

TRANSCRIPT

INTERVIEWEE: Henry Hildebrand

INTERVIEWERS: David Todd and David Weisman

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DAVID TODD: My name is David Todd, it's February 21, year 2000, and we're in Corpus Christi, Texas, in a small community outside of town, called Flower Bluff, and I'm representing the Conservation History Association of Texas and we have the good fortune to be talking with Dr. Henry Hildebrand, who's a marine biologist and has taught at a number of institutions in Texas, and I wanted to take this chance to thank you for sitting with us and visiting. I'd like to start by asking you about your early days, and if there were family members or friends that might have interested you in the outdoors and in conservation?

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HENRY HILDEBRAND: Well, I was b—born in a little farming community in Kansas and, as far as family is concerned, I had an uncle that was a distinguished scientist in the National Marine Fishery Service, which was called the Bureau of Commercial Fisheries then. He worked in Panama and the Florida Keys, in North Carolina, he lived in Morris. And I went to school in the University of Kansas and there we had C.D. Bunker, who was in charge of the museum. I got a job early in the Museum of Natural History, and then we had a distinguished herpetologist in Taylor and then we had the anthropologist in Lauren Isley. They were outstanding teachers at the time. From Kansas I went, of course, to the Navy in World War II, and then I came back from the Navy and went up to McGill University in Montreal, Canada. And there I worked with Canadians on a project in Ungava Bay which is up at the Northeastern tip of Labrador. And there we did a survey on seals and—really to try to improve the food base of the Eskimo people up there. We—I can't say that we had any great success because their resources are pretty slim up there. But we did have some success in the fishery up at one end of the bay that the Canadians tried to develop—I

don't—I'm not aware of what their recent success is. And then I went from McGill—I got my Master's and went to Seattle, and from Seattle I worked with a survey of the King Crab in—in Bering Sea and on a tuna expedition up the coast of Canada into Alaska to see the—how far the Albacore Tuna was moving North. And then I went from—I

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didn't finish a degree at the University of Washington—I went to the University of Texas. And there I had Gordon Gunter(?), who was my major professor. He's the one that guided things along. We started with a survey of the shrimp grounds, both the pink and the brown shrimp. They were a relatively new fishery. I came to Texas in August of 1950, and the fishery for the brown shrimp started about 1948, and for the pink shrimp about 1950. Soon we worked—worked on—the whole year been going out each month sampling the catch that the—the—the boats brought up. Th—then we had certain other things that happened, we had a severe freeze that lined the—the beaches with fish, which I studied in '51, and then I decided to work on something with the fisherman, kept telling me that the shrimp catch of white shrimp improved with rainfall. So, I tried to correlate that and—and we got a positive correlation, but in the data's kind of loose in that we had to use the total rainfall of Texas and the statistics that we had available. Then from—from those two things I went to—well I—I started to gather algae along the coast to make—make a study of the algae because there was no listing of algae from Texas. And I worked with Dr. Hum(?) on that. And then—then the other thing was we did—I did a beach and tar survey from the Rio Grande to Key West, and I have a process report that I did for the oil company. We got in the jeep and—I got in the jeep and traveled all the beaches I could from—from here to Key West. Of course, you don't have too many beaches in Florida and you have practically none in—in Louisiana. You have, of course...

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HENRY HILDEBRAND: and that's about it. And, from there I—I went to Veracruz for a short period of time one year. And while I was there, David Caldwell(?) wrote me a letter and asked me to look into the turtle situation. So, I started asking the fishermen about turtles and we spent a series of time on the—on the turtles. I—I had friends along the coast and they were extremely helpful, and so we got the location of the nesting grounds at Rancho Nuevo—or if the turtles nested elsewhere, or if they moved from one spot to another along the coast. So, what eventually settled it was, of course, I went to the nesting grounds and there were—were not the great masses turtles there were 20—10 years before. But, I did—a friend of mine located a film in Tampico, Andre Sherera(?), and he was kind enough to loan it to me and let me copy it, and it showed a mass nesting of turtles during the daytime, which is unusual because turtles usually nest at night—sea turtles do. And—and so, in checking fishermen everywhere I—I traveled the coast from Belize to—to Louisiana and Cameron, Louisiana and talked with a lot of people and so forth. And sporadic turtles nest elsewhere they—oh I would say less than a dozen nested on Padre Island. We seem to have at least good data from East La Guada

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to—which is near Carmen, Mexico, down on the Yucatan Peninsula to Porter Ranches and talking with people—I think they go at least as far as Durney Islands and used to nest as far but those are only sporadic ones. Along Texas and along the Veracruz coast you have sporadic nesting all along the Veracruz coast. Now, from turtles we—I got interested in the pelican because it was disappearing. We got down to—according to my record, only three pelicans nested on the Texas coast in 1963 and they used to occur by the thousands here. So, we started making counts, doing—flying—overflights and we also added into the—the mix the whole wading bird population. So—with—there was other people, Clarence Cottam, the Welder Wildlife Foundation, Gene Blacklock were very active and we finally got the Parks & Wildlife to cooperate with us and to

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provide a plane for the overflying. And during that time we—we flew the Mexican coast because I—I had quite a bit of interest in the Mexican coast, I had made—I had traveled as much of it as I could and—and I spent considerable time in the Mexican Laguna Madre doing studies. So, I went from—I—I also spent '69 and '70 sampling eggs for Curt King(?) and Ed Flerchinger up in Victoria, they had a pesticide lab there so we had a couple papers on pesticides, and I did the field work on most of that. On a good part of it. And then in '72, I went to the new study at a power plant. The—we spent six years on that study of the power plant, they were very interested in changes before and after but—and the climate is so variable that you—you can't tell too much. And then—then I left teaching altogether and I did a little consulting work, not too much, but a little consulting work until I retired and that's about it.

(misc.)

DAVID TODD: Dr. Hildebrand, I'd like to ask you about some of the marine ecosystems that you've worked on, particularly the Laguna Madre, and I was wondering if you could tell me what makes the Laguna so distinct?

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HENRY HILDEBRAND: Well the—I think it's overblown. The real difference between Laguna Madre and the upper coast is regulations. In the early days, Galveston, that area, produced most of the fish in Texas, and the Laguna produced very little. But now it's the big ranches and so forth, it's more or less undisturbed and but, it's—it's got its problems because the amount of fresh water going into the Laguna Madre through the Nueces and through the Rio Grande is much less. They used to have a flood on the Rio Grande about every two or three years and that went in the Lower Laguna and it had a very different regime from the upper Laguna above Delanca (?).

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We have records of two years in '28—'20—'27 and '38 in which the upper lagoon became too salty for fish, according to the newspapers they all died. And then the rains came in the fall and the fish and the fisherman went back down in the Laguna. And we have the Mexican Laguna, which is more variable than our Laguna. It occasionally—the passes all close and it goes salty and it has brine shrimp like the great Salt Lake, and you can't catch a fish yet—just before it goes real salty the landings are great because the fish are crowded down toward the pass.

DAVID TODD: You said that the inflows into the Laguna have changed...

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HENRY HILDEBRAND: They've—they've changed—they've changed drastically. The main inflows came from the Mexican rivers—from the San Juan and—and the Sabinas

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and so forth. La Contro too. But the Mexicans have dammed those, they've—they've put in three dams on the San Juan, the third dam they did not need except to supply water to Monterey, so no flood water goes down the San Juan anymore to—and that's made serious problems for the farmers in Northern Tamaulipas because they use Sugar Dam—Azucar Dam to hold water for the irrigation supply, and they don't have it anymore or they get a little bit from the Nueva Leon, but not enough. And even hurricanes do not produce enough water to—to overtop those dams. Gilbert produced very little water and yet, Monterrey was flooded. So you—and then we've got the big dams on the Rio Grande themselves, which Amistad

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and Falcon, which cut off flood water. Even the flooded Laredo didn't produce any—any water for the lagoon. What we have to depend on now is El—El Nino bringing excess water to the lower coast. It falls below the dam mostly and provides water, but that's very infrequent that we get the El Ninos. So, to my mind, the upper Laguna was kept productive by the Nueces River and the lower Laguna by the Rio Grande by floods in the Nueces and so forth because when the Nueces flooded all that water went out Corpus Christi pass and that was a natural pass and what didn't go out, went down the lagoon. And after they built the ship channel, Corpus Christi pass closed and there's talk for a great number of years about opening the Corpus Christi pass but it would do very—very little good and not—and it would endanger the naval airstation here in Corpus, which is where most of our employment comes from now.

DAVID TODD: Well, speaking of channels, could you talk a little bit about dredging in the Laguna and whether that's good or bad? If it helps circulation or if it harms the sea grasses?

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HENRY HILDEBRAND: Well, dredg—dredging you have a—a problem though, one thing is that the grass beds were not as extensive as they are today. I mean back before the Hurricane Beulah, which is in '67, the amount of grass was much less in the lagoon. But, there's no doubt that dredging does considerable harm. We've had various projects like shale dredging in Galveston and San Antonio and Nueces Bay—we opposed to that shale dredging. Eventually, we got it—well, eventually they shut it down. I think they more or less ran out of shale but there was still some shale left. Now to my mind, the only economic way to handle that spoil in the lagoon is to put it on the big ranches, it won't—won't cause that much harm, but the big ranches are opposing it and they—they have their lawyers busy, that there will not be any disposal on the big ranch. They're talking now of pumping it offshore, which is an ex—very expensive procedure to handle it. I don't know that the fishery will adjust it. But, talking about the fishery, 65 to 85% of the fishery in the days when they had nets and all that were black drum they weren't red fish and trout and flounder. They made up a very minor—they were really a minor part of the fishery in the lagoon. And it's—today, of course, black drum is the only thing they can fish. But the—the Parks & Wildlife is—is going to all co—commercial fisheries cease. Talking about closing bays to—to shrimp fishery and then that's the only way we get to popcorn shrimp that most people can afford, is from the bay fishery. And a number of people get employment, there's no reason to close the bay fishery in my mind.

DAVID TODD: I see.

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HENRY HILDEBRAND: I've watched it for 50 years and it goes up and down, it's an annual crop and whether the environmental conditions are good or bad, depends on what the yield will be.

(misc.)

DAVID TODD: Go ahead.

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HENRY HILDEBRAND: As far as the value of fishery products are concerned, the upper coast is much more valuable. They have more shrimp, they have oysters and crabs, which are high value compared to—to black drum down here in the Laguna Madre.

DAVID TODD: Well, could we talk a little about the fisheries? I know you've studied shrimp over the years. Can you tell us a little bit about how shrimping has changed when you first began studying it and the shrimp yields?

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HENRY HILDEBRAND: Well—well, of course, the gear has changed. The offshore boats, a lot of them are refrigerated trawlers and they're a bigger size and—and the fishermen have

to spend more money to get a boat to do—do the fishing. There has been changes in the nets and so forth. We used to use a net about 100 and 120 feet wide and it had leads on the lead line so that it more or less dug in the bottom and so forth. Now and the nearest—they tow smaller nets—but they may tow two or three of the smaller nets. So you have that change in the—in the fishery. And then—then in the bay fishery we didn't used to fish the brown shrimp. Really, I think John Noe who was a Quartermaster in the Army, when he got out called some of his friends in Ohio and various places to sell the smaller shrimp. And we—we had a—a big increase in the amount of shrimp caught in the spring. Another thing that has happened is in the boats—Mexico closed a fishery along the Mexican coast to the U.S. in—completely in 1980, and that left all the boats that used to fish in Mexico and Brazil did the same thing and the Guyanas, so all those boats came back to Texas. And then we had the Vietnamese come in and—which the government helped them get boats so they could make a living and the Vietnamese were fishermen—they might—they just pushed it real hard. There wasn't a great number, but there was conflict between the Anglos and the Vietnamese originally. And some fish houses preferred the Vietnamese because they would work harder and—and for less than—than the Anglos. So we had a change in composition of the

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fishermen and we've had a steady decline in the number of shrimp licenses. That has happened, as a friend told me from Mi—Mississippi—we—in Mississippi we've had a big decline in Texas because Texas is buying out the licenses. They don't let them fall economically they—the fishermen hold onto their licenses to sell them to the state, so that's what we have there. And—and I don't see that when you go down to Mexico to Laguna Terminos, which is a large estuary bay, the Mexicans have always closed that to shrimping, but the shrimping offshore goes up and down like the—ours does. And Mexico is having real difficulty now and the shrimp catch is way down. Of course, the Corpus Bay was—we've been studying that, it was down 75 %, the bay fishery this year, which is—makes it a drastic job for the fishermen to make a living.

DAVID TODD: Well, do you think the shrimp populations suffer from the fishing pressure or is it an annual problem?

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HENRY HILDEBRAND: No, I don't think it's fishing pressure, I—I think it's environmental conditions entirely. I heard the fellow in charge of shrimping for the Parks and Wildlife make a—tell the Texas shrimper in—I think it was March, I'm not sure of the month, that this year would be the second best in history and here we have a 75% decline. Something is wrong with their sampling method that they—they did not come up with the figures. Certainly the—an annual crop—it's very difficult to overfish. The same way with growing wheat in Kansas. You have a good year when the rains come, you have a poor year when it's drought. You may not even be able to harvest it, it's so little. And that's the same way with shrimp. And they say, well, the water is wet there isn't any difference; there is quite a difference.

DAVID TODD: I understand that a lot of shrimp now come from shrimp farms. What do you think about the environmental pluses or minuses of farms?

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HENRY HILDEBRAND: Well, shrimp farming—Ecuador and Thailand are the two biggest ones, China used to be big, but they got a virus disease and wiped out millions of pounds in one year and China imports very little, but we—between Japan and the U.S., most of the farm shrimp are—are purchased by those two countries. And they come from India, Bangladesh, and Indonesia, the Philippines, all food poor countries, and we are not producing what we should.

DAVID TODD: Do you think there's much risk from the viruses in a shrimp farm escaping or the exotic shrimp escaping?

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HENRY HILDEBRAND: Well, I think there's considerable risk that—I—I talked to the Parks & Wildlife when they had their annual meeting in Aug—August to—to get information from interested citizens and so forth. I suggested they—they get a disease program and get a—get it underway. But, they didn't even grunt, they didn't do anything. And even today, Texas A&M at Bryan has one man on shrimp disease. And it's—it's apparently a serious problem because one of the viruses is called White Spot and it occurs not only in—in shrimp, but in crabs as well. And crabs are known to be infected in Texas, so whether part of the problem this year comes from disease nobody knows. They—Parks & Wildlife seems to think that it doesn't. But...

DAVID TODD: Why do you think Parks and Wildlife or Texas A&M were reluctant to put much effort into studying or protecting against disease?

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HENRY HILDEBRAND: Well, I think most of their money is spent on sports fishing and they just don't have the money. I—I mean the priority they allot to it is not there. They have no sympathy for commercial fishing at all. They want us to—which we're doing now—you go over to Porter Ranches and have fish, you go over to Rockport and have fish, what do you get? Alaska Pollock. When I started in fisheries 60 years ago, Alaska Pollock could only be sold to the Mink farms. And the Arctic Fox farms. And today it's the largest fish—largest fish supply that we have of any single species, is the Bering Sea and the Gulf of Alaska Pollock fishery. When I was on the crab survey in the Bering Sea, we caught great numbers of Pollock.

DAVID TODD: Why do you think that the fishery has changed there in Alaska and here in Texas? Why aren't we getting the fish we used to?

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HENRY HILDEBRAND: Well, Alaska fi—of course, fisheries—has always been a major employer and income for Alaska, with the Salmon—five species of Salmon, the—the Herring and Cod fishing and so forth there. Then—when eventually the fish supply was restricted because—mostly because of regulations in my opinion, they went to Alaska to—to bring in the Pollock and that’s—the Pollock is a nice looking fish, but it’s heavily parasite—parasitized fish as well.

DAVID TODD: I’ve read about the decline in a number of reef fish. Do you see much of that in the Gulf? In the Red Snapper or other?

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HENRY HILDEBRAND: Well, Texas always had a small Red Snapper fishery, and Louisiana as well had a Red Snapper fishery in the reefs and a lot of it—the Snapper—even in the 1890’s were caught on the Campeche banks along the West coast—East coast of Mexico. So, with Mexico cut off, our landings of Snapper are relatively small. But, right now, from what I gather from the fishermen and what I see, the Snapper population in Texas is good, about what it has always been, or maybe a little better. Florida has—has gone to pot and whether it’s—I suspect it’s overfishing because the headboats in Florida are so numerous and they go out on the reef, they stay with it until they fish it out and if they can’t catch Snapper, they catch shark, so they—they stay too long on the reef, while over here you have worse weather, so sometimes the boats can’t get out. And then they move when the—when the catch falls in certain low—low rates and they move.

DAVID TODD: So the sports fishermen on the headboats can have a real impact on the Snapper population?

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HENRY HILDEBRAND: Well, the headboats don’t over here. They do in Florida, they definitely have one. But they—they manage—they say we have to manage this as one fishery. We can’t cut it off at the Mississippi or some place like that. We must manage it, so if you have a poor population in Florida, why the Texas people take the brunt the same as the Florida people.

DAVID TODD: I wanted to ask you about another fish that was once common, the Tarpon?

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HENRY HILDEBRAND: The Tarpon?

DAVID TODD: Can you say why they’ve declined?

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HENRY HILDEBRAND: The Tarpon used to be caught as they migrated up from Mexico and they—they spawn apparently in Veracruz and—and make their way North in the—they go on North and South, depending on the—the temperature and so forth. But, when we jettied all these passes and the Tarpon fishery practically disappeared, which we had a little fishery in the Brazos River for awhile, they run up the rivers and so forth. But, the Tarpon in schools don't go up here along the coast and they are, of course, never pursued by the commercial fishermen on this coast. So—so it was entirely catch—catches of several thousand in the—in the pass at Porter Ranches in the 1890's, 1910, were—were not unusual.

DAVID TODD: But you think the jetties have interfered with their migration route?

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HENRY HILDEBRAND: Well, I don't know for sure what has happened there. Some people say it's because too many Bagre (?) fish are in the passes, it let's—the shallow passes couldn't have the big sharks, the deep passes do, and whether that is an explanation or not—I'm sure the coast is changing enough and the fishery originally in Mexico was fairly intense in that they'd see schools of Tarpon and somebody would throw a stick of dynamite in the school and things like that. But, nowadays there is considerable activity, a part of it could be the fishery in Mexico, but I doubt it, not anymore. In fact, the Tarpon is protected in Mexico now, but it's not coming back and I don't think it'll ever come back until the shallow passes and some water goes down these streams.

DAVID TODD: Well, speaking of the jetties, can you talk a little bit about the groins and jetties along the coast and what impact they may have had on the marine ecosystem? All the coast hardening that's been done?

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HENRY HILDEBRAND: Well, we—we have tried every method to pass fish through the jetties, me and them built breaks in the jetties up at Galveston, I mean little passageways through the jetties and down here they—they put in a pipe to the jetties early on in—in the early days and—and they never maintain that pipe, so it's been a controversy with many people as to what the effects of the jetties are. You can sample and you get a lot of young fish in the angle in the jetties with the beach but, most of those are Croaker and Pinfish and fish like that. You don't get Trout or Red Fish in that situation. In fact, the evidence now is that in Porter Ranches the Red Fish probably spawn inside the jetties to—I don't say all of them do, but you can pick up the drumming sounds with the hydrophones and—and they probably—enough of them spawn to populate the bay anyway.

DAVID TODD: While we're talking about the jetties and groins in the shorelines, I was wondering if you might have any comments about strandings? I noticed you've studied dolphin and I was wondering if you had any thoughts about why these marine mammals come ashore sometimes?

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HENRY HILDEBRAND: Well, that's a thing that's happening education here on the Texas coast in that both the University of A&M at Galveston and the University of A&M in Corpus—most of the marine students want to study marine mammals, and there just not that many marine mammals in the Gulf of Mexico and there's no possibility of making a living at it unless you get in an aquarium or something like that. So, they—people without a—a—a lifelong work when they graduate in—in their degree in marine mammals—we have over the years looked at the porpoises, of course, or dolphins because the fishermen complain that they eat too many fish and so forth. They—they feed on Trout or they're feeding on Red Fish or something like that. The truth of the matter is, they feed mostly on Mullet. They don't feed on commercially important fish to any extent. So there have been studies on—on that factor and also trying to get a population count on the dolphin along the coast. But, if you're—if you lived in Corpus Christi you know the flak that the aquarium is—is having trying to establish a dolphin pla—tank. The people keep writing to the editor the dolphins should run free in the—in the sea.

DAVID TODD: What do you think about that? Is there an ethical problem for you in having dolphins performing?

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HENRY HILDEBRAND: Well, if they run wild they—they have problems as well with disease and so forth, which could be treated in—in a lab. I don't say that all of them should be in there, there should be a good number free, but three or four in the aquarium, I don't see that that makes any difference, you know. People like to watch them and people have a great attraction to flippers so that's the way.

DAVID TODD: We talked earlier about shrimping and I was curious if you could talk about the fish that shrimpers catch and by-catch?

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HENRY HILDEBRAND: Well, that's what I studied, the by-catch. I had a couple projects—the one when I first came here in 1950 and then I had another one in 1970—'78 and so forth for the National Marine Fishery Service. Now the main fish that is caught is a Croaker and the Croaker is stunted in Texas, it's a small size. Up in Chesapeake Bay you get the big tur—Croaker, 5-6 pounds anymore. And you don't do it down here and I think—Gunter wanted to—to blame it on temperature, that we had the warmer temperature down here and so forth, that the Croaker didn't grow as big. In my mind, I think it's overcrowding. You can't imagine the number of young Croaker that come in the bay each year. So we have that problem and the—and a good part of the fish offshore are special—fish like the Stardrum and the Banded Leporinus

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which is another species genus, are too small for utilization and I don't see that recycling them is that harmful. Why—why build up the population of them? And studies that have been made—Louisiana and my work indicates that the same species are still there and in about the same abundance even—even comparing earlier works with—with later works.

DAVID TODD: Do you think there's a significant by-catch problem with turtles?

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HENRY HILDEBRAND: We have quite a problem with turtles for a number of years. The turtles are chiefly inhabitants of Louisiana and Carmen in Mexico, in—in those areas. And that means that they have to run the gamut from Louisiana to Rancho Nuevo, so they can be caught all along the route. And they're also fished around the Durney Islands and others in—in Louisiana so they have quite a—a by-catch now. I don't—I think that the TEDS [Turtle Excluder Devices] will work well with the Ridley and they—they seem to be much poorer with the Loggerhead turtle and, of course, we don't get enough Greens or—or Leatherbacks to—to really bother with. But, the Greens could easily be caught and they were caught in—in small numbers offshore in the early days of the fishery.

DAVID TODD: Speaking of the Kemp's Ridley Sea Turtles, I understand that the US Fish and Wildlife Service and Marine Fisheries Service, I believe, made a big effort to transplant some of the Ridelys from Mexico to Padre Island. Was that successful do you think?

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HENRY HILDEBRAND: Well that stirred up a lot of controversy. Originally I was in the planning in—in which we decided to try to make another colony in Padre Island. I thought it was a reasonable proposition though, we worked on that for about ten years bringing eggs up to take—hatching them here and then letting them walk across the sand and then sending them to Galveston...

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HENRY HILDEBRAND: ...and but we had a problem in that most people thought from growing—grow out experiments in which we took the young turtle and kept it well-fed, that we could grow it in five to six years and so we expected returns far sooner than—than they should have been. In the wild where food was scarce and so forth, it might take them fifteen or some more years to grow. So, with the—what I say was the—was the push for funds that so many people have that the Atlantic people—Atlantic coast people wanted more money for their Loggerhead research and so forth that they scuttled that program. Whether it would have succeeded or not, I—I—I doubt it because the—the Ridley was going to nest on Padre Island and the records in the past, large numbers, and all the records are sporadic; somebody saw turtles—two turtles at once or—and something like that—there's no record of mass nesting.

DAVID TODD: So is Rancho Nuevo the only known nesting sight?

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HENRY HILDEBRAND: Rancho Nuevo is a—is a big nesting colony as a fisherman told me down there, they said in Rancho Nuevo they nest by the thousands. Fifteen or twenty miles away, they nest by the hundreds and that was a difference in—there was sporadic nesting along the Veracruz coast. That's why Caldwell wrote me, because somebody picked up a hatchling at [San Andres] Tuxtla

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on the Mexican coast and I was near that area so I followed up on—on the suggestion to look for turtles and that's how I got interested in that.

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DAVID TODD: Dr. Hildebrand, I wanted to ask you another question or two about turtles and some of the possible impacts on their fate. Can you tell us if you think much effect was from egg collection down in Mexico, or from turtle poaching, or from those plastic bags, turtles ingesting them?

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HENRY HILDEBRAND: Well, originally I—I think most of the decline was due to egg gathering, a good part of it because the—the Mexicans would gather the eggs, take them to the cantinas all over Mexico and sell them and if the egg was too far advanced, I mean had a young turtle in it, they would feed them to their hogs. Not that they purposely dug them up for that purpose, but that's what they—they—that's the way they disposed of them. There—I did not see it and I'm not sure that it happened, but there was stories that they were butchering them but it's kind of hard for them to get meat to those roads out of there. You could see them tying sacks on a burro and sending it down the trail but in—was—be a little difficult with the—the transportation methods. I don't think turtle meat would have supported a—a four wheel drive jeep or something like that to get in, and if it rained you'd stay in, you wouldn't get out. So, I don't—egg gathering was intense and then the—the fact that the turtles had to run the gamut of shrimp trawlers from Louisiana to—to Rancho Nuevo it was—was a problem that they couldn't—couldn't solve until they got to TEDS. And we get reports that the TEDS are fairly successful, but the shrimpers complain bitterly, there's been repeated letters to the editor complaining about the TEDS, how they let all the shrimp escape and so forth. Our work indicate that shrimp loss is not very great, but there may be situations where the trash and so forth get in—that the nets are held open and most of the fish—shrimp escape.

DAVID TODD: I understand that some of the shrimpers were so annoyed about the turtle excluder devices that they were accused of maiming some of the turtles that they found, that they'd saw off left flippers and so on. Is there any truth to that?

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HENRY HILDEBRAND: Well, there's been some turtles coming to shore mutilated, but I don't know whether that's the shrimping or sharks or what it is. Of course, they—the shrimpers have been uncooperative in many cases, particularly Lou—Louisiana, where they have most of the turtles, but it—it wasn't identified as an endangered species. I don't know why the legislators and so forth will say the Ridley doesn't occur in Louisiana and it's the commonest sea turtle there. It occurs in the whole area from Lakeburn

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to the Sabine Lake. In fact, that's—that's—and the fishermen have been catching them for years, but for some reason they use a French name, tortue blanche, and they never identified it as a Ridley. In fact, Archie Carr, who studied the Ridley for years, never had any records from Louisiana. So, in Texas, Striker

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at Baylor identified it in 1916 from a skull found on a beach at Velasquez. So, why Louisiana was so far behind because they had more turtle biologists than any other state, but they mostly worked with fresh water but they still didn't get an identification until late, about 1961 or thereabouts, are my records. Though I've seen pictures of Ridleys from early publication of Louisiana Wildlife Department. I've heard their dates even as early as 1905, which is obviously Ridley, but nobody identified it as such. And, we had, in Louisiana, where the head of the Louisiana Shrimp Association told the shrimpers not to return tags that some judge in Canada would—and Kansas—would—would shut down their fishery. So, the first two years we got tags back and after that we didn't get them. And the turtles just ceased going to Louisiana.

DAVID TODD: What do you think about the sort of interplay between politics and the Endangered Species Act and turtle fate?

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HENRY HILDEBRAND: Well, politics, of course, influences in which it—if you put it to the vote in Louisiana all the conservation measurements on turtles would go out of the window. In fact, I visited a—a lab in Louisiana and—a marine lab—but—and they told me not to mention turtles over there, I'd find myself out in the swamp somewhere, because the feeling runs high, you—you can't imagine how high it runs. Now Texas is not so bad because, of course, they don't have as big a problem.

DAVID TODD: You mentioned that a lot of your research has looked at old records. That you've seen observances back in the 1900's, 1910's. Can you tell me how you think trends in fisheries have run since then? Major fish populations or turtle populations, those that have been in decline and why?

0:10:31 - 2071

HENRY HILDEBRAND: Well, as far as the old records are concerned, I—I started the fishery and published a paper under turtle fishery in Texas. The most—starting out with Indianola and German people that settled at Indianola. The turtle cannery started as early as—as 1848 and they were advertising in the '50s for—to bring in turtles at two cents a pound, they would buy them. And then, after 1880, we had what they called canvasses of the fishery, in which the quantity of turtles was quite great until after the 19—1899 freeze. And then they practically disappeared from the coast. Each year that we have a freeze, we have a number of young turtles that wash ashore. Every—every year—so freezes make quite a difference on populations on our coast, but I'm sure that in the early days it was overfishing because as one fellow who came from the—was working in the 1890's, he was about 90 years old at the time I interviewed him, said you worked all—all day, from sunup to sundown for fifty cents why—while a turtle you could get \$2.00 for, why wouldn't you go—go out and search for that turtle if you had a chance of getting it? And that's why the fishery was so intense on the Texas coast.

DAVID TODD: It interests me that a lot of your research seems to be in the field, but also based on anecdotes and fishermen's experiences, the interviews you've had.

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HENRY HILDEBRAND: Well, you have really two schools; one school that wants everything fishery independent, nothing to do with the fishery and that's a good part of the concept of the Parks & Wildlife, that all the data is independent of the fishermen, but my idea and my uncle's—and my uncle before me was an idea that the fishermen were out there everyday that—that they saw a lot, that you should check with the fishermen and then you do like I did on the—on the flow of—of the fresh water into the bays and see if the fishermen's ideas co—correlate. And that's—and that's one—and that's one major difference is—is fishery independent and people didn't rely on the fishermen to a large extent and then try to check their—their statements.

DAVID TODD: You mentioned your paper about flows into the bays and I was curious if you could talk a little bit about your work on thermal discharges from...

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HENRY HILDEBRAND: About what?

DAVID TODD: About thermal discharges from power plants?

(misc.)

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HENRY HILDEBRAND: Well, as far as the power plant was concerned, you have two—two kinds; one kind in which the plume is deposited directly in the channel and that channel runs into the bay, a short distance into the bay and then, in the case of the power plant at—here in Flower Bluff, they built a—a lake and the water—and it took several days to go through the lake and then out into the ocean. And our research indicated that the temperature was nearly the same as the receiving water. So we did not—we got around the problem of plume by delaying. You also had the problem in that mostly small fish would come in through the screens and get into the hot water and so forth. Now there may be a considerable loss that way, that fish coming in through the screens. But the discharges, the one that just—CPL was—was worried about and they—they handled that better than the lake. They put baffles in the lakes so the water moved very, very so—slowly through the lake.

DAVID TODD: I understand you also worked on oil field discharges, brine discharges. Can you talk a little bit about...

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HENRY HILDEBRAND: Yes, the oil field work was mostly by Roy Spears, who did all the chemical work and so forth, but the oil companies would deposit discharges of salinity twice seawater, even higher than that, in—into streams, Chiltipin Creek up near Sinton and they also—the Petronela,

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all had discharges as did many creeks up the coast as well. And, of course, another thing with the discharges, there was oil and grease would come out and one conservation organization took the oil companies to court and lost, even when you could see the oil pouring out of their—their discharge, they didn't have a clean discharge and so you didn't—it wasn't tried on the salinity and so forth which, in most cases, the fish couldn't live in it. But, Roy Spears at Parks & Wildlife in—in the 50's and 60's worked on that and, of course, I did my hollering but I don't know how much good it did.

DAVID TODD: Can you tell about your hollering?

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HENRY HILDEBRAND: What?

DAVID TODD: Can you tell about the hollering that you did?

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HENRY HILDEBRAND: Well, mainly it was to organizations and—and newspaper about—and then dumping the brine. So, we had the same sort of problem with shell dredging too.

DAVID WEISMAN: Did you ever get threatened by any agencies or organizations because of the hollering that you did? Did anyone ever try to take away your research grant or impugn your academic credibility?

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HENRY HILDEBRAND: No—no—no recognition except in the local papers and so forth. In local magazines we had a few articles, but that's all.

DAVID TODD: But you never felt like you got villified or taken to task for speaking up about this?

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HENRY HILDEBRAND: Oh yeah you—yeah you were one of the kooks. And in the same way that people talk about climate warming and so forth. Which, right now I'm more interested in population stabilization than anything. There's not much you can do when the human race keeps increasing. You have a duration example down in Tabasco and in the Delta de Usumacinta

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they say whenever a patch of ground appears above the surface of water they b—build a chozone (?) hut and move in and in fact, they laid a pipeline through that delta and, of course, the—it was raised above water where they covered it up and people went in one place and—and built—how many, I don't know—built their houses and it exploded. And how many Mexicans were vaporized, nobody knew. But the capital of Tabasco, Via Hermosa, flooded in October in the time and the—the crocodiles were in the main part of town and then PEMEX had built an addition, and they'd built the addition because demographic pressure was so great in an area that Tabasco normally cut the—the levy to let the water pour out into surrounding countryside. So, here all those houses were flooded, so they had tremendous damage. In the same way in Veracruz, three person went in on three river valleys and made about six or seven cities look like Cuero after the 1998 flood. And even some housing developments were flooded and it was a matter of land was not available for the pressure of the human population, and—we so there's got to be stabilization of population before we can move ahead.

DAVID TODD: How do you control population when it's such a personal, individual decision to have a child?

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HENRY HILDEBRAND: Well, of course, there's a reproductive pill—the pill before and the one after. The RU—the French pill that—that our—our food and drug people haven't okayed and I know no reason why they haven't. The French have used it for—for several years. I don't think the—with the pill and the pill after that abortions are hardly necessary, that—that's not a solution, it's—it's reproductive biology.

(misc.)

DAVID TODD: I'd like to go back briefly and talk about aquatic systems if you give us some time. I know you studied algae a great deal and I was wondering if you could talk about the brown tides that sometimes hit this coast?

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HENRY HILDEBRAND: Well...

DAVID TODD: Why they come...

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HENRY HILDEBRAND: ...we have new biologists come on the coast and—and they have not studied the history of these things. The brown tide has been in the lagoon for—I take it, since about 1874, anyways the first record I can find of what I think is brown tide—did you analyze it? Did you put it in the microscope and so forth? No. But, it was here and the Drum apparently live with it and they—they reproduce in great numbers and so forth that it's not the problem that we want to make. Now in the East coast and, what I take is an outbreak in Galveston Bay, it can affect seriously oyster larvae and they die. So you—so you do have a problem in some of the larvae of clams and so forth, clams and oysters and so forth.

DAVID TODD: But do you think the brown tide blooms are related to nutrients and runoff?

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HENRY HILDEBRAND: I don't—I don't think so. That—it's—it's the same thing with the red tide. They say that the red tide didn't occur before. Well, we have records of red tide going back to the 1870's that can't be anything else but the red tide when you read the newspaper accounts. And the biggest red tide we ever had on our coast was 1935. Poor old Porter Ranches had to put up with it from June till October and it really ruined their tourist business and so forth. And it—it's difficult to study because you don't have these big outbreaks, you probably had small outbreaks every year that are not recognized, but you don't have the big outbreaks to cover—the Fish and Wildlife geared up to study it and no red tides so there—eventually they abandoned their program and the...

DAVID TODD: Speaking of runoff, have you seen much impact from pesticides and runoff on birds? I know you did work on the Brown Pelican.

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HENRY HILDEBRAND: Well, you have runoff—you wonder about how much pesticide and herbicides get into the water, and working with birds in the 70's, you saw the thin eggs and you saw the dysfunction of many of the chicks and so forth when you went to the nesting site. And dead birds, too, were quite common. We—I even saw a bird one day fly overhead and then drop dead, it wasn't shot or anything like that, and we had it checked and it—it was loaded with pesticides.

DAVID TODD: Do you think that was what was responsible for the Brown Pelican's decline?

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HENRY HILDEBRAND: That was responsible for the—for the Brown Pelican decline. Now the Brown Pelican has come back to sev—to several thousand now and we see it in the—in posts and so forth around the harbor in Corpus Christi.

DAVID TODD: Why do you think it's returned?

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HENRY HILDEBRAND: What?

DAVID TODD: Why do you think it's returned?

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HENRY HILDEBRAND: Well, I assume that the eggshells thinning and so forth—we outlawed many pesticides including DDT, Dieldrin, Endrin. I think Endrin was one of the worst ones, Dieldrin was bad. We've outlawed a lot of pesticides—I think that has improved the hatchability of eggs and so forth. The pelicans should increase rapidly with two or three nestlings each year, which is what they—they can have .

DAVID TODD: Talking about pesticides and birds, did you read Rachel Carson's book, Silent Spring?

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HENRY HILDEBRAND: Oh yes.

DAVID TODD: Did it have much impact on you?

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HENRY HILDEBRAND: Well, I'd say that Rachel Carson had a lot of impact, there were a lot of studies that were spawned from Rachel Carson's book. They covered a whole series of – of—of birds. In fact the Peregrine Falcon, which is off the endangered list, was one that was studied extensively.

DAVID TODD: Were you involved at all in the Aplomado Falcon down in South Texas?

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HENRY HILDEBRAND: No—no—no, the Aplomado was brought up from Mexico. No, I w—I had nothing to do with that. In fact, I quit all that bird work when I started the power plant, I did no more bird work after that and it was—that—and I started the power plant in '72.

DAVID TODD: Did you do any work on the other coastal birds like the Reddish Egret?

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HENRY HILDEBRAND: On the what?

DAVID TODD: Other coastal birds like the Reddish Egret?

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HENRY HILDEBRAND: Well, we—we had a program of sampling wading birds, Reddish Egrets and gre—gre—Great Egrets, Great Blues, the—the whole group, the Night Herons, the Snowies and the Louisiana Heron. We had overflight counts and we had record counts. Now, [David] Blankinship, who was with the Audubon Society, had a couple flights down to Yucatan in which he counted pelicans and so forth, two flights down there and...

DAVID TODD: Do you have any idea why the Reddish Egret had such a problem? Why the Reddish Egret became rare?

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HENRY HILDEBRAND: Well, the Reddish Egret was always rare, but the place that it really had problems was on Green Island down off the Arroyo Colorado is where the biggest decline take—took place. And I—if I hazard a guess on that I'd say pesticides coming down the—that tributary of the Rio Grande. But otherwise, the Reddish Egret more or less held its own. Course, the Reddish Egret has feeding habits that certain environmental conditions will enhance, increasing the food supply for the—for the Reddish Egret. But we had indications that the pesticide load was rather heavy in the Reddish Egret.

DAVID TODD: We've talked about a lot of your scientific work and I know it's important for scientists to keep their objectivity, but I was wondering if you could say if there are any

environmental things that have made you very happy or very sad that you've seen over the years?

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HENRY HILDEBRAND: Well, I—I don't know—we—we—we were concerned with certain things, but—but, mostly it was environmentally related, like the dumping of brine into the streams and the digging of shale, the Superports that they were going to build here in Corpus and they had—we'd gotten in the middle of that along with the Institute of Marine Science. They even got a vice president of the University of Texas to—to oppose that. The—the people at Porter Ranches so we've—we've had that fight and we—we also have a...

(misc.)

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...have a fight on Packery Channel in which they want to dredge here that we say it's a waste of money and will not do any good that people think it will.

DAVID TODD: Could you tell us a little about the Superport? I'm really not familiar with the whole issue.

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HENRY HILDEBRAND: Well, they were going to dre—dig that channel to bring in the super tankers.

DAVID TODD: Into Corpus Christi?

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HENRY HILDEBRAND: Well, they were going to build a harbor—the harbor on Harbor Island to—to bring the super tankers, but they said it would save loitering in the Gulf of Mexico, you see the big super tankers anchor in the Gulf and smaller ships carry their oils to shore.

DAVID TODD: What was your concern about that proposal?

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HENRY HILDEBRAND: Well, the whole thing would—would disrupt the place more and—and digging out all the sediment, where were they going to put it and so forth. And the whole construction was a problem and then the super tankers themselves, what if you had a—an accident with a super tanker, that would put a lot of oil—I was here doing Ixtoc [offshore oilrig blowout] and saw the wave of black oil roll up on the beach at Porter Ranches.

DAVID TODD: What did that look like?

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HENRY HILDEBRAND: Well, you had a whole black surface in the water and the—and on the beach as well, Ixtoc (?0:40:09) come over from the Bay of Campeche. So, it took it awhile to get over here, but it first entered—hit the Veracruz coast and then Tamaulipas and finally here. I made a trip down to Mexico to see where the oil was stranding and so forth but, of course, Yucatan itself—and the winds were contrary and the time of the—the outpouring of Ixtoc

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so it didn't hit Yucatan, but it did hit Veracruz and everything furth—further North. And the Mexicans had their cleanup crews on the beach and so forth, trying to, well, scoop up the oil and then they buried it right on the beach, they didn't carry it all.

DAVID TODD: Did you see any injured animals or large fish kills from that?

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HENRY HILDEBRAND: Well, we had a number of birds—quite a number—we had a washing facility for birds. I—as far as the fisheries were concerned, we couldn't—couldn't detect a great amount so they did close shrimp—shrimp fishery in certain areas for a few days and so forth, because they might be contaminated with oil and so forth. But otherwise we couldn't tell. Now, there were lawsuits involved with Ixtoc that involved a number of shrimpers, and we found out later they weren't shrimpers at all, they were lawyers and had bought boats for a tax dodge. And they got a—a two million dollar settlement because Sedco wanted to sell out its drilling rigs so they had to have everything clear, so they settled. Otherwise, I don't think they'd have got a nickel.

DAVID TODD: I know you've traveled a great deal up and down the Texas and Mexico coast. I'm curious if you can tell us about any favorite spots that you've visited along there, or elsewhere that has special meaning for you?

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HENRY HILDEBRAND: Well, of course, the area I like the best is Tusalus down in Southern Veracruz, which are old volcanic mountains and occur almost to the water's edge there—in Veracruz and it's quite a picturesque area as well. And, of course, I have friends down there, which makes it even better but—and they have a—a biological lab down there, too, which is n—not too far from Montepillo (?),

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which is quite a nice place. But, they tell me they have difficulty staffing it and getting people from Mexico City to move down to that isolated area. But, looking at the smog and the traffic and so forth in Mexico City, you'd think people would jump at going to a place like that where they can earn and a living and all.

DAVID TODD: From the time when you first started to now, do you think more people are aware of issues like the air pollution and the traffic and other kind of environmental problems?

0:44:53 – 2071

HENRY HILDEBRAND: When I first went to Mexico City in 1952, it was a delightful place. You didn't have the smog, you didn't have the traffic, you could get around and so forth. Today I—I wouldn't go to Mexico City unless I—somebody drug me there or I had to. But it has changed and that's one reason wh—why I argue with people about growth. Mexico City has the greater metropolitan area, about 17 cities have grown together, has according to some figures I've seen, 20 mill—million people and that's—that's a big city to me.

DAVID TODD: Do you find that more people understand what you're talking about when you mention environmental risks such as population growth?

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HENRY HILDEBRAND: Well, course I travel a lot to the labs and so forth, so I'm talking to fellow biologists. I don't think the man on the street understands it at all. I've never seen any indication of it, of course, they have an active bio—environmental organization PRONATURA which is quite active in Mexico and they have a number of members, so occasionally in Yucatan you run into a lot of Arab people, because they settled, they left the Turkish empire in 1870 to 1910 in that region there, so they're long time and they're Mexicans, not Arabs anymore though some of the families still broker their marriage through Dearborn, Michigan and so forth, a woman they've never met and so forth. But, they're—they are an educated people and they are in government in the State of Tabasco they said you had to have a Mexi—had to have an Arab to be governor, because a friend of mine was Mayor of Acapulco and he was an Arab. So, they have fitted in very well with the population. And, I find them quite intelligent as well.

DAVID TODD: Let me ask you something else. As we get maybe more intelligent about environmental issues, what do you think the next challenges will be for the coming generation?

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HENRY HILDEBRAND: Well, of course, the big—big challenge is to stabilize population and nobody seems to be greatly interested in except a few of what the general public call kooks. But, that—that is a problem and another problem is water. How is Tamaulipas going to support its population and how's Texas as well? How's the cities on the Rio Grande going to

get the water with the system working it is now. And still everybody wants growth—grow. And most of the growth in Corpus Christi has been people moving out and poor people moving in. And the same in San Antonio, 22 percent at the poverty level and there're a million people now, more than a million so they're—they're on top of the world.

DAVID TODD: Do you have any advice for people who are coming up through the ranks on how they can deal with some of these environmental problems?

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HENRY HILDEBRAND: Well, I think we have to be realistic about our limits of growth and what can take place and what can't. The idea of bringing in many people to a water starved area is—is foolish. Course, we can pump water from Lake Mead to Los Angeles but that wouldn't be permitted today if—if Los Angeles had to get their water from way up miles away.

DAVID TODD: In retrospect, what do you think is the most foolish environmental thing that you've seen? You mentioned Lake Mead as being a mistake that probably wouldn't be repeated. Is there another sort of environmental mistake, disaster you think really stands out from the past years?

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HENRY HILDEBRAND: Well, in t—I think the main thing is overpopulation in these cities growing too big—too big—too big to handle, to—to govern. San Antonio has no reason to be a million people, Austin is—they keep telling me they say that it's ap—approaching a million now and Matamoros, down next to Brownsville used to be a small place about the size of Brownsville and they tell me now that it's six hundred and—660 million people and they're going to be a million before long. How do those people live? Amulet peddlers, they put a piece of cloth on the sidewalk and put a few trinkets out there for you to buy and that's the way they make their living. You can hardly walk down the street because of all the amulet peddlers. And the regular businesses want the police to move them out. Of course, you had some places in Mexico City where the poor homeless used to sleep in the doorway and I guess they got a peso or so to guard the house, to sleep in the doorway and now they've moved them out to the outskirts of the city and it's cleaned up and all of that, which is nonsense in my way of thinking.

DAVID TODD: Well, thanks for treating us to your way of thinking. It's been very generous of you to give us some of your insights and advice and memories of things you've done. Thank you very much.

0:53:48 – 2071

HENRY HILDEBRAND: Yeah. You know, Mexico at the time of the revolution had 15 million people, it has 100 million people today. Of that 15 million they say a million came over because of the revolution in 1910, 11 and so forth up to 1920. And today they have 100

million. What if they had a revolution down there, they'd come over by the millions and there's no way you could stop them. And it—and it's the same way with India, over a billion people. China, a billion five or two or five. And where's your highest birthrate? In Ethiopia and American Samoa. No, I—no I see plenty of problems ahead, chiefly in water and population of course, food supply may also enter in there as well. In Brazil, for example, it's having demonstrations in the favelas because the black bean is replaced by the soy bean for export to earn money for the Brazilian trade, and our banks push that program because Brazil certainly needs money to buy things, but they're not buying food and the black beans are not going to the favelas either in Brazil and that's apparently been going on for more than 10 years now. They have sporadic demonstrations because of that black bean shortage. I think if Brazil had the proper priorities they wouldn't have this shortage.

DAVID TODD: Well it sounds like a tricky future ahead and we'll need your advice. Thank you very much.

End of reel #2071

End of interview with Henry Hildebrand