's natural for that water to be

brown. We're never going to have that crystal clear, blue-green water that you find south of the islands or off of Florida, but that doesn't mean our water's dirtier than Florida. A lot of people—and I'm getting off track here. But a lot of people don't realize that the water's not any dirtier here than it is in Florida. It just looks brown because there's a lot of nutrients in that estuary soup (0:23:30.9) that comes down, and it's that nutrient pool that makes us such a fertile—you've heard of the fertile fisheries crescent. (0:23:39.4) Part of that fertile fisheries crescent is that we have a lot of shrimp; we have a lot of fish because there's something for those fish to eat, but there's a point of no return. I don't want to say, "point of no return." But there's a point where you have too much sediment, or you have too much nutrients coming in, and that's when you start getting areas like the dead zone over in Louisiana (0:24:01.0) and areas of hypoxia, which is no oxygen, because you have too many nutrients. So our goal is to keep that healthy balance of enough nutrients to really support the fisheries but not get so much that you knock out the oxygen in the water or put too much sediment into it that you choke their gills in some of the animals. So it's a balancing act, and the best thing we can do is keep those excess nutrients from getting into the water before it becomes a problem. So that's where we are today is—

Hester: And that's through education.

Buchanan: Education and wise management and wise use of using best management practices, (0:24:46.0) which is like one of those words you're not supposed to use because it turns people off. But instead of best management it's the best way to apply fertilizer, the best way to stabilize your land so it doesn't erode and choke the waterway.

Hester: I'm going to pause this just for a moment. (brief interruption) OK. We were talking about the wetlands. And in your experience since 1984, being here, would you say that the wetlands are in decline, or are they gradually improving, or are they stabilized? (0:25:30.8)

Buchanan: That's a kind of a difficult question. From observations, I see a lot of wetlands, especially those more interior wetlands, constantly being turned into apartment complexes and shopping centers. And they do have to mitigate for some of that, and so in the mitigation process, often they have to create more wetlands than they destroy. But the question, "What needs to be done?" There still needs to be more research, in my opinion, there needs to be more research done on how functioning those created wetlands are because if they aren't serving the purpose, then we need to kind of redesign some projects perhaps. But the more people that move into the area, the more impact you're going to have on these wetland areas just from immediate occupancy. Fragmentation is a big, huge issue. Some animals require large, contiguous areas of wetlands to be able to be successful in their feeding and their reproduction and just living day to day without being stressed. A lot of animals get stressed easily, so if you fragment a habitat with a road or put a building in the middle of it, you've essentially cut down on the amount of habitat that's out there for that species. Those are some of the issues that I have. You have issues associated, like

take the [BP Deepwater Horizon] oil spill. (0:27:23.6) And you have big events that can have long-lasting impacts. We don't know what the oil did. We don't know yet. It just hasn't been long enough to be able to tell. So yeah, I think that as the population increases, there's always going to be wetlands at risk.

Hester: You're talking about mitigation. Can you explain that? What are some of the mitigation measures that you would—

Buchanan: Well, a lot of people don't realize that mitigation is really a three-step process. (0:28:00.3) The first step of the process is avoidance. "Don't impact the wetlands. What can I do? How can I design my project so that I won't impact it?" The second step in the mitigation process is minimization. "How can I minimize the footprint that I'm going to take up of this wetland? How can I minimize the impacts I will have on the wetland?" And then the third step of the mitigation process is compensation. And that's often what people go to when they talk about mitigation. They jump right to step three. And technically you should do step one, then step two, and only step three if step one and step two weren't sufficient.

Hester: Meaning that you purchase the property? Or when you say compensation, what is—

Buchanan: Compensation means that it depends—mitigation is a regulatory word. So if you're getting a permit, and you've [avoided], if you've avoided, you've done as much avoidance as you can, you've minimized as much as you can, but you *have* to build this project, and it has to be built on a wetland, in this particular wetland, then you compensate by either conserving lands and hopefully in the same watershed, or creating new wetlands, and the best way to do that is in an adjacent area, as close to the site as possible. And one step that's involved in the actual compensation, is if they're going to restore wetlands or build new wetlands is that they need to monitor those wetlands to make sure they are truly functioning the way they need to function. So a lot of times that last monitoring part is kind of lost, but new rules and new conservation practices are really associating a lot more monitoring with projects today than they did in the past. So I have hope for that aspect of it.

Hester: Yeah. Great. We were talking earlier, before we actually went on the record about when you started in 1984, you started in the midst of the enactment of TED [turtle excluder device] regulations. Could you, maybe starting with that, explain where your involvement started in that particular enactment? And then maybe talk about the regulations that came after that and explain a little bit how they affected commercial fishing, recreational fishing, how it affected the wetlands and so forth? (0:30:55.0)

Buchanan: Well, first of all let me start off by saying that it was never my job to work with TEDs, but we were involved in some public hearings where the office would host public hearings along with NOAA—it was mostly NOAA's meetings that we would attend, and they got fairly fiery. There were a lot of fishermen who just did

not want to install the TEDs. Now, of course the TEDs were installed; they were first called turtle excluder devices because of the impact on the sea turtles. As time has gone on, they're also trying to use the TEDs more as, to limit—they call them BRDs, bycatch reduction devices. (0:31:53.7) So I don't know if you're familiar with the shrimping process, but the shrimp is just a fraction of what is caught in those nets, so you have a lot of small-fish species and squid and other invertebrates that are caught in the net. And oftentimes those are basically dead by the time the trawl is brought back in. And so you have a waste product that goes over, which is called bycatch. And this is just my observance because I'm not an expert in this at all, but the whole goal now is to not only protect the sea turtles, but to protect the populations of other fish that don't have a chance in the nets. So when the trawl is pulled up, if you have a functioning TED, and you followed the guidelines, you shouldn't have sea turtles in there, and you should have minimal bycatch, but more work needs to be done on the bycatch aspect of it. But I worked with the—because I was also the marine mammal and sea turtle stranding coordinator for the department, so it was my job when a dead sea turtle or a dead dolphin washed up on the beach; I had to go take measurements and pass that information on to NOAA. And so often a turtle that has been trapped in a net, (0:33:37.4) when you measure it on the beach, you don't have immediate feedback that this turtle drowned because you don't see drowning. If it was caught in a net, you often see net marks. If it was hit by a propeller, you can see the gash, but drowning is not immediate. So you would have to collect those turtles and send them to NOAA, and then they would analyze them to see if they can find a cause of death.

Hester: Just a question, I'm going to interpose a question here. Is there any natural death where these animals wash up on the beach, or is it mostly—

Buchanan: Oh, all animals age out of the system or get sick or get pneumonia. Cold weather can cause problems.

Hester: But do they make it up to the shore, or are they recycled in the water?

Buchanan: Both, both. I've found sea turtles with big shark bites out of them. They're part of the food chain. It is natural. They're saying that they seem to see a lot of links with the oil spill and some of the turtle deaths that have been reported the last year. I know there probably has been some association, but I also—and this is just my personal opinion is that when you put a thousand people out there on the beach, you're seeing a lot more dead sea turtles than you did before. So I totally forgot your question. (laughter)

Hester: All right. Well, maybe we could go back to TEDs, and if you have anything else to add to the discussion about TEDs, and also to advance to what came after that to help with bycatch and environmental issues as far as regulations? I know the gillnet has been an issue as well, and changes have [been] made in that regard.

Buchanan: A lot of the issues with commercial fishing, in my opinion, result from the two ideas that recreational fishermen blame everything on the commercial

fishermen, and the commercial fishermen blame everything on the recreational fishermen. So I mean, you're going to have that battle. As far as what has come over the years, there's been a lot of work done on artificial reefs (0:36:16.9) that are being placed along different areas to try to provide some substrate and some feeding grounds for a lot of the different fish. Of course, that benefits both the commercial and the recreational fishermen. And you have a lot of oyster reefs that have been restored (0:36:40.4) after flood events, maybe when the—one of the big things that happens is the Bonnet Carré Spillway can open up, and that allows too much freshwater to come in too fast. And when that happens, often the oysters die off. And so for oysters to set, they have to have a hard substrate. So the Department of Marine Resources goes in and creates artificial substrates for those oyster spat to set down on so that will increase the oyster populations over time. So I guess the more intense management of species, and then of course the best way to manage for a species is really to look at the interactions of all the species together. (0:37:22.2) So water quality issues have always been an issue with harvesting of shellfish, especially, but also you had a lot of warnings put on a lot of fish species for mercury. (0:37:38.5) So as those particular issues have been addressed through storm-water management and through issues that require industries that generate mercury to be more strictly regulated, a lot of the warnings on some of our fish have been actually been [canceled]—I can't think of the word. I'm tongue-tied—canceled. They've been canceled because there's no longer a need for that. But oysters are always regulated very strictly, and I have to speak and be very proud to say that I think that Mississippi has some of the best managed oysters and the healthiest oysters around. This is just a bad year for oysters right now. (0:38:29.4)

Hester: Is it? For what reason? Is it because of the Bonnet Carré Spillway?

Buchanan: Because one of the things they did to try to stop some of the oil (0:38:35.5) from coming in was to open and flush with the Bonnet Carré Spillway (0:38:41.7) water, and that did with that aspect, but it brought in a lot of freshwater that killed a lot of the oysters.

Hester: So opening the Bonnet Carré was not just to relieve the pressure of the water coming down the Mississippi [River], but it also would have helped with cleaning the—

Buchanan: Yeah, it helped with, yeah, moving some of the oil out. But you're right; it was for the floods as well, but I guess—I can't remember how many times since I've worked for DMR that the Bonnet Carré Spillway has been opened, but generally when the Bonnet Carré's opened, too much freshwater gets into the Mississippi Sound, and really, depending on what time of year that happens, is whether or not the shrimp populations are going to suffer, or if the oyster harvesting is going to be impacted.

Hester: How do the commercial fishermen adjust to these impacts? You've done work with them.

Buchanan: A lot of commercial fishermen (0:39:41.6) just fish for more than one species, so it kind of gives them something to fall back on. If the shrimping is slowing down, it's about time to go into oystering. And if the oystering is bad, they can go back to shrimping. It's just that sometimes that's not enough. They have to rely on—of course we haven't even hit on crabbing. (0:40:09.7) The crab pots, some people will switch to putting crab pots out, so the best way for a commercial fisherman, I guess, to survive is not to be a specialist; it's to be able to move into and around the different fisheries. And up in Maine, you have lobstermen, and if something happens to the lobsters, they're kind of out of luck. But luckily, a lot of our shrimpers are also, can oyster, and a lot of oystermen can also go out and set traps for crabs. It's just that you have that buffer of money that allows you to maybe go buy new pots if you need new pots. It's a hard life being a fisherman, but if you're a commercial fisherman, and you love being on the water, that's what they want to do.

Hester: That's what I hear from the interviews that I've taken, that they really love being on the water. And it's surprising when I ask them, "Well, do you have any hobbies?" "Sports fishing." (laughter) I mean, they do it all day long, and then that's what they do if they're off, as well, which is just amazing to me. I think it's great.

Buchanan: Yeah. I do think it's just going to get more difficult for the commercial fishermen. (0:41:29.0) As you can tell by the numbers, they've been reduced well over the years, and you've got a lot of—you've only got so many resources. And there's only so many fishermen that can make a profit, going after those resources. And if you get too many fishermen into the pot, then they have a smaller catch and therefore they have a smaller take-home pay. So it's kind of self-regulating, really. I mean, for what population you have out there, only so many fishermen can go after it, and a lot of fishermen, especially the younger generation, of course, are being trained, and they're finding other jobs. But without the clean water, without the wetlands, (0:42:17.9) you're going to have a reduced number of fish, so I think it's very important that we look at expanding the amount of wetlands that we have, and restoring what's been damaged, and protecting the ones that are left.

Hester: I'm kind of curious. I have heard some of the commercial fishermen talking about fishing the wetlands in Louisiana. And you say they do some fishing in Mississippi. I'm not too sure about in Alabama. But what are the differences between the three states? I guess maybe the regulations, how much they can fish there. Is it open to anybody in Louisiana but restricted in Mississippi, or a (inaudible) thing?

Buchanan: You know what? I don't know quite how to answer that because I don't know the fishing regulations in the other states. (0:43:10.8) I do know that Mississippi has reciprocal agreements with many of the other states and that we charge Alabama people, fishermen, what Alabama charges our fishermen to go over there and fish. So sometimes that's kind of restrictive of who goes where to fish. I know that a lot of Mississippi fishermen go into Louisiana to fish or go off of Alabama, or even as far as Texas to fish for different shrimp and different species. I can address the habitat differences between the different states. (0:43:50.2)

Hester: I'd like to hear about that, yeah.

Buchanan: In Louisiana, you have mostly low marsh, (0:43:58.8) and a lot of that marsh was destroyed, especially during Hurricane Katrina, (0:44:05.4) but in any tropical system, because the marshes in Louisiana are subsiding—that means they're sinking—because the Mississippi River no longer flows in the same pattern that it used to flow, [providing] the sediment that the wetlands (0:44:21.8) need to maintain its elevation. So I mean, basically wetlands are all the time washing away or eroding a little bit or sinking a little bit, but there's always in the past been sediment that comes in and just allows it to keep building and keep building. That's kind of why some islands are disappearing (0:44:39.0) is that in the past the Mississippi River deposited sediment on some of these islands, and it allowed them to maintain its height. But when you lose that freshwater, you lose that sediment. There's no longer anything to build up the islands. Like off of our reserve we had what was called the Grande Batture Islands, and these were some near-shore islands that helped protect our wetland system by breaking the waves and keeping the outer marshes from eroding away. Well, a long time ago, before people had any idea about diverting rivers, the Pascagoula River diverted (0:45:24.1) and now comes out to where we know it to come out, now, on the west side of Pascagoula. It's thought that the Pascagoula used to flow through our reserve many, many years ago, and that's how that freshwater and sediment maintained the Grande Batture Islands. Today, I mean, just in the time that I've worked at the office, which when I first started working about twenty-five years ago, there were still some significant areas of higher, small islands, but basically all that's left today are mud lumps. Because of the erosion that's occurring, the storms, there's no sediment feeding into them. And so you have an area now that the habitats are going to be changing (0:46:09.6) as the islands and those mud lumps erode away. Right now, they've kind of turned into really great substrate for sea grasses. So you've seen a transition from island to sea grass beds, and so the sea grass beds, which are extremely important to commercial fishing, eventually if that starts eroding away too much, it'll be too deep and won't be able to support the sea grasses. So Mississippi has mostly—and I should start off saying, there are three zones of salt marsh. (0:46:46.0) You have low marsh, midmarsh, and high marsh. Mississippi has predominantly midmarsh. Louisiana has predominantly low marsh, when you're talking about the salt marshes out front, and Alabama doesn't have the amount of salt marshes as either Mississippi or Louisiana has. Over time some of those salt marshes have been filled in and lost because of development pressure. But new wetland laws have limited that loss. And there's a word called fetch, (0:47:25.7) which it's a word that refers to how much open space is between two bodies of land that's separated by water. So the greater the fetch, the higher the winds and the waves that are generated in that area are. So that creates more erosion along the shorelines. (0:47:46.8) In Mississippi our greatest areas of erosion are occurring on both our east and west ends. Louisiana of course, all the southern part, they're saying they're losing a football-field-sized chunk of wetlands every day in South Louisiana. So Louisiana [has] more wetlands, and they have a lot of canals that were dug for the oil and gas industry (0:48:17.4) that also contributed to not only subsidence but erosion. A lot of

fishermen do go over there and fish along the marshes, and at this point I do not know that there's no limit on the number of fishermen. I have not heard that they're issuing—you don't have to get a lottery like you do in some areas to go elk hunting or something like that. But it could get that way. I do believe there are limits on offshore fishing, like the tuna industry; you have to have a permit, I think, to catch tuna. On a large scale, I think snapper fishermen have to get permits. I guess it's called a permit. But the states don't limit near-shore fishing yet, (0:49:11.0) to any degree. You still have to get a permit, but there's not a limited number of permits.

Hester: Right. What about seasonal, open season? Is there a difference in the states where maybe Mississippi is closed now, so the fishermen are going to go to Louisiana or—

Buchanan: Here's all I know. I know that often Mississippi and Alabama work together to try to have the same opening date for shrimping. (0:49:39.5) And so that kind of relieves the pressure in both areas. When each state has its own separate opening date, all the fishermen go to one spot to shrimp, and when you can spread that area out, then you minimize that intense competition in one spot. I think Louisiana usually opens before Mississippi does in a lot of cases, and it might stay open longer; I don't know. That's just a guess.

Hester: I'm going to kind of change the subject just a bit. I'm thinking about hearing about different special interest groups, and I'm not sure who all they are, but I hear about importers of shrimp (0:50:30.2) and so forth. And you've got the local fishermen, and then you have people who are doing harvesting, what do you call it? The artificial—

Buchanan: The aquaculture?

Hester: Yeah. Thank you. Do you work with all three groups? And can you tell us a little bit about their specific needs, and how you—

Buchanan: I don't do a lot of that work with all those groups. We have dedicated people within the department that work with the different factions or different elements of harvesting. I know that imports from South America and China and different parts of the world have really hurt the price that the commercial fishermen get for their (inaudible) landings. So there's a lot of work to try to limit the number of imports. And aquaculture (0:51:37.6) is just getting off the ground. I have some concerns, personal concerns with aquaculture, but I'm hoping that the people that manage it will make sure that the genetic stock is maintained, and that the pollutants generated from these offshore pens don't impact the waters. So yeah.

Hester: Yeah. And I had a question in my mind, and it just left. (laughter) What was I going to ask? I'm going to put this on pause just for a minute. (brief interruption) Many, many of the commercial fishermen are talking about the impact of high fuel costs on their occupations, on their incomes, (0:52:34.7) which is keeping

them closer to the shore because it's expensive to go way out to fish. What effect does that have on the environment and on the marshes and so forth?

Buchanan: Well, I guess I would look at it from the population level is that when you continue to take and harvest from the same population, (0:52:57.1) there could be some issues involved. I think that's why it's very important that the biologists look at the harvest size as well as the amount of different species of fish that can be taken because you have to be extra careful if you're really working on just one local population that you don't overharvest. And I think our biologists are doing a pretty good job with that. We don't seem to have issues. I remember a long time ago that NOAA noticed after the [blackened] redfish became a big delicacy that there were problems with the redfish (0:53:52.2) populations, and NOAA took actions to reduce the catch. And those seem to have paid off. There seem to be a lot of redfish out there; I hope.

Hester: Good. Yeah, which is going to benefit the fishermen, too, as well as the public.

Buchanan: Right.

Hester: Yeah. If a young man came to you and said he's thinking about going into commercial fishing, and he's asking for your advice, what would you tell him about the future of commercial fishing, (0:54:30.4) and would you recommend he pursue the occupation?

Buchanan: Well, I mean, if he just out of the blue decides to be a commercial fisherman, that's kind of unusual because most commercial fishermen are commercial fishermen because their fathers and grandfathers were commercial fishermen. I don't know that I've ever met commercial fishermen that just decided to be commercial fishermen, to tell you the truth. But I would tell them to look at the landings statistical data. I would point him to the Department of Marine Resources, and I would say, "Go look at the landings data for the last twenty years and find out what kind of"—I would look at what are the predictions on the fuel costs. Fuel costs (0:55:24.5) impact me just as they impact the commercial fishermen. And if you can't afford to drive your car to your place of business, then you probably can't afford to go out and commercial fish. There's a lot of money tied up in commercial fishing (0:55:40.4) if you're doing it on a large scale. The boats cost a tremendous amount of money. The upkeep is constant. The fuel costs are uncertain. And personally, I guess—and this is just based on me—I would say I would have to advise them to really look closely at commercial fishing before choosing it if they're going into it cold. If they don't have anybody else they know in the business, if they've never done commercial fishing, I would say, "Hire on as a mate on a boat and see if you like it, first."

Hester: If you're good at this, yeah.

Buchanan: Yeah. I mean, “Experience it. You may hate it.” I would advise that for any job you’re going into, though, not just commercial fishing, is go take a job in it temporarily to see if you like it. If you love it, then it’s worth the investment. If you don’t like it, move on.

Hester: Yeah. Good advice, for sure. The next generation, coming up, say, my grandchildren, what do you think that they’ll see as far as the wetlands and the shape of the Coast in their lifetimes? (0:57:04.3)

Buchanan: I’m hoping they’re going to see at least what we have today because I’m an environmental educator, and I want to think that what I’m doing is worthwhile. And if it’s so much—hopefully I don’t have grandchildren for a little while. Are you listening, Michelle and Katie? (laughter) I don’t need them quite yet. (laughter) I think that to me grandchildren are going to happen probably in the next ten or fifteen years, and I hope that the stewardship (0:57:42.4) projects that we have with the community, I hope that they’re making a difference. Unfortunately for every thousand stewards we have in the environment, you know what? Stewards, the people that care about the environment have got to vote. It’s all about the vote. It’s all about putting the right people who can make the right decisions, wise decision, and that can strike the balance between development and conservation. We’ve just got to make the right decisions. And I’m hoping that as the people that we have reached in our K-through-twelve programs and in college *become* the politicians, that they become more aware of and connected to the environment. I kind of see that happening, not on the grand scale I would like to see it happen, but I do see it happening. I envision a world where the environment is not a Republican or Democratic issue. It’s just the way it needs to be. And when people associate the health and well-being of everyone with—and wetlands are important, but there are certainly just as many uplands and forests (0:59:25.6) that are just as important. And to me the next step that we’re going to take is that critical uplands are protected in the same way that wetlands are protected today, and that’s pretty radical thinking because uplands owners want to be able to do whatever they want with their property, which everyone must feel that they have the right to, but once we get those upland owners to recognize that they have a jewel, then maybe we can find some way to get them to put a conservation easement on that land or find someplace to—the land trusts, (1:00:05.0) the local land trusts do so much to protect some of these critical habitats. We’ve got to get them more money to buy more land. I’m probably rambling.

Hester: No. You aren’t. That’s wonderful. I think that these are definite concerns. I mean, we want to be good stewards, and our future generations are depending on us to deliver, and these issues are so, so very important.

Buchanan: Yeah. I guess one of the things that gets me is that—you’re probably about my age. And we grew up with the American Indian with the tear coming down his eye, talking about, “Don’t litter.” And what are we doing wrong? We’ve been teaching people not to litter for forty years. How come we still got litter? (laughter)

What's wrong with us? You know? I don't know. I just have to say that. It makes me think, "What are we doing wrong?" I don't know.

Hester: I don't know. It'd be interesting to come up with some of the answers to these questions. I think I've pretty much covered everything that I can think to ask, but that doesn't mean that there's not a world of things out there that I should have asked. And you have experience with oral histories. That's something I would like to do, maybe before we close it. Could you talk a little bit about the oral history project that you were involved in with Grand Bay?

Buchanan: Well, the research reserve (1:01:43.3) that I work with is located on the Mississippi/Alabama state line in an area that was called Pecan, Mississippi. And if you ever talk to Clyde Brown, (1:01:59.0) who was the unofficial mayor of Pecan, he would tell you that you live in Pecan, [pronounced pee-can] and you eat pecans [pronounced puh-k-ah-nz]. And so I've always used that. Clyde was a former commercial fisherman. He worked at International Paper, and he was a driving force as a community member to get our reserve established and funded. And I just don't know what we would have done without Clyde. And he was one of the first people that took the buyout option, and he has moved up in the Hurley area. And I totally forgot the question. (laughter)

Hester: I spoke to Clyde Brown on the phone today as a matter of fact.

Buchanan: Oh! He's my buddy.

Hester: I scheduled an interview with him for Monday, and I'm really looking forward to it. He said, "Well, I wasn't a commercial fisherman for very long, so I don't know if I have a whole lot to say." And we got to talking, and I said, "Mr. Brown, I think you have a lot to say." (laughter)

Buchanan: Clyde Brown can tell you the greatest story ever told for that area. He knows everything. He grew up out there. He moved from commercial fishing. Then he did it part-time, but he always lived in the community. He lived it. He loved it, and today he still comes. I look forward to his visits. Matter of fact, we have a full-size cutout of Clyde, and you can push the button and hear Clyde talk.

Hester: Is that right?

Buchanan: He is Mr. Grand Bay Reserve. You have to ask him because he was a NOAA Environmental Hero.

Hester: Oh, is that right?

Buchanan: Yes.

Hester: Oh, I'll definitely write that down.

Buchanan: But yeah, so oral history. So my talking with Clyde got me thinking that, “We have to capture this. It’s going to be gone. Clyde is eighty years old, and we’re going to lose everything he has if we don’t sit down and record what he has to say to us.” And so Clyde was the first person we interviewed, and he told us wonderful—things he said to me, I’ve been able to go back up. We look at old maps, and we can document. He said, “We used to be able to stand on the railroad tracks and look all the way down to the bayou.” There’s no way you can do that today, but we know that’s the way it used to be. And so by those types of stories, we can learn how to restore the land that has now been bought out. And I say bought out by only-willing sellers. We don’t take land by eminent domain. We try to be very good neighbors. And so how can we restore it? And by listening to the stories that they tell, that they heard their grandparents tell, we know what it used to be like, what used to go on in that area. And I can go out and find some of these sites. Like the birding trail we have, his mama used to live down at the end of it. That was Edna Lane. He used to call it Edna Lane. His mama’s name was Edna. So there’s lots of Browns, lots of kids. He’s one of twins.

Hester: Is his twin brother in the—I’m taking it brother; maybe it could be a sister. But—

Buchanan: It was a brother.

Hester: Is still in the area?

Buchanan: Still in the area. One of his brothers operates a bait shop down near our boat launch. He has a piece of property down there. One of his brothers has not sold his land and still lives back off the main roads, back in the reserve area. But all of his other brothers have moved out of the area, but when I say moved out, they were within—they’ve moved to high ground. I think Clyde, I can’t remember how many times he was flooded, maybe seven times. And as you get older, it’s harder to recover from a flood, and you just can’t do it anymore. Another good person was Milton Southern(?) that lived over there. He’s worked for the DMR, and he was a postman, but he did some fishing at times. He lives up north of us, where you were the other day.

Hester: Franklin Creek area?

Buchanan: Yeah, just north of Franklin Creek, yeah, up in that area. He could tell some stories. And that’s what’s really great is sitting down with these guys. The Storks, a lot of the Storks, you talked about the Storks. So I interviewed Cecil, and I interviewed what is her name, his sister? I blanked. I can go back, and I can give those to you if you want to listen to them.

Hester: I would love to.

Buchanan: Welcome to share them with you.

Hester: Yeah.

Buchanan: But yeah, so that's how we got started doing it [oral history interviewing] (1:07:18.7) is trying to figure out, "What was this land like before we got here?" And one thing Clyde did before we came onboard was he had taken a video camera and went all the way down the road, and he tells, "Oh, such-and-such lived here, and such-and-such lived over there." And this was still when there were houses on Bayou Heron Road, and there aren't anymore. So we've got that.

Hester: You've got all that recorded. That's great. So I mean, that is hand-in-hand with the fishing community, the local community, and your facility out there, taking care of the property and taking care of the environment.

Buchanan: Right.

Hester: That's just great.

Buchanan: And it all comes down to—and we didn't touch quite on it. We may have mentioned it, but it's watersheds are what's important. (1:08:09.1)

Hester: Explain that.

Buchanan: Watersheds are that area of land where when it rains, all the water drains to one main area. So take the Pascagoula River Watershed. The Pascagoula River Watershed, which is just due west of our facility, the Pascagoula River is one of the largest undammed—if not the largest undammed—river system in the lower forty-eight states. (1:08:37.3) Who would have thought Mississippi had that? But when you look at that, and you look at the Gulf of Mexico, which we share most immediately in common with the other Gulf Coastal states, we have the Mississippi River that flows into it. So everything that happens within that Mississippi [River] Watershed (1:08:54.6) winds up in the Mississippi Sound. So we have to not only take our message to the local three coastal counties, but we have to take our message to Iowa. We have to take our message to anywhere the Mississippi River flows, anywhere the Pascagoula River flows. We have to go up those watersheds. We can't just sit and protect our own little yard. It's got to be everyone protecting it. And so that's where we as an estuarine system of national estuaries, National Estuarine Research Reserves, we work around the nation from the Great Lakes to the West Coast to the East Coast to the Gulf Coast. There's twenty-eight of us, and we all try to educate not only in our area but up the watershed (1:09:38.1) so that eventually we'll have some control of those waters entering into the Gulf and that our fisheries will increase as the water quality increases. (1:09:51.0)

Buchanan: And you have a big meeting coming up in Alaska, and I think you put an abstract or a proposal out for a talk. Could you tell us a little bit about that? And I

guess this is a place where all the National Estuarine Research Reserve people get together and share.

Buchanan: It's where all the marine educators, both freshwater and saltwater come together, informal educators, formal educators, K-through-twelve educators and make presentations on what they're doing, how they can help other teachers. And so the theme this year in Alaska (1:10:32.9) is very heavily toward science and culture, art and science, and so my paper that I put in to be accepted is called "The Nature of Oral Histories" showing how history and scientists work together to try to solve problems, or in my particular case was how we could find out how to restore our lands back to what they used to be by talking to the old-timers, not all old-timers, but the experienced and knowledgeable former residents of the area.

Hester: And the name of the organization is, the conference in Alaska?

Buchanan: The National Marine Educators Association, NMEA. (1:11:18.8) And so we have our local chapters, and our local chapter is SAME, the Southern Association of Marine Educators, (1:11:29.1) and we host the meeting the year after Alaska in Mobile. So all the marine educators will be down here in Mobile the year after next.

Hester: Again, there are many, many areas that I could have covered and just hadn't thought to ask the questions. So I'm going to open the floor to you, and especially since you've done oral histories and [you're familiar] with the work they do. What would you like to put on the record?

Buchanan: Well, I think one of the things that makes oral history successful is for the people who gave of their time, to see how it's being put to use, and that's why we created an exhibit in our interpretive center because we felt that the cultural aspect of the estuary (1:12:23.4) was just as important as the environmental aspect of it. We didn't want to lose it so we made sure that we had our little cultural corner for I guess posterity. I mean, we just want to make sure that the history is never lost. We're hoping that people can—if I can get these transcribed, then people can actually access the data. I look at it as a tool, more than just an archival project. I want us to be able to use it.

Hester: And these are the oral histories that you've taken—

Buchanan: Right, um-hm. And the DMR is also doing oral histories with fishermen as well.

Hester: Oh, really? It's ongoing right now?

Buchanan: I believe that's Traci's project. They've done some capturing, and they've actually created a little video, short video where they have several of the fishermen talking. You should get a hold of that and see that. And so yeah, I just

think we all see commercial fishing as a way of life that is changing rather quickly, and we don't want to lose the lessons learned from those experienced fishermen. So I guess that's what I have to say.

Hester: That's great. That's great. Well, thank you so much for doing this for us.

Buchanan: You're welcome.

Hester: And I will go ahead and turn off the equipment.

Buchanan: OK.

(end of interview)