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Google Voice [00:00:01] This call is now being recorded.

David Todd [00:00:06] Oh, hi. You're a patient man, I apologize. I'm not quite sure what was going on. I could hear you very clearly, but clearly, you would be the one getting from me to you.

Jaime Pena [00:00:25] So that's weird. So is this OK? Or you want me to call you from a landline?

David Todd [00:00:31] No, no. This is this is great. And we will get a good recording on this. This is another technique. It uses Google Voice and it's perfectly adequate and. I think you'll be happy with the results.

David Todd [00:00:53] Let me lay out what we're about today and make sure that this is what you had in mind. And, and then I may introduce you as well. So let me do a little bit of kind of boilerplate here at the beginning of our visit.

Jaime Pena [00:01:13] Of course.

David Todd [00:01:13] So, with your approval, the idea here is that we would be recording this interview for research and educational work on behalf of the nonprofit group the Conservation History Association of Texas, and for a book and a website for Texas A&M University Press, and for preservation and access to a public archive at the Briscoe Center for American History, which is located at the University of Texas at Austin, as well as online. You would have all rights to use the recordings as well.

David Todd [00:01:49] I just wanted to make sure that's what you had in mind and that this isn't a surprise.

Jaime Pena [00:01:55] Yeah, David, that's fine. That's exactly what you described. So, yeah, let's go ahead.

David Todd [00:01:59] OK, great, great.

David Todd [00:02:01] Well, let me sort of lay out the when and where and who is involved here. It is May 20th, 2021. My name is David Todd. I am representing the Conservation History Association of Texas and I am in Austin. And we are really lucky to be conducting an interview with Luis Jaime Pena, often known as "Jaime", and he worked for many years at the Gladys Porter Zoo and is currently at the Texas State Aquarium and has just decades of

experience with the Kemp's Ridley Sea Turtle. And so we'll talk a little bit about his personal history and also his work with the turtle.

David Todd [00:02:53] So again I just wanted to thank you for joining us.

Jaime Pena [00:02:55] Oh, thank you for having me.

David Todd [00:02:59] Sure. Well, we usually start these interviews with just a question about your childhood. Understood that you grew up in Matamoros, in the state of Tamaulipas. I was hoping that you might be able to tell us a little bit about your childhood and if there were any people or incidents that kind of helped encourage you to follow this work in the animal world and with sea turtles in particular.

Jaime Pena [00:03:25] Yeah, of course. Yes, I was born and raised in the border town of Matamoros, Tamaulipas, in Mexico. Matamoros is a border town right next to Brownsville, Texas, deep in the south of Texas. Very, very deep. If you're traveling through Brownsville and you blink, you're in Mexico. So, that's where I was born.

Jaime Pena [00:03:45] Now, as far as influencing my interest in working with animals, I have to say, ever since I can remember, I wanted to be a biologist, not a veterinarian, not a doctor, not anything but a biologist. I think that as soon as I understood what the word "biologist" meant, that's what I wanted to be. And I would be that type of kid who would always get in trouble because I would grab absolutely every single animal that came across, that I came across. So it's a wonder that I never got, you know, poisoned or envenomated.

Jaime Pena [00:04:23] But a big influence, I would say, my mom and my dad. They, they just encouraged me. They, they would, they would tell me, ayy, you know, here he comes with another animal, but they would never get angry with me or discourage me of continuing that. My mom wanted me, wanted me to be a doctor. And I was like, no, mom, I want to work with animals. Well how about a veterinarian? I don't want to cure animals. I want to be with the animals. And so maybe she was a little disappointed that I didn't follow a career path that she would have liked. But she was always very supportive.

Jaime Pena [00:05:00] And my dad, you know, God bless him, the best man I've ever met, he's, he was, he was a big influence on every aspect of my life. And he, he wasn't like a college-educated man, but he taught me almost everything that I know that's important in life. And he, he would encourage me and he would help me along with my little experiments that I would have with bugs, or little reptiles or little amphibians. He would always pay attention to all the crazy stuff that I was doing. So, he, his encouragement and his support that that's what helped me along on my road to become a biologist.

David Todd [00:05:43] Could you maybe give us an example of some of these experiments that you mentioned that you had with animals?

Jaime Pena [00:05:52] All right. So, back in the days when I was a child, which was a long, long, long, long time ago, you would actually find a lot of wild animals in your backyard, you know, everywhere and all sorts of frogs, and toads, and lizards and all sorts of bugs. I remember that in the back of our house that we lived, there was a lot of horny toads, a lot of them, which are very rare now and critically endangered. But back then, I mean, I would I would always catch one and I would put him in a bowl and I would watch him and I would try

to feed him everything that I could. And then I would let him go and then I would catch another one and so on and so forth.

Jaime Pena [00:06:33] So one time I had a little brown cockroach and a little centipede, and I think like a little earwig. I had all sorts. I, so I noticed that I had like five or six different types of bugs. And I was like, I wonder which one of them is the smartest. So I would grab my dad's domino set and I would build a maze to see which one got out fast. Of course, all of them just crawled up and got out. And I'm like, hmm, OK, that makes sense. So I said, I need a maze with a roof over it that can, He used to have a curio shop in Matamoros. So he would tell domino sets and I would tell him, hey can you bring me two domino sets from there, from your shop. And he would ask me, why? And I was like, well this is what I'm doing tonight. Well I'm not going to be able to sell them after you're done with them. So I'll give them to you if you go, you know, in exchange for going to go help him out at the shop a couple of hours. Yeah, sure. So that's how my dad, you know, you want something, you have to work for it. So he was bringing the domino sets and there I go and like, OK, got this down, got the maze done and put the dominoes all over. And then I would put all the bugs in one at a time and then I would close the maze. And I would just sit there waiting for them to come out and see, see which one came out first. And that's, that's the kind of stuff I would do with animals.

David Todd [00:08:04] Well, I'm curious. People want to know: which was the smartest?

Jaime Pena [00:08:08] The centipede.

David Todd [00:08:08] Who escaped first?

Jaime Pena [00:08:09] The centipede escaped first.

David Todd [00:08:13] OK.

Jaime Pena [00:08:14] I was thinking that the cockroach, because it was faster than all of them, but I realized that it doesn't matter how fast you are. I mean, the cockroach was still there. Everyone else was wandering around and the centipedes just crawl out. And it wasn't like I was just like, wow, very fast. So I was surprised. But that was the kind of stuff I used to do.

David Todd [00:08:40] I guess this is the first phase of your education. I understood that many years later you went to the Universidad del Noreste, in Tampico, Tamaulipas.

Jaime Pena [00:08:49] Universidad del Noreste.

Jaime Pena [00:08:49] Yes.

Jaime Pena [00:08:52] Well, it wasn't that many years later. I actually, for better or for worse, I was able to get out of high school two years. I was going to high school for two years only and got my high school degree in two years. So when I left for Tampico to to study at Universidad del Noreste, I was just 16 years old. So very, very young to be leaving home if you ask me, but again, my friends were very supportive and they helped me out.

David Todd [00:09:25] And what did you study? Was it biology, is that right?

Jaime Pena [00:09:28] Yes, it's just general biological sciences. My degree is in biological sciences, which is everything that you can think of a biological sciences, it's there - from biostatistics to paleobiology to biogeography, aquaculture, you name it, we had it in that university.

David Todd [00:09:50] So a general exposure to lots of different topics.

David Todd [00:09:55] Yes.

David Todd [00:09:55] Was there anything, anybody maybe, there, who, who was interested in sea turtles, or reptiles in general, that might helped with your direction?

Jaime Pena [00:10:08] Well, the university is located in Tampico, which is well, at that time, it was about eight hours away from the main Kemp's Ridley Sea Turtle camp at Rancho Nuevo. And I said eight hours because it would take us basically an hour and a half to get to the dirt road that led to the camp. And then about seven, sometimes even more hours, to get to the actual camp. The dirt road was impassable sometimes. It was just muddy and it was just wild. And there was just trees everywhere. Absolutely wild dirt road that would take us seven to eight hours to to reach the beach. And then Rancho Nuevo - there's a turtle camp.

Jaime Pena [00:10:46] So the university, actually a lot of people don't know about this, but the university would send students for one week or two weeks at a time to help out at the turtle camp activities as a way of, you know, like this is your field work and this is your field biology assignment. And they would excuse us from all the other classes and we would take off to the turtle camp for a whole week or two. So that's, the university had a lot of people that were involved with that in the '80s, late '80s. I went to university in 1987. So from the, almost from the start, of the Binational Kemp's ridley project, which is in 1978, a couple of years later, the university said, hey, we want to help out. We can send you student volunteers, you know, for a week or two weeks at a time. And that's, that's how I actually got involved with the Kemp's ridley sea turtles, through the university.

David Todd [00:11:42] I see. And this was your work, with the university, was happening at Rancho Nuevo?

Jaime Pena [00:11:48] Yes. Because at that time there was only one camp at Rancho Nuevo in 1987. That was the only Kemp's ridley sea turtle camp in Tamaulipas.

David Todd [00:12:03] Well, we will need to get back to Rancho Nuevo many times.

Jaime Pena [00:12:07] Of course.

David Todd [00:12:08] During this conversation, but I'm curious if you might be field one other question about the university. Was there anybody there that, that, you know, was influential, or was it more the experience of going to the coast and seeing these turtles and then participating in that?

Jaime Pena [00:12:28] Not directly with sea turtles, but as a biologist in general, I think. There were two professors that were actually a graduate students from the university. They were biologists from the university. They decided to stay and teach. One of them is Herman Worbis, and the other one was Enok Cespedes. Cespedes would teach us general biology, he taught us general biology one, two and four because, you know, general biology three was

diving and he wasn't a diver. So that was another professor. And Enok Cespedes was a botanist. So basically, Cespedes would teach us a lot about being a biologist and zoology and and Enok would teach us about botany and being a biologist as well. And the way they taught. And they were very influential in how I was like I was like, yeah, this is exactly what I want to be. This is the type of biologist that I want to be, you know, out there in the field, but also in the lab, all that kind of stuff. So both of them were very, very influential in how, on the type of biologist I became.

Jaime Pena [00:13:44] And I have to say there's not a lot of teachers like them anymore or a lot of like, I mean, I'm, I'm an old-time biologist, you could say. You know, we would go out there and like, what's the homework? OK, leave and go camping and come back on Monday and tell me what you saw. And we're like, OK, sure. And we would just rough it. You know, like the advantage of being in universidad in Tampico is that you go to the left and there's the beach, you go to the right and there's the mountains, you go up and there's the desert. And it was like we were surrounded by everything. So we were very, very lucky. And back in those days, no social media, no cell phones, just us, a couple of cans of tuna, some water and a bus. And let's see where we can go. Good times!

David Todd [00:14:37] It sounds like it. Well, you talked a little bit about influences in your childhood and in the University. I'd be curious if there have been any books that have been important to you over the years and might have introduced, you know, to the natural world.

Jaime Pena [00:14:57] In the natural world? Many, many book. The Time-Life nature collection - that was one of them. My dad gave that to me and hey you like animals. And so he started giving me the Time-Life books in Spanish. He was very good about that. He, back in those days, you would actually have people going door to door selling books, like you see in movies now. But we didn't have anything online, anything like that. But so he got me and my brother and my sister encyclopedias and everything. So my brother is an engineer, so he was getting books on that. But he would get me, if he saw an animal on the cover, he would get it for me. So I ended up with all of basically all of the Time-Life nature collection, you know, fishes and the ocean and all of them. So I would read and, you know, we would read a lot. You know, me and my brother are avid, avid readers. We both loved comic books. So we would read a lot of comic books, but we also would read all of the books that my dad would give us.

Jaime Pena [00:15:57] So but a book that I remember very clearly that I was like, wow, this is very cool. And it has nothing to do with animals or sea turtles. It was the Paul De Kruif's Microbe Hunters. I was given that by one of my professors that I mentioned - Herman Worbis. And he said, and this is on the first year of university. He said, OK, this is your end of semester assignment because he knew he was going to teach us the following semester. So just take this book, read it, and we're going to talk about it on the first day of next semester. And so he would just tell us, you know, if this book and he would tell me, hey, dude, do you have any, can you get it? Like, dude, I don't have any money. He's like, here's my copy. Just take care of it, read it and then just give it back to me. OK, no problem. And because I had a scholarship at the university, I was basically there the whole time. I had to fulfill four daily hours of scholarship work. So I would do my scholarship work and then I would just read the book. I read the book in less than a week. And then I gave it back to him. He was like, what do you think? Wow, incredible. I don't know if you ever heard of this book, David, but it's, it's not a very politically correct book nowadays. It's a very old book about microbe hunters, like they're discovering penicillin and everything. But it's written in such a way that it's like exciting, you know, like, wow, these are like, like imagine if it was a book about big time, you know, hunters, you're going after a lion or something like that. It's the same thing. It's just an adventure of people

fighting microbes, he said. But it's a very fascinating book and I highly recommend it to everybody.

David Todd [00:17:49] Well, I think you mentioned in a conversation we had before that, that you were an avid comic book reader.

Jaime Pena [00:18:00] I am. I still am.

David Todd [00:18:00] And I am thinking about the kind of heroes that are depicted in those books. Can you mention something about that?

Jaime Pena [00:18:10] Yes. Again, my, my dad would hate us, to see us read in the car, but he would allow us to read it. And there's, I'm, I used to be, like I never wanted to mention this to anyone. I guess I was a little like, oh, ashamed of it. But now I'm not. I mean, the one person who always taught me to be a good guy was my dad. You know, he, he, he would, he had many opportunities to be a bad guy, and he never took them. Like end of the day, he would teach us, at the end of the day, all you need to do is be able to close your eyes and have a nice peaceful sleep, you know, and you accomplish that by being a good person doing good things. Because if you're a bad person, you're a bad guy, you do bad things, you're not going to be able to sleep at night. No matter who you are, no matter what you say, no matter what you think, you will not be able to sleep the night. End of the day, you're by yourself with your thoughts, no one else.

Jaime Pena [00:19:07] So we, me and my brother and my sister, like, you know, he's right. He's right. And that philosophy, whether or not my dad knew it, was enforced by just reading about, you know, the Peter Parkers and, and the Bruce Waynes of the comic book world. You know, like, these are good guys, good guys. You know, Peter Parker - great power comes great responsibility, all that kind of stuff, you know? And basically, you have to be a good guy because there's way too many of the bad guys out there already so let's just try to tip the balance the other way. And that's, you know, also they're, they're a lot of fun - comic books - so...

David Todd [00:19:50] Yeah, it's both. There's a powerful message and they are fun to read. I, I understand. Well, so shortly after you got out of college, I understood that you went to work at the Gladys Porter Zoo and you were there for a quarter of a century.

Jaime Pena [00:20:13] And yeah, it sounds longer when you say it like that.

David Todd [00:20:17] Well, yeah, maybe it is.

Jaime Pena [00:20:19] But it is. Twenty-five years.

David Todd [00:20:23] I was wondering if you could, just before we get into the weeds, I guess, the details of the work with turtles, if you could talk a little bit about zoos and the role that they play, you know, in education and getting people familiar with animals and.

Jaime Pena [00:20:42] Yeah...

David Todd [00:20:42] And maybe how that changed while you were working there, if it did.

Jaime Pena [00:20:47] Oh, no, actually it did. That's a very good point. Like you said, it was I started and I started getting involved with the Gladys Porter Zoo in 1994 - so three years after I graduated. I graduated in 1991 and I was basically just getting odd jobs here and there for three years. Because of my bilingual abilities, I was able to secure a job as an English teaching professor in Tampico. And I actually became the vice principal of a school, but then I just got, one day I woke up and said, what am I doing? This is not what I want. This is, I don't want to be an English teacher. I want to be a biologist.

Jaime Pena [00:21:29] So I quit everything. I asked my dad if I could come back home and he said, of course. And I started doing translating jobs for workers' unions, both in the United States and Mexico. You know, people that want to go to the border towns and, and hire laborers. I would represent the union and I would help translate their contracts and all of that. So I did that for a long time. And then I got to the Gladys Porter Zoo in 1994, where I started to volunteer. So, zoos were very different back then. There was not a lot of the stigma associated with them. I mean, it probably was. But again, you know, with the advent of social media in the world, basically shrinking, that stigma is more pronounced. But, you know, there are cages for animals and all of that. And it never was. The Gladys Porter Zoo was one of the most modern and very good zoos out there.

Jaime Pena [00:22:21] But basically it's a modern zoo and all modern zoos have basically four missions. And the most important mission of a modern zoo is education. You have to educate the people, the public, you know, your customers, the public that come to your institution have to be educated about why these animals are in our collection, why it's important and all of that. The second mission is conservation. Conservation has, takes many forms, you know, whether it's direct research like the work that's done at the Kemp's ridley camps, to any, any other type of conservation work. And the third important mission of a modern zoo, is research, you know, research that can be done by looking at the animals in the collection that will help us help them in the wild. And the fourth mission, it's basically recreation. And, you know, we have an opportunity here, so, to engage the public. And that's, I think it should be more engagement than recreation. But it's basically we want to have our public have fun when visiting our institution and have them be learning something about the wild and nature and the animals, without them even realizing that they're being educated because they're being you know, they're having fun.

Jaime Pena [00:23:44] So the Gladys Porter was very good at that. And the mission has not changed. The mission has not changed. The way things are done has certainly changed, of course. You know, like any other institution, the zoo evolves and it evolved a lot during the 25 years I was there. The standards have changed. And now we know more about animals and their needs, their, their needs for enrichment in their lives. You know that we have to stimulate their minds, not just, OK, well, here we have an animal and we're just feeding them and cleaning their cages and that's it. No, no, this, these are not our pets. You know, we have to stimulate their lives. And, of course, you know, the Gladys Porter Zoo is very famous for having three generations of gorillas. So that was, I used to work very closely with the gorillas, so I was closely involved with their, their enrichment, how they were treated and all that. So so, yeah, I learned a lot about, about zoos. And I was a zookeeper before I became an education, conservation curator. So I was very, very lucky in that. Those were very good 25 years. I learned a lot.

David Todd [00:25:00] So I guess one of your, your duties while you were at the zoo was to work with these Kemp's ridley sea turtles.

Jaime Pena [00:25:09] Right.

David Todd [00:25:09] And I think that for those of us that aren't as experienced and smart about sea turtles, can you, can you give us like a quick, quick overview of the life history of a Kemp's ridley.

Jaime Pena [00:25:23] Yes. Of course, it's basically, the Kemp's ridley is endemic to the Gulf of Mexico. You know, it's, it's, it's one, it has a starring role, I like to call it, in the Gulf of Mexico because, you know, it's, it cleans up because they'll eat everything. So they are basically the scavengers of the ocean, you know, like, like vultures are over here, on the top. So they fulfill a very important ecological role. And the main nesting beach is Rancho Nuevo. You know, there's just that beach alone, which is 30 kilometers, I mean, 31 kilometers, that's the main nesting beach, over 75 percent of the nesting population in the world occurs just in that small stretch of beach. And, and like I said earlier, Rancho Nuevo was the only camp because it was the only known nesting beach. There are now six turtle camps and the turtle nests all over the Gulf of Mexico now. So we can we can revisit that in a bit.

Jaime Pena [00:26:38] So the turtle, the Kemp's ridley is unique among sea turtles for a couple of reasons. Number one it's the smallest of the sea turtles. It's endemic to the Gulf of Mexico. It's only here. It's nowhere else in the world. It nests during the day. All the other sea turtles species nest during the night, this one nests during the day.

Jaime Pena [00:27:01] But it also nests in massive nestig aggregations, called arribadas, which means arrival, which is a strategy. A lot of people think this is a strategy, and I agree, I'm one of those people that think that, that they basically were gonna go nest in large groups and basically some of our eggs are going to get eaten, but not all of them, because there's so many of us that the predator - coyote, raccoon,skunk, whatever the case may be - is going to get our eggs, but it's going to get full with one of our nests. And so all the others are going to survive. So that's called predator satiation. And so we think that's a strategy for, strategy for survival, because you're nesting during the day. So you're basically very vulnerable.

Jaime Pena [00:27:46] So it also has one of the shortest incubation periods, you know, depending if it's very hot on the eggs, just incubating 45 days, they're ready. If it gets cooler, you know, t can take up to 60 days, but that's very fast for a sea turtle. And the baby turtles crawl out after they hatch. And we don't know what happens on their first year, but it's very likely they just float among the algae, on sargassum, where they can eat.

Jaime Pena [00:28:17] And once they get a little bigger, they go to developmental grounds up near Florida, near Campeche, to the south. But they do go north mostly, but they also go south because of the currents.

Jaime Pena [00:28:33] Once, they're old enough, they go back to their nesting beach. And the males tend to stay in front of the nesting beaches. They become residents of the area, whereas the females, once they mate, and they nest and they're done nesting, sometimes they're able to nest two or three times a year, once they finish nesting, they go back to their feeding grounds. A lot of them go north, a lot of them go south, but that's the females. The males don't go anywhere. They stay there and basically tell the females, see you next year, girls.

Jaime Pena [00:29:11] And, you know, it's like when I, when I'm giving this type of presentation and I tell, you know, I'm telling the public or the students, the girls always say, of

course, typical males like they're turtles, they're not guys. That's what guys do. No, no, no. I always tell people, yes, OK males typically act, act like males, so they, they stay resident.

Jaime Pena [00:29:34] And then the whole cycle begins again. They return to the beach where they, they were born. Most of them. We are seeing some new data that suggests that they might be expanding their nesting range to include other locations other than their nesting, their hatching grounds. So that's basically it, and then the cycle begins all over again.

David Todd [00:30:03] That's fascinating. And my understanding is that a lot of this knowledge is relatively new and that until the '40s, there really wasn't good visibility for where these sea turtles were nesting, and I was curious if you could talk about the discovery of Rancho Nuevo as the major nesting beach for the ridley and how that that news got spread.

Jaime Pena [00:30:32] Well, I think I mentioned that I'm a very lucky person and I am very, very lucky to basically have been in the middle of a historical transitional period of the Kemp's ridley conservation history. I actually met Dr. Henry Hildebrand, who, who was basically the one who discovered the film that Andres Herrera shot in 1947. And so Mr. Herrera was basically a conservationist before the word was even invented. He was a hunter, but he knew that he had to take care of nature. So he used to be a pilot. And he, his friends told him, a, you know what, you should go to this beach in Tamaulipas, in near Aldama, Tamaulipas. There's thousands of turtles and it's great you cannot even see the sand. And he was like, Really? Yeah, you can go.

Jaime Pena [00:31:30] So he started going, flying over the beaches from Tampico to Aldama. And he couldn't find anything. He couldn't find anything. And, you know, he was about to give up. And he said, you know what, one last time and he was sick. He had, he had a cold or a flu. And I know this because I interviewed his widow and she told me the whole story. He was feeling kind of sick and he's like, I'm just going to fly one more time and then go home because I feel sick.

Jaime Pena [00:32:00] And he flew over and in June 6th, 1947, it was a Wednesday, he saw the turtles and he was like, oh, there they are. And he landed his plane right in the middle of the beach as the turtles were coming ashore to nest. And he shot the film, you know, a 16-millimeter film. He shot all his friends and he shot all the turtles. And that's a lot of turtles. So the, the original estimate was 40, 40,000 turtles. We know now that was less than that. But it was still you know, it was close to thirty thousand. But the original estimate was 40,000 nesting females in that one stretch of beach. And he wanted to leave, but he couldn't because the turtles were so much that, you know, he couldn't take off. He had to wait until the turtle were all done. So that's, that's how he started taking film. And if you see, if you see the film, there's a lot of people walking around the turtles, walking on top of the turtles, riding the turtles and, you know, all that sort of stuff.

Jaime Pena [00:33:00] But so the, the funny thing is that he was very excited and he knew he had stumbled upon something very important. And he tried to show the film everywhere and nobody paid attention. Not that nobody cared, is like, yes, sure whatever. I've seen the letters that he wrote to MGM. He wrote letters to Walt Disney, I think 20th Century. All these production companies that could show his film. And they all said, no, thank you. That's fine. And so he just showed the film to his buddies, in family gatherings, and with friends, and exploremen clubs and associations and stuff like that. But he never got to show the film the way he wanted it.

Jaime Pena [00:33:52] So in 1966, Dearl Adams, a contractor from Brownsville, Texas, is a sportsman and a fisherman and they, they showed this film in one eye in one of those associations' meetings, and they tell that to Hildebrand, who was at Texas A&M, if I remember correctly, at the time. I was like eight. You have to come and see this. And Dr. Hildebrand had been looking for the main nesting ground in the Kimberley for years. Archie Carr, before him, you know, the godfather of sea turtle conservation, had been looking for the nesting run around the Kemp's ridley sea turtle for decades. This was a mystery. Everybody knew about the Kemp's ridley because, as I said, there were, the females and a lot of the juveniles were in the United States. So everybody was wondering, where are these turtles coming from? Where are the nesting grounds? And nobody could find the nesting grounds. You know, it was the riddle of the Rigley. That's what it was called.

Jaime Pena [00:34:59] And so Dr. Hilderbrand looks at the film and goes like, this is it. And he immediately writes, you know, the articles, you know, the finding of the nesting rounds of the Kemp's ridley. And it took off from there. This is 1966. Unfortunately, it was a little late because by the time Dr. Hildebrand publishes the discovery and at the same, on the same year that Mexico writes legislation to protect the sea turtles and opens up the first-ever sea turtle camp at Rancho Nuevo in 1966, the number of nests has gone from the estimated 40,000 to less than 1000 a year. And, you know, so it was like, they tried to protect the turtles, but every year there were less and less and less. So that's, that's how I, I met Dr. Hildebrand after he retired and I was working at the zoo back in the '90s.

David Todd [00:36:02] You know, it's interesting that by 1966, the turtle population had already declined so much from when Andres Herrera saw them in the '40s. Why do you think there had been such a decline?

Jaime Pena [00:36:20] Oh, that, that's, unfortunately, that's very easy to answer. So even back then, in the, in the '40s, there was a lot of take of eggs. But it was a local thing, you know, like I'm going to get some for my family to eat, to make bread or whatever, so, I mean, we're talking about thousands of turtles. So, I mean, you don't need a hundred nests to feed your family, if each nest is a hundred eggs. So that was take. The problem began when the take became commercial. So, for example, Dearyl Adams was one of the pioneers of Kemp's ridley conservation because he used to go to Rancho Nuevo and I've seen some, some of the pictures that he took and there's people just taking eggs like there's no tomorrow, and they're just filling up trucks with the eggs - truckloads of eggs, truckloads every time.

Jaime Pena [00:37:21] And it was easy to see because like they're nesting during the day. Everybody knew when there was going to be an arribada because of the dates and the weather conditions. It's very windy. It's after the full moon, whatever they thought it was. But there they are. And of course, as soon as the turtle starts showing up, everybody would tell everybody. And here they come, as soon as the turtles lay the eggs, the people would take them. So the commercial take and again, this turtle is very, very small. So it matures sexually in 10 years, 10 to 13 years, it's already ready to mate. But at the same time, it's not that long-lived. You know, it probably doesn't need to be 100 or 150 years old, like other sea turtles. So they were basically denying any new recruitment into the population by this commercial take. So in 20, 30 years, they were, it was just the old turtles were the ones laying the eggs and there were no new turtles. There was no recruitment into the population, none whatsoever. It was basically take every single egg from the beach, and that's what caused the decline.

Jaime Pena [00:38:28] You know, and then, you know, you start having the, what was called the pink revolution of the 1950s, the massive shrimping effort that began. And you know, back

then, shrimping boats did not did not know about turtle excluder devices, of course. So they did not know that their nets were, were killing juveniles and adults.

Jaime Pena [00:38:48] Add to that the regular predation and, you know, dying of natural old age causes, and you don't have any turtles in the population. So that's what happened.

Jaime Pena [00:38:59] I see. Well, you mentioned predation earlier, I think he said that coyotes and, was it raccoons

Jaime Pena [00:39:06] Raccoons and skunk. You know, main, main predators,

Jaime Pena [00:39:11] I say, OK, well, this might be a good time to talk a little bit about your work at Rancho Nuevo, because I understand that part of what you were doing was trying to protect the nests.

Jaime Pena [00:39:23] Yes.

Jaime Pena [00:39:23] And I was hoping you can maybe explain what a typical summer was like down there. What some of the work was with patrols and tagging and releases and so on.

Jaime Pena [00:39:35] Well, if I may rewind just a little bit, just to let you know how I got involved with Rancho Nuevo. Remember, I mentioned that the university would send us, the students, to Rancho Nuevo. So my first year at Rancho Nuevo was actually 1987. And I met Dr. Patrick Burchfield there, director of the Gladys Porter Zoo, in 1987, just because of my English. He, he obviously speaks a little bit of Spanish, but they were having trouble talking to each other for some reason and somebody said, hey, I think this guy knows English. Hey, do you speak English? Yes. OK, can you help us out with this gringo to lecture like passing words, nice to meet you, kind of thing.

Jaime Pena [00:40:20] And so I like OK, he said this. They said this. He said that. Like, OK, thank you. Bye. And that's how I met him, you know. And the following year I never saw him again. 1989, they asked me to go open up the south camp at Playa Dos. And like, sure. I'll go. And I'm just guarding that corral with 12 nests. Last year, 1989, I go to Rancho Nuevo, we actually get caught in a tropical storm and have to stay there for two and a half weeks. There was no way out and no way in. We had a lot of fish and a lot of crab, by the way, those two and a half weeks. And I never saw a turtle. I never, I never saw a hatchling. I never saw an egg, nothing. I never saw a turtle in those four years, you know.

Jaime Pena [00:41:05] So 1994, when I'm like, you know, I'm doing translating work, I'm thinking I'm going to go to the zoo and offer my services that maybe I can become a zookeeper. And so, of course, they tell me, well, you're a, you're not a U.S. citizen, you cannot work here. And I said, well, can I volunteer? And I said, well, we don't know because, you know, you have to fill our some papers. And I was like, OK, well. I was about to leave very disappointed when whom do I meet at the parking lot of the Gladys Porter Zoo, but Dr. Patrick Burchfield. And he remembered me, is like, hey, you're the turtle camp guy that speaks English like, yeah, what are you doing? Like come to my office. So I start talking to him and he tells me, like, well, I could use your help translating the zoo graphics. Can you help us with that? Sure.

Jaime Pena [00:41:51] And that's how I started at the Gladys Porter Zoo, volunteering and working as a consultant doing translating work for the zoo graphics. Now, this is 1994, and,

you know, Patrick was helping me out, was like, hey, you know, would you help me write the annual report for the turtle project? And I say, sure. What do you need me to do? So he shows me what he needs me to do. And again, this is barely the start of computers. So like he tells me, can you use a computer? Yeah, I didn't. I lied. But I figure it out. It's like tick, tick, tick, tick, tick, tick. OK. And I would make copies and then like, OK, there's a report.

Jaime Pena [00:42:29] And I was very proud because I remember the 1994 report has a lot of names and my name is the one right at the bottom, right at the bottom. And I remember getting a copy of the report and I told my mom, hey, look, Mom, see, I'm going to be on top of this one day because I kind of like doing this. OK. Sounds good. And so I keep volunteering at the zoo. And the following year, '95, Dr. Burchfield asked me to go work on the data at Rancho Nuevo. Again, thinking I'm this computer nerd that knows about data and numbers and statistics. I'm not. I think I look like one, but I'm not. I say, sure, whatever. How long? Two months. Sure. You going to pay me. Yeah, OK. And when do I leave? Tomorrow. Oh, OK. So I go to my parents and I, I have to go to a turtle camp tomorrow. Do what? I have to go to a turtle camp tomorrow so I need a lot of clothes and I'll be gone for two months. And of course my mom started crying. Mom, come on, I'll be right back.

Jaime Pena [00:43:32] So I went there and I'm like, OK. And so I'm the new guy and OK, here are the, and they gave me this huge long green accounting books. I don't even know they used it, if they still use them anymore. Maybe you can find one at Wal-Mart. I said, OK, this is where you enter the data. So here are your pencils and here your candles because there's no electricity and like, OK, so I will grab each data card for each of the turtles, which are the nests, and I will just copy all three information into these accounting books. All night long, because during the day I had to help out with camps. And I'm still not seeing the turtle. A month passes by, Patrick comes and I'm like, okay, well, here's a report. And not a lot going on in the first month. OK, no problem. So I'm thinking, man, this is, I'm just here, right? And I didn't know anything.

Jaime Pena [00:44:27] So one day, somebody comes in and says, there's turtles on the beach. And I didn't, I wasn't allowed to drive one of the ATVs yet. So I would ride with somebody and they would drop me in the middle of the beach. And as we were riding on the beach, I would see a turtle. Oh, there's a turtle. Boom! And then they dropped me off and said, OK, from here you walk five kilometers to the north and that's your area. OK, I know like I start walking and there's nothing. Because, I mean, this is 1995, the arribadas are not big. And then I see a turtle like, oh, OK, cool. And they had told me, don't let the turtle see you because they get scared. OK, so I pull back and I get behind the turtle and she starts digging, right. OK, I'm supposed to tag it and everything and make sure and everything.

Jaime Pena [00:45:18] But I have to wait until she starts laying eggs and she's taking her sweet time. And I'm like, what this turtle doing? And I'm just like probably ten feet away from her. I just lay down on the beaches and start crawling towards her so she cannot see me. And, and finally, here I was taking her to missing her left hand flipper, of course, she's not digging a hole. She's trying to dig a hole. But she she thinks she has the flippers still. Man, she can't dig a hole. So I tried to help her. You know, every time that she takes the right flipper off and does the movement with the little nub that she had with the left flipper, I take some sand out. And I'm there like, OK, time now for the right flipper, my turn to take the sand out. And I hope I'm doing this right. I didn't. The turtle finally got tired, gave up and left.

Jaime Pena [00:46:12] And I felt like crap. I like, damn it, I'm an idiot. I should have done this better because she left and she didn't lay. I'm feeling there sorry, feeling sorry for myself, all

depressed. And the guy on the ATV comes back and says what happened? And I tell him, dude, I screwed up. I mean, and I tell them what happened. Oh, don't worry about it. There's a lot of turtles like that. They'll come back. Are you sure? Yeah. Like, OK.

Jaime Pena [00:46:35] Bit something had clicked. I was like, this, this is it. This is what I want to do. This is what I want to do with my life. I want to take care of these turtles. I was like an epiphany of some sort of, you know. Like I was feeling sorry for myself. I couldn't help it. But at the same time, I was like, this is what I want to do.

Jaime Pena [00:46:59] So when Patrick comes the following month, he says, How are you doing? Having a nice day? And he just laughed, like, of courst it is. How long? Another month and then another month, like, OK. And can I stay? Yes. And so, and I kept going, like, can I stay until the end of the season? And it was funny because by the end of the season, he put me in charge of the turtle camp. Like, OK, this is cool. So I stay there. And the following year, in 1996, I was able to do a research project and I got my thesis done, and I finally got my degree because you need a thesis for your bachelor's degree in Mexico. So I did that at another turtle camp, at North camp. And by 1998, I was in charge of the whole thing.

Jaime Pena [00:47:51] And they offered me a job at the zoo and I had to do the paperwork with, at that time, you know, immigration, you know, all that, the paperwork and had to go through. And I got a working visa. And, you know, years later, I became a U.S. citizen after I was arrested. But that's how it began with me for, for that, for that turtle project, because by 1998, I was hired as a conservation biologist of the Gladys Porter Zoo to and part of my duties were take care of the U.S. side of the binational turtle project. That's how I began working. It was 1998 when I became the U.S. operations director for that Kemp's Ridley Binational National Project, which was a position I had until 2019, when I, when I left the zoo.

Jaime Pena [00:48:44] Gosh, that's a lot of time and experience and just seeing the whole evolution of the turtle program from.

Jaime Pena [00:48:54] Yes, I'm glad you mentioned evolution because (I'm sorry to interrupt you) as I mentioned, that was one turtle camp. And then there were three turtle camps. In 1996, the year I did my research project, I helped to open up the turtle camp at La Pesca. And then I opened up one in Altamira and then I opened up one in Playa Miramar. So now there were six turtle camps instead of three. So the three turtle, the six turtle camps of the Binational Project began in 1996. And, you know, it used to be that you just needed a couple of people and a couple of ATVs. But then everything, you know, the turtles started showing up in bigger numbers. So we needed more equipment, more resources, more people. And so the project evolved then from working by candlelight at Rancho Nuevo. And now you have electricity, it's fully, there's always electricity at Rancho Nuevo. Everybody has a cell phone. There's Internet access. So it's a, it's a far cry from the days that we had to go to a stream to take a shower because we didn't have any water at the camp.

Jaime Pena [00:50:14] Well, tell us about what some of the task were that you tried to take care of with your crew, at Rancho Nuevo and some of the other coastal stations that you were running.

Jaime Pena [00:50:28] Yeah, so it's, it's actually, I don't want to say an easy job or simple job, but it's - the job is this: you know, you're at the turtle camp. And the most difficult part of being at the turtle camps is that you're basically married to a lot of people for a long time. You know, it's not like, yeah, I'll see you tomorrow. You know, you go back to your house and then

you go to your office. No, you're there leaving, eating, sleeping in the same place with the same people for two to six months. That's probably the most difficult part of being in the turtle camp. It is the greatest reality show that has never been filmed. I can tell you that much.

Jaime Pena [00:51:07] But the work itself is three patrols a day, you know, morning, noon, afternoon, out looking for sea turtles or their tracks. There's a lot of other duties, you know, that the camp has. But the field conservation work is you're going to go look for turtles. Once the patroller sees three to five turtles, they're like, OK, they're coming ashore. So he goes back (the patroller used to go back - now he just grabs his cell phone and makes a phone call or sends a text). The turtle aer here. And then everybody goes and there's already pre-assigned stations, you know, like, OK, you're going to cover from this zone to this zone and we're going to pick up the nests from this time to this time. And there used to be a corral. Now there's three corrals for you to translocate the nest.

Jaime Pena [00:51:59] And of course, that work is, you know, sometimes depending on the resources allocated for that year, you get to tag sea turtles with pit tags and metal tines. Sometimes you get to put satellite transmitters on those turtles. But again, there's, there's teams dedicated for that - you know, the research team. The field conservation team is just picking up eggs and putting them in the ground. Not all of them. It's impossible. We have five, six thousand nests. You're not going to pick all of them up. So you try to prioritize. So you pick up the ones that are in danger of flooding. Or sometimes the turtle lays the eggs on top of the dune where it might get, you know, a lot of ants might get in. So you try to prioritize and also leave a lot of nests in one place. As I mentioned before, the more nests in one area, the less predation there's going to be. The predator might get one or two. But that said, they're going to get their fill with one nest. I mean, every nest has a hundred eggs. I mean, you're not going to see a coyote like, oh my God, there's five hundred nests this year. I'm going to eat them all up. No, he's going to eat one and leave. These animals are not greedy.

Jaime Pena [00:53:09] So, you know, and again, this is something that during the beginning of the season that experienced field workers are going to talk to the less experienced workers and, you know, assign work stations. And that's how we do it.

Jaime Pena [00:53:21] Every single day is different. Every single arribada is different. Sometimes they'll come out when there's wind. Most of the time they do. But sometimes they don't come out. They come out when there's no wind. Sometimes they'll come out in the middle of a thunderstorm. I mean, it's I, I was in the, I was patrolling and there was an arribada, and then a storm came out of nowhere. One of those that you can't see anything: it's just rain and thunder and lightning. And I was just there on the beach, got away from the ATV. Like, I want to go, like I'm going to hit by lightning. And I was just standing there in the rain and like, OK, I can't move because I can't see anything. And as soon as it appeared it disappeared. The sun came out, the thunderstorm was gone. There were no more clouds. And when everything cleared up, all we saw was tracks of turtles, hundreds of tracks of turtles. Kind of like what happened? What happened? No, they came out in the middle of the storm. They laid their eggs and left. And I was, we were like, OK, well, this is easy because the rain had made the tracks and the nest beds very visible. So we found the nests pretty fast. But it was still something. It was incredible. It was like, what? Because the storm lasted maybe 30 minutes. And in that time, hundreds of turtles showed up, laid their eggs and left.

Jaime Pena [00:54:44] And sometimes they nest in the middle of the night when there's too many of them. In 2011, close to 7000 turtles, no, yeah, they all laid at once in a one kilometer stretch. All of them came out at the same time and there was nothing no one could do because

what can you do? You cannot use the ATVs. The beach is covered in turtles and they all came out at the same time, in the same place. And then there was a lot of self-predation because, you know, they were digging the eggs from the other one, the previous one. But it was like, OK, other times they start at seven o'clock in the morning and they finish at seven o'clock the following day, 24 hour arribada. I've been in arribadas that have lasted for thirty six hours. You know, there's a little break and here they come again and there's a little break and then here they coming in.

Jaime Pena [00:55:41] It's a, it's a very gratifying and satisfying feeling when you're translocating nests in to the corral and all of a sudden here comes the sun and you realize you've been working for almost 24 hours a day and you're not tired. That's, it's a great feeling. So it's every single arribada is different. So the only thing that doesn't change is that the people that are doing this are the most dedicated to the work, that's for sure.

Jaime Pena [00:56:11] And, you know, the, the usual stuff you have to keep up, keep the vehicle, the vehicles running, make sure there's enough fuel for the vehicles, make sure there's enough food for the people, make sure that the people have the equipment needed - pencils, plastic bags to put the data cards in, flagging tape to mark them in, all the stuff.

Jaime Pena [00:56:31] So, I was, again, I was very lucky that I was able to to help out during that time. So when I started the biggest arribada was 300 turtles. We would get very excited with 300 turtles. And the party would last for days because we knew that the turtles weren't going to come back until two or three weeks later.

Jaime Pena [00:56:54] Nowadays, the arribadas can be up to 7000, sometimes arribadas last the whole month. I mean, there was one year where we recorded turtles laying eggs from May 1st to May 27th, straight, no break, every day there were nests, whether it was 10 or 20 or six hundred, or a thousand. But every day we recorded nests - almost the whole month of May.

Jaime Pena [00:57:21] So just, just I I feel very privileged to have been witness to that and a part of that, that, you know, it's like started out with one little camp my first time, 1987, it was just camp, one camp at Rancho Nuevo. And now there's six turtle, six turtle camps. And and the numbers have appeared to, they're not increasing as dramatically as before, but they sure have increased from back, you know, 800 nests back in the '80s.

Jaime Pena [00:57:53] Well, and why do you think the number of turtles that are nesting and the number of places that they're nesting seems been increasing, at least until recent years?

Jaime Pena [00:58:06] I think, I think it's the same reason for both. So, so as I mentioned, back in the '80s, there was only one nesting beach, at Rancho Nuevo. And this year, for example, 2021, you have a lot of nests in Texas and in Tamaulipas, but you have nests registered from the Bolivar Peninsula in North Texas, which is a little north of Galveston Island, and then Padre Island National Seashore, South Padre Island, Texas, Boca Chica beach, the six turtle camps in Tamaulipas. There's 19 nesting sites in Veracruz alone. Now, mind you, this is like not massive - thousands of turtles - but 19 nesting sites in Veracruz have Kemp's ridleys registered so far in 2021. There's a couple that have been registered in Campeche. And for the first time ever nests have been registered officially in Yucatan. So that's like the whole Gulf of Mexico right there, from Texas to Yucatan. And if I'm not mistaken, from Galveston to the Yucatan, it's close to seventeen hundred miles. So from one tiny little place back in 1987 to 1700 miles worth of nesting sites.

Jaime Pena [00:59:29] And so I think what happened is obviously the, the work that has been done has worked. You know, the hatchlings have been released, but at the same time, and this is just something that just came up, and I'm, I'm torn between agreeing or not agreeing, I would have to look at more data. But the theory is that what happened was, there was too many hatchlings released, we released too many babies in the Gulf of Mexico. So now there's more sub-adults and juveniles than adults. There's a lot of turtles in the Gulf of Mexico and the Gulf of Mexico is not as healthy as it used to be in the 1940s. Hell, it is not as healthy as it used to be in the 1980s. You know, this, there has been a lot of degradation in the Gulf of Mexico.

Jaime Pena [01:00:19] So there's not enough resources for all of the turtles to have. So the nesting females don't have enough food to be able to produce four clutches like they used to. Now, the average is they nest one to two times. Where back in the '80s, you could easily see them nesting more than two times, four times even. And so, you know, and so that's one.

Jaime Pena [01:00:47] And the other thing is the same reason, you know, the females that want to go back to Rancho Nuevo or whatever they were born, that they don't have enough resources, they don't have enough fuel to make the trip all the way. So they're nesting everywhere. Because they are capable of you know, they have nesting fidelity, but they also have behavioral plasticity. That means that they have the capability of saying, I want to go nest to to the beach that I was born, but I don't have enough fuel, so I'm just going to nest here. So they're nesting in Yucatan, in Campeche, in Veracruz, in Tamaulipas, in Texas. So all across, you know, seventeen hundred miles. So I think that is happening.

David Todd [01:01:30] They're nesting closer to where they're foraging because they don't have...

Jaime Pena [01:01:34] Yes.

Jaime Pena [01:01:34] The nutrition to get all the way to their original natal beach?

Jaime Pena [01:01:39] Yeah, yeah. And that's also why there's, so the increase was very dramatic. It was a 19 percent increase every year. And so there's a lot of, the nesting just, the increase was stopped in 2010, and a lot of people say it was because of the oil spill. But when the oil spill happened, Deepwater Horizon, it happened after the turtles had left the foraging grounds to the nesting grounds. So that year was a good year for nesting and 2011 was a very good year for nesting also, so we think what happened was that, it's just, again, that there's not enough resources for the turtles to be laying more than, than two times, maybe one time. Because, see, if the turtles that, that in 2007, there were over 25,000 nests. So we haven't seen that, after that, after 2007. And it decreased in 2018 and it decreased in 2019 and it has, so it hasn't reached the 25,000 from that year. You know, last year, I believe it was like around 20,000. I'm not sure. So, you know, and it mirrors and Texas mirrors what happens in Tamaulipas and in Texas, the record was 300 and something in 2017, and it has decreased since then. But it hasn't been a steady decline. It hasn't gone down, down, down, down, down. No, it's just, it's really, I think it's leveling off. I think that's what's happening.

Jaime Pena [01:03:23] So you said that the Gulf seems to be degraded and the turtles are having a harder time finding the kind of nutrition they need when they're foraging. What's responsible, you think, for the changes in the Gulf? Why do you think it's degrading?

Jaime Pena [01:03:43] So many think the turtles... I don't want to give you the standard answer, that it's actually the humans that, we do everything, you know. I don't want to say

that, but I think it's a number of things. You know, it's often, you know, there's some natural degradation, of course. But I think it's just a combination of things, you know: pollution, the human impacts, the human impact on the Gulf of Mexico, overfishing, the, for example, the shrimp industry. It's having a lot of trouble in the Gulf Coast. It's not as good as it was before, and believe it or not, the Kemp's ridley particularly, were used to having the shrimpers because of all the bycatch that they would throw away. You had a lot of turtles following shrimpers because hey, here comes the guy that throws seafood, you know, so so that had an impact that the shrimping industry declined.

Jaime Pena [01:04:37] Another thing is that the blue crab population declined and blue crab is a favorite food for the Kemp's ridley. And that the population, for whatever reason, has declined.

Jaime Pena [01:04:48] So, and obviously, climate change is a big factor. I mean Kemp's ridleys are what you call a thermal species, they're I mean, their sex is determined by temperature and all them are temperature-dependent, 100 percent. They're a thermal species like all reptiles. So just a combination of, just a combination of factors.

Jaime Pena [01:05:14] Maybe we can back up just a little bit. I think that you talked about your efforts to protect some of these turtles when they were at Rancho Nuevo. And I was wondering if you could give us just a little bit more detail and say, you see these turtles coming ashore. They dig a hole, they lay their eggs. Can you sort of walk us through what, what happens next for those of you who are on the beach?

Jaime Pena [01:05:44] Yes, of course. Our first thing that you have to know is that the eggs are not moved. They're moved as fast as possible. Flagging tape is used to determine which nests are to be picked up first. So, for example, if you see a nest marked with orange flagging tape, oh that means that's from the past four hours. If you see one with pink, OK, that, that was just, that's just happened. So we can leave that for a while. But we, the, what the crew tries to do is pick up the nests before eight hours pass. So they should be picked up within two hours of them being laid. They're still fresh, if you want to call them that. Because if you leave them for longer, they're going to get calcified and the embryo is going to attach to the egg. And so if you move them, you're going to kill all the embryos. So one of the little things we know that the eggs are calcified once a huge white spot forms right on the top in the middle of the egg. And that's, that means that the embryo has attached and the egg begins to harden, to become calcified, because when the turtle lays eggs, they're very soft and leathery and you can move, the embryo is still not attached. So the eggs have to be moved, at the most, before eight hours pass.

Jaime Pena [01:07:11] They are transported as carefully as possible on the ATVs. Sometimes there's trailers, sometimes there's trucks, but they are transported to one of the three protected corrals on the beach at Rancho Nuevo. And there a team will pick up the eggs which are put in a woolen bags. And put in a corral. And then there's a team that's just digging the holes, digging the holes. And then another person comes in and shapes that hole, which is about (I'm metric system, sorry), it's a meter, it's less than a meter deep, and then you shape it to what the turtle does, which is in the form of a flask with a rounded bottom, you know, and then just like you try to shape it, if you choose to do this at the beginning of your time at the camp. So they're doing it. They're doing it. And once that they said, OK, this hole is ready in the corral. It's a facsimile nest. Then the eggs are dropped into that facsimile nest, covered up with the sand, and then a stick is put with a data card and the flagging tape.

Jaime Pena [01:08:23] So and then, you know, we just leave it there. Or what we do later, what is done later, I'm sorry, I keep saying like I'm still there. What is done is 30 days after the nest is put on the, on the ground, you put a wire mesh around it, like a mini-corral surrounding it, you put it in the middle and then you cover it with cloth. This is to prevent parasitic fly infestation because flies will go and smell the eggs and lay their eggs there. So then all the eggs are going to be infested with maggots. So you don't want that. So each and every single nest from that day, let's say that you picked up 600 nests that day, well, 30 days in, you're going to put a cloth over those 600. It's a fun activity not a lot of people like.

Jaime Pena [01:09:24] So you, you put it in and then you protect it and then you wait another 15 days for the hatchlings to emerge. So the protection with the little wire corral around the nest is not only protecting them, but it's going to keep the hatchlings in there. So when they're all, when they all pop out, but they all emerge, you can just take them out and count them. That way, you know exactly what the emergence rate for that nest was. So it's usually between 80 to, you know, 75 to 80 percent, on average. Sometimes you get 100 percent. You know, you pick up the, you clean up the, the nest, the facsimile nest. And there's nothing there, so that's like perfect - 100 percent.

Jaime Pena [01:10:04] So, and then you will release the hatchlings all over the beach. You cannot release the hatchlings in one place because then you're just basically training all the fish to be there to wait for their food. And, you know, you let the hatchlings imprint on the beach, meaning that you don't dump them in the water. You put them near the water, in the sand, and you release them. You let them imprint on the beach and then that's it. That's all you can do for them. Vaya con Dios, you know. And we do this before, very early in the morning before the sun is hot, or at night. Why? Because the turtles are jet black, the hatchlings. And so imagine releasing thousands of baby sea turtles, black, jet-black baby sea turtles into the Gulf. All the seagulls are going to cook it. So and then, and then, you know, rinse, repeat. You do that in every single camp. It's the same standard operating procedure. All of the six turtle camps in Tamaulipas follow the same procedure.

Jaime Pena [01:11:09] And do some of these eggs also get moved to the United States or to other possible nesting sites?

Jaime Pena [01:11:18] No, there used to be a head-starting program that began in 1978 and lasted until 1980, something. I don't remember the history. But the Head Start project was to establish a secondary nesting colony of Kemp's ridleys here in Texas. And it began in 1978, and it was spearheaded by the National Marine Fisheries Service lab in Galveston, which is no longer here, and the National Park Service also. A lot of people don't know this, but the National Park Service was instrumental in creating the, the Head Start program and the binational Kemp's ridley sea turtle program.

Jaime Pena [01:11:56] And one of the main goals of that, of the project, which, of course, is still going on today, is to expand the nesting range of the Kemp's ridley to, because literally all the eggs are in one basket. You know, that's not good for the species. It's just in one place. Imagine if something happens to Rancho Nuevo, that's it for the species. So the main goal was, one of the main objectives was, you know, let's try to expand the nesting range, which is why eggs were brought in from Tamaulipas to Padre Island, with Padre Island sand. And so they basically imprinting in Texas. So when the hatchlings were released in Texas, they would come back to Texas and I would say it has worked because again, you know, seventeen hundred miles of nesting range, so, yeah, one of your objectives seems to be within range of

being accomplished of expanding the nesting range of the turtle from one place to over 30 nesting sites already.

Jaime Pena [01:12:56] The, I think something else that I understood you did when you were working with these turtles is tag some of those that you were releasing to the Gulf. Can you talk a little with that?

Jaime Pena [01:13:12] Yeah. So when I started back in the you know, officially back in the '90s, we did have a small tagging program because there was, so basically it was like if you see a turtle tagged, and we had enough tags because again, you know, the arribadas were 300 turtles, at the most. So if you were out there patrolling, you would see a turtle, you measure it, you tag it, you record everything. Boom, boom, boom. And so it was that like you have to tag everything. You have to tag everything. And then, of course, we also had to pick up every single nest, because at that time there were not enough nests to be left in situ on the beach for predator satiation. You have to pick up everything, because if you left one or two on the beach the following day, they would be gone. They would be predated 100 percent. So we had to, if you'd see a turtle, you'd tag it, you see a nest you'd pick it up, every single one. That's why it would take us sometimes, 300 nests, it would take 12 hours. Because it's like, OK, you have to pick up every single nest in every single part of the beach. And you will go up and down, up and down, making sure they never. So we tagged all the turtles.

Jaime Pena [01:14:22] So it, when the turtles started increasing in numbers, we had to prioritize resources. In this case, the tagging had to go because, you know, I don't have enough resources to protect all of the nests and tag all the turtles. So I have to choose, so, of course, protecting the nests too. It's a priority. It was a great project. I mean, we learned a lot about the turtles, about how they grow, about their inter-nesting intervals. So we know that they come back to nest every 18 to 21 days after they nest the first time. We know just, just today, I found out that a turtle that was tagged in the north camp in Tamaulipas in 2015 was seen nesting in Padre Island National Seashore in 2018, and it was registered nesting yesterday at South Padre Island. So that's the kind of stuff and information that you get from a tagging project. Then I was in a couple of fundraisers at the zoo where the main objective was we were raising funds to continue the tagging research. So we, the objective was PIT-tagging and metal tagging one thousand sea turtles, Kemp's ridleys, a season. And we did that from 2014, '15, and '16, and '17 - for four years. And then, you know, we stopped.

Jaime Pena [01:15:54] Were these the radio telemetry tags or were they marks on the carapace or what?

Jaime Pena [01:16:01] No, they were flipper tags, metal Inconel metal flipper tags, which are tags on the left front flipper and the PIT tag, which is a Passive Integrated Transponder tag, basically a microchip the size of a grain of rice that you inject on the left front flipper as well. As you can imagine, they're not cheap.

Jaime Pena [01:16:20] And so these microchips, they can be read only when they come back ashore or they can be read remotely?

Jaime Pena [01:16:29] Yes, they can only be read by a PIT tag reader like the ones that they put on dogs and cats and veterinarians have the scanners. So, you know, some of the crew members have scanners and they scan the sea turtles to see if they have a PIT tag on.

Jaime Pena [01:16:44] I see, and how would you know that, these microchips are really small. Would the metal flipper tag alert that that's a turtle that needs to be scanned...

Jaime Pena [01:16:55] Sometimes.

Jaime Pena [01:16:55] And read?

Jaime Pena [01:16:57] Yeah, sometimes. And other times you just cannot. You just cannot and, you know, if you have a scanner just pass the scanner real quickly over the left front flipper, and it should give you a reading if you have some time.

Jaime Pena [01:17:08] OK, well, another question occurs to me: you said earlier that, when, one of your first time down at Rancho Nuevo, you were trying to help a nesting female dig her hole and you discovered she was missing a flipper. Could you talk a little bit about some of the casualties that you see in the sea turtles that come ashore? I think you've worked on some of these necropsies, and I thought maybe you have something to tell there.

Jaime Pena [01:17:41] Yes, well their main predator in the ocean are sharks. You get to see a lot of nesting females with shark bites. Small shark bites, big shark bites. And but turtles, sea turtles, all species, are very resilient and they heal very fast. So a lot of them, you see them with chunks taken out of the carapace and it heals over. You see them without flippers and they're fine. So but yeah, that's their main predator out there are sharks.

Jaime Pena [01:18:19] And as far as the necropsies go, well, unfortunately, when you see a dead sea turtle, you know, a stranded dead sea turtle, a Kemp's ridley, is mostly due to human interaction. Boat propeller hits or long line. So that's, that's unfortunate. And it sometimes you don't even need to necropsy them. You see the hook and line, or just tangled up in a net. Or, you know, just the wounds that are consistent with the propeller wounds. That's, that's the kind of threats that the turtles face sometimes.

Jaime Pena [01:19:04] And then I gather that you're, the last year or so, you've been working at Texas State Aquarium...

Jaime Pena [01:19:12] Mhhmm.

Jaime Pena [01:19:13] And I believe that involves rehabilitation work there. Can you can you talk about what you saw with this cold-stunning that we experienced in February?

Jaime Pena [01:19:26] There were a lot of green sea turtles! Like, a lot. It's incredible. And, you know what, I was thinking about the, when I was, when we were here, because I was basically stuck here at the rescue center for over a week, because the winter storm was so severe that we were basically stuck. You know, the roads were, we couldn't go anywhere because the roads were closed and everything was iced over. And I remember telling the people here at the Aquarium like, there's going to be a lot of turtles, right? And they said, yeah, say, well, OK. And so right after the winter storm passed, the turtles started coming because nobody could go out in the storm, which is fine. I mean, you don't want to risk your life, but once the storm passed, the boats went out and the public came out and everything and turtles started washing up ashore every single place. And we actually got over two thousand here.

Jaime Pena [01:20:21] So, you know, they were coming at all hours after February 18th, and I was, I was put in charge of determining whether or not to put them in the water or leave them

in dry dock. So like, OK, this one looks fine, let's put it in the water. This one looks more or less, let's set it aside. And we're looking at that. And then a team of veterinarians came and we're looking at the turtles. And it got to be so many turtles that basically it ended up being the National Marine Fisheries Service's recommendation - OK, that's it. Only two categories: alive and dead. Because otherwise we're not going to, we're not going to be able to respond adequately. I mean, it took everybody by surprise, not only the winter storm, but the sheer number of green turtles that it was determined, you know what? Don't write anything on them. Don't tag them. Don't do anything. Just alive/dead, alive/dead, because we couldn't do it. So if it's alive, put it in the water. If it's alive, put it in the water. Like that.

Jaime Pena [01:21:21] We have our tanks here at the rescue center. I'm going to say that we had 900 green sea turtles in the tanks, at some point, you know. And then they were like, OK, they're, you know, we gradually brought them back to the temperature and they're all fine and like, OK. And then we had to look at each and every single one of them and say, OK, this one is ready to go, put it in the truck. And ah, nope, this one is very weak. It's not reacting. Put it back in the tank. And, you know, we ended up with one day we sent 805 turtles out to the boats, you know, and we're part of that massive relief that was all over social media at that time. So that was, that was a fun week.

Jaime Pena [01:22:08] Of course, there were professionals like you and the veterinarians, but from what I've heard, there were a lot of people, just sort of lay people from the public, who got involved.

Jaime Pena [01:22:19] We could not have done it without them. I mean, at some point, I, we have a small dock. There's a small bay behind the rescue center. And there were people coming in their boats. "I have turtle!" And, you know, a lot of them were dead, but a lot of them were alive. So, like, okay, no, man, thank you very much. And we'd pick up the turtles and like, OK. And a lot of people kept coming in and a lot of people were calling us. Hey, I have a turtle. Where at? Boom boom. Location, location, location. And they're like, OK, we will go send out the vehicles to rescue the other turtles.

Jaime Pena [01:22:53] I mean, the stranding kept going on, kept going on for days - you know, in smaller numbers, of course. But, you know, while we were working with the massive stranding of the February 19th, the following day, we had like 8 or 12. We have a 12 year at North beach. We have about 24 here. OK, let's go get it.

Jaime Pena [01:23:15] And then, of course, you know, the aftermath of that was that with the release, it wasn't over. We knew what was coming because we have dealt with this before. I've dealt with this in Mexico and the people here that have dealt with it before. We knew that the stranded dead sea turtles from the cold stun that basically died out there in the middle of the ocean were coming. The currents were going to bring them in.

Jaime Pena [01:23:41] And sure enough, a week later, here come the calls. I have a dead sea turtle here, I have a dead sea turtle there, and picking them up, you know, because that's part of our job. We have to go pick up the dead sea turtles. Nobody else can do that because they're a federally protected species. You have to have a permit. And so we work together with Parks and Recreation Department of the City of Corpus Christi. They were very helpful. They would help us and like they would tell me, hey, I have this in the park and this one. And one day I picked up 67 carcasses in one day. I mean, I got out of here at eight and came back at seven - eleven straight hours of picking up carcasses, because we knew that was going to happen.

Jaime Pena [01:24:19] So, you know, when a lot of people were like hey we're so sad that so many died. Well, yes, but a lot of them were rescued and a lot of them were like much, many more that than were dead. And also think about this: if the turtle weren't coming back, there wouldn't be so many. And it goes back to the, and it all goes back to Rancho Nuevo, which is like a circle because it's not a species that is worked on over there. But this, the mere presence of the biologists and in the area near Laguna Madre, which is the habitat for the green turtles has helped that population. So it's, it's nice to see that there's a lot of green sea turtles to

Jaime Pena [01:25:04] Well so explain a little bit more about how this sort of spillover to the green sea turtle, how they have been helped.

Jaime Pena [01:25:11] Just by the presence of, just by the human presence. You know, the beach patrols occur. And you know, well, first of all, green sea turtles don't have a lot to worry about predators, animal predators, because they're, they're massive turtles. Coyotes not going to mess with them. And their eggs are very, very - we're talking about over six feet deep. And so coyote is going to give up. They, they don't predate the eggs. Once a year, I was I was asked to locate and relocate, a green sea turtle nest because it was on the, on the dune and it was going to get, you know, invaded by ants. And OK it takes a while to find the green sea turtle nests. They are very difficult. But once I found it, I had one of the biggest scares of my life because I felt like, OK, I started digging and I felt fur, I felt something furry in there, and like, I just jumped back and I was like, what the heck was that? I was very scared. And I looked, and here comes a skunk out of the nest. And then I backed up even more. But the poor thing was completely disoriented. I mean and I see that he had gotten a couple of eggs. The little guy was like, oh, I'm going to get eggs from this turtle, while she's laying, and I guess he got careless and poop, got buried with the rest of the eggs.

Jaime Pena [01:26:42] My gosh. And I was just thankful that it was very disoriented because as soon as I realized I was kind of like, oh, no, I'm going to get sprayed. And I've gotten sprayed by skunks. It's not an experience that I want to repeat. So I was like, OK, this is just tumble. Get along, little skunk. Dumb skunk. You almost died.

Jaime Pena [01:27:03] So it was, so they don't have to worry about that, but they did have to worry about poaching. And poaching is basically nonexistent in the, in the, in those Mexican beaches. And it's not just because it's a crime and the biologists are going to get you or we're going to report you. It's because of the education efforts from the project. I mean, when I was, in the '90s, we basically used to throw parties with a clown and a pinata to the local children. You know, nowadays we you know, they can go with PowerPoint presentations and videos and that. But back in those days, it was like, OK, kids, turtles are cool, you know, don't do this. And the kids at the local tows would tell us my grandpa used to eat eggs. Like ah, yes, well he shouldn't eat eggs, because it's bad for him because they're very high in cholesterol and also it's bad for the turtles. Oh, OK. And you know what? Some of those kids are still working at the turtle camps in the crews right now. So it was like, there's no pushing. So nobody messes with the sea turtles over there. It's incredible.

Jaime Pena [01:28:10] Well, that's something I wanted to ask you before we wind down, is, you know here you've done this as a professional, as a career, but it sounds like a lot of your work is also about dealing with the public, whether you're educating them down on the beach or during a cold-stunning episode. And I was just curious to know what sort of message seems to resonate with the public when you try to explain, you know, the life history of these turtles and why it's important to take care of them, and the risks that they run, and so on.

Jaime Pena [01:28:46] Oh, yeah, definitely. It's, it's a, I'm happy you mentioned the why of it, because one thing that the turtle has is that it's a charismatic species. So that helps. That's half the battle right there. It's easier to to convince people to help out a sea turtle than it is to help out a snail, even if a snail is as important as the sea turtle, because they're a charismatic species, just as wolves and tigers, which receive a lot of support from all over the world because they're so cool to look at. I mean, I have a T-shirt with a wolf in it and all that kind of stuff. But people are like, oh yeah, you want to consider the spider? Oh, my God. So, you know, so the sea turtles have that going for them. They're charismatic.

Jaime Pena [01:29:27] But people do ask why? Why can't I? I like eating the eggs. And this is a debate that I had in the middle of the beach with people trying to steal the eggs from me. And it's a debate I had with older folks when I was giving presentations. Hey, I ate the eggs, nothing happens to me. Why, why, why can't I just eat just like a little bit?

Jaime Pena [01:29:47] And, you know, never antagonize people. Always try to look at it from their perspective because hey, you know what, they think they're right for a reason. You know, you cannot tell them you're wrong because I tell you they're wrong. No, you, you have to try and figure out, hey, you know, they're thinking they're right because of this.

Jaime Pena [01:30:05] So I would always try to like, I understand. And then I would find out more about what's happening. I would go, OK, well, you know, you're trying to feed your kids. Like hey, I understand, I said. So we would try to reach a common ground, and a middle ground like. And I would tell them like, see, the problem was when you start to sell the eggs, see, the problem wasn't when you were eating the eggs because you were making bread and you were drying the eggs, and eating the eggs. But you would get like one hundred eggs and you were set for the whole week.

Jaime Pena [01:30:38] But then you start picking up a thousand eggs to sell them, right? Several, yeah, because I needed the money, some. Now, this is different, now you're making a living of another living thing. And like, OK, well. So, you know, you try to reach a middle ground and try to explain the lesson, but like in the middle of the beach, this guy was trying to get these extra eggs. Come on, just give me 20 and you keep the rest. Like, I can't do that. You can take all of them if you want them. He had a machete on his leg. Like, look, I got to the eggs first, so I'm going to protect them all. And I'm not going to give you 20, no matter how much else. Now if you tell me that you're going to take all of them from me, have at it. I'm not going to fight you.

Jaime Pena [01:31:19] Hey what's like twenty like? Well, see, the thing is that I don't know which 20 I'm going to give you. And I, and then I would sit down with him, let me tell you what happens here. So I have one hundred eggs here. Right? And I'm going to put them in the corral, right? And I'm going to wait for the babies to be born. Let's say that all the babies that hatch are 100. I get 100 out of 100. Yeah, exactly!

Jaime Pena [01:31:36] Hold on a second. I get the hundred and I put them on the beach and they all leave. Right? Which one of them is coming back? Which one of them is going to become an adult? And which one of them is going to become a female? And which one of them is going to survive enough to mate with a male and come back and nest? Which one?

Jaime Pena [01:31:56] I don't know. I don't know either. So I have to protect them all because I don't know which one of them is going to make it.

Jaime Pena [01:32:03] And I would tell them one out of a thousand makes it to adulthood. One out of a thousand. So here, these hundred eggs that I have - nothing. I mean, they don't have a chance. I have to give the species a chance. So really? Yes, one out of a thousand. Yes, sir. One out of a thousand. Why? How?

Jaime Pena [01:32:25] And then I would come and look, if I'm not here to protect them, you're not here to poach them, half of them are going to get eaten. The other half come out, half of them are not going to make it because seagulls and crabs are going to take them. And then the ones that make it out into the ocean, here come the fish. And let's say that they make it through the gauntlet of fish. They reach a little, they become teenagers or adults. Here come the sharks. And if they survive the sharks, oh, my God, here come the boats and so on and so forth. Do you know which one is going to make it? And they're like, ahh, well, you're right. All right. So not even one? No, not even one, you know.

Jaime Pena [01:33:04] So you try to explain to them that, you know, that that turtles are in trouble too. You know, so, and that's why the project started helping out by, you know, we're going to hire people from the local towns, to, to become field workers and to become field biologists basically, because you don't need a degree to do the work. You just need to care for the turtles.

Jaime Pena [01:33:31] It's a wonderful story of you changing minds and changing hearts. It's a powerful thing. Well, I think we should not take up your whole day and you've been so generous, but I was curious, as you have worked with these turtles for so long, what do you foresee for them, for the Kemp's ridleys? What do you think's coming in the future?

Jaime Pena [01:34:01] It's all going to depend on the conservation efforts and, and that they evolve. Right now, there's, I think that the project and the way it's done should change and adapt to the population. I think studies should be made about to try to learn as much as possible about the current state of the population of the Kemp's ridley and take it from there, because there's a theory about, that there's too many juveniles is correct, that means that perhaps the protection efforts should, not stop by any means, no, God, no, but it should change. And, and also, you have to think about the fact that the resources are limited. Because unlike before, you know, you have to be able to have the necessary resources to protect. But how many are you going to protect? Are you going to protect those 25,000, or are you going to protect a fraction of that? Are you going to have a presence like you have at all the sea turtle camps in Tamaulipas, as you have right now? Because see, the other nesting sites are fine because we're talking about, well, like I said here, just in Texas, there's, there's 300 nests a year. It's a lot.

Jaime Pena [01:35:24] But in the main nesting beaches ... I mean, I've, I've always argued for the past decade or so that perhaps Rancho Nuevo should be the only conservation camp solely dedicated to the conservation of the species. The other five camps have the potential to become research camps and most importantly, educational camps and awareness. You can do public releases. I've never been against hatchery releases. I'm all for them. There's nothing like watching a kid release a turtle. I mean, it just brightens not their day, but their life. It changes them. It changes them completely. So public releases - yes, I'm all for them. They change minds. And they change lives.

Jaime Pena [01:36:10] So maybe, we should (maybe not we, of course, I'm not working there anymore), but perhaps the efforts should evolve and change. And once that happens, then we'll know what happens to the turtles, because I think the turtle is stable, but it's also in

danger of once again going down. So we have to be very careful with that. Very careful of not, not putting too many turtles out there. You know, so a population analysis is very much needed. Because we know where they go, we know where they are. We kind of, sort of need to know how many there are. And the only way that's going to happen is the way that the turtle survived extinction.

Jaime Pena [01:36:58] And the way that the turtles survived extinction was cooperation. That's it, just from people that wanted to help in cooperation. Nobody did this on their own. It wasn't the government of Mexico. It wasn't the government of the United States. It wasn't the Gladys Porter Zoo. It wasn't the National Park Service. It was everybody. It was Universidad Noreste. Everybody chipped in, because just like I just mentioned about the fact that I don't know which one of the turtles is going to make it. I don't know which one of the efforts made, made this possible. I don't know which turtle that they save, which egg they protected, which hatched and they released. So it's a cooperative, the only thing that saved the turtle was cooperation and working together.

Jaime Pena [01:37:41] And, you know, I don't want to be a cynic, but we need to see more of that. And unfortunately, we don't see a lot of that as frequently as used to. So that's, the future of the Kemp's ridley is still dependent, it's still a conservation-dependent species. If you stop the conservation, that the Kemp's ridley will go back to, to being in danger. So we're still conservation-dependent and we need to take care of it, but we need to take care of it together. You know, combining efforts.

Jaime Pena [01:38:16] This, what you're doing, David? This oral history of the Kemp's, this is part of it. Every single thing helps, whether it's a presentation by a high school student, or David making an oral history of, or people protecting an egg at Rancho Nuevo, or at Yucatán. Every single thing helps the species, every single thing. And that's how, that's what the future is for the Kemp's ridley.

David Todd [01:38:47] That's a powerful argument that I think a lot of people worry that they, they're not doing enough, that they're small, or isn't sufficient.

Jaime Pena [01:38:57] No.

David Todd [01:38:57] And maybe it's, it's a part of the solution. Well, let me just ask you one last thing. Was there anything you'd like to add, just sort of general thoughts about Kemp's Ridleys or other topics that you have on your mind?

Jaime Pena [01:39:12] Well, I. The Kemp's ridley is a very important part of my life. You know, my parents, my family, my wife and kids and the Kemp's ridley - they're an extremely important part of my life. I mean, it is, it's funny that I was just there, supposed to be there for two months, and here we are 25 years later and we're still talking about it. It has changed my life and every time that I can do something for the species or the fight, I will. I mean, I am not at the Gladys Porter Zoo any more, but I am still with the Kemp's ridley, and anything I can do to help them, I'm there.

Jaime Pena [01:39:55] And happy World Turtle Day! Coming up, I think, on Sunday.

David Todd [01:39:59] So is it?

Jaime Pena [01:40:01] I think so.

David Todd [01:40:02] We will celebrate.

Jaime Pena [01:40:03] Yes.

David Todd [01:40:04] And in part due to all that you've done, there are turtles to celebrate. So thank you so much.

Jaime Pena [01:40:11] Thank you, David, for the opportunity.

David Todd [01:40:14] So fascinating and heartwarming to hear about your work with the turtles. And I wish you all the best.

Jaime Pena [01:40:20] Thank you. I appreciate. I hope we can meet one day in person.

David Todd [01:40:24] I would enjoy that. Well, again, thank you for taking the time to do this. And I hope you have a good day, and that our paths crossed, so,

Jaime Pena [01:40:33] Yes, we'll stay in touch.

David Todd [01:40:35] All right. Great. Thanks so much.

Jaime Pena [01:40:36] Take care.

David Todd [01:40:36] Bye now.