

Hilary Lohmann: ...your affiliation.

William Tobias: Certainly. My name is William Tobias. I'm known as Toby. I have been known as Toby for fifty years here. And my affiliation: I was a former fisheries biologist for the Division of Fish and Wildlife. I retired after thirty-one years in 2010. I also serve on the Fisheries Advisory Committee for the island of St. Croix and for the Caribbean Fishery Management Council on their advisory panel as well—for the district.

HL: So, we'll jump into things. What is your earliest memory of Great Pond?

WT: My earliest memory of Great Pond goes actually back to the first time I stepped foot on St. Croix, which was 1972. I was a student at West Indies Laboratory on the east end of St. Croix—one of the first groups—and they toured the students around the island on one of the days, and we stopped at Great Pond. At that time, I don't recall any mangroves growing in Great Pond per se, except what was along the fringe on the ocean side. And there was quite a fairly large opening in the channel area.

HL: What are some of your fondest memories of Great Pond?

WT: Fondest memories of Great Pond. Well, related to fisheries, it was when we conducted a two-year study in there looking at the mangrove habitat as nursery grounds for recreationally important fish species. This was back around 2000, 2001 per se. I have some very fond memories of being a Cubmaster and a Scoutmaster utilizing the Howard Wall facility at Great Pond. And I can recall vividly taking the Cub Scouts down to Great Pond and having a mud man contest, where there were the scouts would walk into the pond, and they would try to get as muddy as they could. And there was a contest winner for doing that. On the way back to camp, we would wash off and everybody would be somewhat clean after that. So, they were some of my fondest memories. Also, I should say, fishing at the Boy Scout camp. I'm not going to say exactly where because I don't want to disclose any of my secret locations. But, there are some very good fishing along that shoreline.

HL: So you already described briefly what the Pond looked like at the mangroves along the fringing edge. Can you talk about some of the species that you encountered there in Great Pond during your time in the early days before it is what is it today?

WT: As I recall, before we started our studies in the Pond with Fish and Wildlife, there was a family that had a little store that was to the north of the Pond. I've forgotten what the name of the person was though. But they recounted the fact that the Pond had been, at times, six foot deep. Now when we were doing our fisheries work in there, in around 2000, the water was anywhere from a half a meter to not quite a full meter in depth, depending upon where you were in the Pond. Deepest towards the channel area.

HL: And can you describe the state of the Pond at that time? Like how did it make you feel to see Great Pond? Were you enamored? What were some of the feelings that being in Great Pond?

WT: Well, I remember the first time seeing Great Pond on the island tour with Fairleigh Dickinson University. I remember the vastness of the Pond itself. How much open water was in there. At that point in time of course, I didn't do any fisheries work and really never fished per se in the Pond.

HL: What are some of Great Pond's most important uses by the community over time?

WT: By the community over time. Obviously, there were those that enjoyed fishing in Great Pond and catching crabs—Blue Claw crabs in Great Pond. From my experience at the Boy Scout camp, Great Pond's shoreline was always frequently inhabited during the weekends and during extended holidays by campers. They had a number of beach sites set up as camps. And they had boats that were pulled to the shoreline or directly offshore. And the whole family would gather and harvest what they could—not from Great Pond itself primarily, but from Great Pond Bay as well.

HL: Can you speak a little bit about what the fish populations or the biodiversity of Great Pond looked like at that time? What were some of the species that you were seeing?

WT: When we did the study in Great Pond, we used fish traps in four different locations where the water depth was deep enough. And we also used seine nets. The seine net was done in more open areas where there were no mangroves growing. The traps themselves were placed next to the red mangroves that were in the Pond or near the mouth of the Pond. And through the course of that two-year study, there were well over fourteen-hundred fish that were caught in traps and also in the seine net. The primary species in traps—in association directly with the mangrove prop root community—would be two different types of snappers: a Schoolmaster Snapper, a Gray Snapper. And what is commonly called silvers, a family of Mojarra. Yellowfin Mojarra was most abundant as well as Slender Mojarra. In terms of the actual seine netting area, most of the open area was—we found Mojarra. Yellowfin Mojarra, Slender Mojarra. More than I think ninety percent of the fish caught were of that family. In both the traps and the nets, we caught something like seventeen or eighteen species of fish and almost as many families of fish. What was interesting is that, although present and lower abundance, there were three very important recreational fishes besides the snappers. There were Permit, Bonefish, and Snook. And immediately offshore if you were fishing there today, probably Snook would be the most abundant.

HL: What were some of the other species that you saw at Great Pond during this time? What about like birds, reptiles, anything like that?

WT: As a fisheries biologist, we didn't concentrate on the terrestrial aspects. However, Great Pond has always been an extremely important wading bird habitat. Particularly as the Pond became shallower over time, the species and the numbers of wading birds increased. As a matter of fact, you can probably speak if you have not already to Jennifer Valiulis, because I think she was also part of the island-wide bird study that would have been conducted and probably has some good numbers on what type of wildlife was found there.

HL: When you think of Great Pond as it is now, what do you picture? What is its ecological state?

WT: Well, it no longer has the ecological function that it once had but could have again. Great Pond, and a number of the coastal ponds around St. Croix, have prematurely aged. By prematurely aged, I mean that their ecological functions have decreased over time. That's primarily due to closing off of the pond, reduced water exchange, shoaling on the pond, and input of sediment from upland sources.

HL: What ecological state or community uses do you want to see improved, restored, or added to at Great Pond?

WT: I think the community at large would like to see Great Pond enhanced and improved as important ecological habitat again. The key in Great Pond is, of course, flushing. That one channel has become blocked over time due to sediments that had been deposited along the baymouth bar, accretion of sediments in the front with the—well in the last five years, with the increase in Sargassum that's been produced. That gets added to the shoreline and included in the sediments and contributes to blocking that area off. The other key is, besides flushing, is mangroves. Now, mangrove propagules need a certain water depth in which to become established—in which to feel the bottom, touch the bottom. And the propagules are maybe twenty inches or twenty centimeters or so in length. And once they touch the bottom, then they can start rooting. Initially when we started our Great Pond study in 2000, only in the far southeastern corner were there really heavy mangroves. But, because of the siltation of the Pond—the shoaling of the Pond—those propagules that were produced in the southeast by wind and current wave energy in the Pond actually were able to touch bottom and root, and then take over the pond. At that point in time, the pond depth was very shallow.

HL: What do you remember about the impacts of major hurricanes like Hugo and Marilyn to the area of Great Pond?

WT: I can't say that I remember exactly what happened there because we weren't conducting any studies there at that point in time. I can imagine what had happened. With the increased deposition of sediment along the baymouth bar, with the rainfall in the upland watershed, increasing the sedimentation down into the pond. Failure of the retention ponds around Great Pond to perform their actual function. Once they become overfilled with sediment, then they no longer contain anything. And that runs down to sea. There's been quite a bit of development that has occurred in the upland watershed there over the course of time. One of the problems I see is that in the development of our now new comprehensive land and water use plan, it's going to be essential that we create a one-tier system. Not a two-tier system, but a one-tier system so that the same strict environmental standards are held to those that build inland up in the watershed as to those that build along the coastline. One of the things that I think can be done is what's called a Reef Recovery Act. And this is an idea that I have that I would hope one of the senators may pick up and move this along. But that developers—whether they be homeowners or businesses—as they develop in the watershed area, typically what they do is they create a pad, flat area from which to construct their structure. If they don't consolidate and compact the fill on the property, what they end up doing is they push it off to the edge. They may put up a sedimentation curtain,

but that doesn't hold the sediment onto the property. What I would like to see is that the developers have to pay a fee for any non-compacted fill generated by their site. That fill then would belong to the Virgin Islands government to be stockpiled and used for various construction or road projects, what have you. But this takes that extra sediment that's pushed over the hillside from entering the coastal waters.

HL: So, we talked about sedimentation [inaudible], but what are some things that you think have contributed to the change and degradation of Great Pond in addition to sedimentation?

WT: Well, we've talked about hurricanes and major storm events as one thing. As the Pond shoaled, the temperature increased tremendously within the pond beyond the point that organisms can live within the pond. So, I'm sure what followed was a mass fish die off of anything in there. Then of course, the mangroves gradually died. Destructional forces of wind also would denude the vegetation and can result in mangrove death as we've seen from Hurricane Hugo—various other estuaries around St. Croix.

HL: What are some things that you think can be done to slow down or stop the degradation of Great Pond?

WT: We need to talk about the upland watershed for one thing. And I mentioned before that there needs to be maintenance on the retention ponds, of which there are a number around Great Pond. The government needs to, as I mentioned, develop this—what I call the Coral Reef Recovery Act. In other words, to remove the non-compacted fill that's left on the properties from washing down into the coastal areas. There's an interesting issue in regard to Great Pond in terms of opening Great Pond. You have to be able to open Great Pond in a manner that is not going to entail maintenance dredging over time. And that takes a lot of engineering input in order to be able to do that. In the '50s, early '60s before Krause Lagoon was developed—that was the largest mangrove estuarine system in the Northern Caribbean. And I have no idea though—but I'm sure by researching early photos, you can see what the shoreline looked like at that time at Krause Lagoon. Was there one opening, were there many openings? Were there islets of mangroves fronting Krause Lagoon that allowed for the water exchange to occur? And I think this is something that needs to be given some thought in regard to Great Pond. Great Pond—it was at least a half-acre or more in size, or half a hectare rather. And it's a fairly large system in order to deal with at first. The University of the Virgin Islands has a series of—or actually two ponds that are termed UVI Wetlands or Billy French ponds. And these are much smaller ponds that also become landlocked because of the buildup of sediments along their shoreline. And it would be very interesting to be able to study that coastal wetland in terms of improving it as a pilot study, prior to doing something into Great Pond. The Billy French ponds had many species of fish. I can recall during my tenure at Fish and Wildlife being called because of fish kills that occurred in those ponds because that baymouth bar became closed off, and also because of problems with the lift station—the sewage lift station in that area and subsequent discharges that were sent to sea, which entered the pod. And I can recall tarpon, snook, ladyfish—you know, a number of important species that were killed by the thousands.

HL: What is the story about Great Pond that you would hope to see endure over time and change?

WT: I'm sorry, would you repeat that again?

HL: What is the story of Great Pond that you would hope to see endure over time? What do you want people to remember about Great Pond?

WT: Well, the fisheries potential of Great Pond can be tremendous. I look at a study in Great Pond as something that can be applied elsewhere—on the coasts, other coastal ponds around St. Croix, all of which have prematurely aged because their sea exchange has been reduced or eliminated. I think that this is perhaps a key in terms of our fisheries. Because St. Croix is an oceanic island. By oceanic island I mean that it's surrounded by very deep water. It's forty nautical miles between St. Croix to St. Thomas or St. John. Between that distance the water's over ten thousand feet deep. The larval exchange for juvenile fish or shellfish—conch and lobster—would not be available to St. Croix like it would be available to the northern islands that sit on a larger platform. BVI [British Virgin Islands], St. Thomas, St. John, Puerto Rico, etc. I think that St. Croix fisheries exist primarily on what is recruited back to St. Croix, originating from St. Croix. In other words, currents primarily are from east to west, but yet there are key times of the year when these currents reverse and travel from west back to east. And that's the time when the larval recruitment occurs specifically on St. Croix. Coastal wetlands, such as Great Pond, that are known to have recreationally and commercially valuable fish species need to be rejuvenated so that they can once again perform the functions that they did in past.

HL: Who else should we ask about the history of Great Pond?

WT: Who else should you ask. You probably have everybody that I know of. You might want to speak to Dr. John Ogden, formerly of the Western Indies Laboratory. Dr. Dennis Hubbard, who I believe conducted sediment core studies in Great Pond. I don't know if there's anyone else that you haven't contacted already. You have a plethora of individuals that you've been interviewing, and many of whom have more experience in Great Pond than I have.

HL: [inaudible]

Unknown speaker: Sure, so I'm glad you mentioned the comp plan—the comprehensive land and water use plan. They do have a component in there that does talk about policy changes to [inaudible] permitting [inaudible] projects. So, bringing that tier-one, tier-two division may not necessarily be eliminating (but blurring?), so you can see what happens higher in the watershed and what happens down below. So this project is—(we're treating it?) in a bubble, we're coming up with a plan to say improve the title of the [inaudible] or sewer flushing, but nothing should be kept in a bubble. So, what are some of the other things—which you have mentioned, but summarizing—what are some of the other important things that DPNR [Department of Planning and Natural Resources] or anybody that wants to focus on restoring Great Pond or any other salt pond or wetland area should consider? In addition to the restoration project, but policy, education, other things. Can you summarize just what you think those other things that are important not just to do the work here, but actually, in terms of preventing it from falling into the state it is now again—things that could be done to prevent this happening again? Or, to just continue to improve upon it?

WT: I know that private landowners—I'm not going to mention who in particular—but in another large, mangrove-lined lagoon have restricted flow over the course of time. Whereas there would have been two openings, now there's only one opening. And there needs to be a delicate balance here in terms of coastal development and ecologically important natural features. And I think that's been missing over time. The government has established SNAs, Significant Natural Areas, and APCs, Area of Particular Concern. Sometimes there needs to be a bit more teeth involved in these areas for protection. I know one of the issues at Great Pond has been disposal of unwanted material. The shoreline from time to time—where you could access by vehicle—has had many derelict vehicles and discarded items where people have felt that it's out of sight out of mind—“I can get rid of it here rather than take the extra effort and dispose of it the way it should.” Also, Easter time is a very important recreational period for the locals. And it's a very important camping period. And many individuals set up camp. But because of limited space, they create more space by cutting and pruning and bringing machinery in to remove shoreline vegetation. The response from federal agencies and territorial agencies has not been the way it should be in these cases. The shoreline encampments that are created over a two-week, three-week period for the Easter time actually extend now to a month, two months. And many of them are not removed unless individuals take it upon themselves to clean up the area. It's an interagency problem that we face, and all the agencies have to be on the same page, including the legislative and judicial branches. Because unless you've got everybody working in that same direction, it doesn't happen. A lot of the good enforcement that's done does not reach fruition because judicially, it's not deemed significant in terms of environmental impact when it actually is. I think that in this regard, informing and creating some type of platform where various individuals in these agencies can be brought up to speed in terms of how important these areas are, and why they need to be protected. That until that happens, then we'll continue on the same path.

Unknown speaker: How important do you think education is in terms of this? I think you're actually the second person to mention having taken a tour and seen this. Do you feel currently it's just [inaudible] people aren't aware—the average person, the average child going to school is just not aware of how precious this is as a natural resource? Do you think some sort of educational element would improve, based on your experience having seen it from the West Indies Laboratory or at Farleigh Dickinson University [inaudible]. Do you feel like that's declining and that should be something that should be part of this restoration plan?

WT: Education is a very big key. And it's not just with the schools and the school children. But it's also, like I said, the parents, legislature, legislative, executive, and judicial branches of the government that need to be brought up to speed. Perhaps as part of an Environmental Day, to have these individuals representing the department taken around and given personal tours and an explanation of why these areas are significant. There's a starved wetland that's just west of the container port. When Hess was operating, they had a tremendous volume of seawater that would be used for cooling that was discharged. An opportune time would have been to discharge that through this wetland area and renew the wetland area. It would have required modifications to the culvert system that were put in along the road to the new molasses dock, but that still can be done, provided that they have the volume of water into that pond. This is another, you know, potentially great fisheries area and wildlife area. And once these areas are reestablished, it

represents a whole new concept of visitor interest where tours can be started to take individuals through these areas to look at wildlife through blinds or even hands-on type of activities.

HL: Alright, thank you.

WT: Let's see if I have some questions for you?

[Inaudible]

WT: Actually, I think I've covered everything. [laughter] Well, I hope this has been helpful.

Unknown speaker: [inaudible] absolutely [inaudible]. I mean everyone we've talked to—we've talked to a lot of [inaudible] very, very helpful.

WT: Now—you're going to take snippets of this and put this together with all the others to make a presentation?

Unknown speaker: Yes. Presentation video, we will use video from these interview themselves, some drone footage, historical photos [inaudible] photos. There's others [inaudible]. So kind of—almost like a mini documentary, just like three or five minutes to run through [inaudible] things as we've talked about—history and fish, and other [inaudible] to this project as it ties in. But this portion of the project is to kind of also just record the history—whether it's used for anything specific. It just reporting [inaudible]

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