DON PAUL

Mountain Green, Utah

An Interview by

Greg Smoak

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THIS IS AN INTERVIEW WITH DON PAUL ON OCTOBER 30, 2013. THE INTERVIEWER IS GREG SMOAK. THIS IS THE GREAT SALT LAKE ORAL HISTORY PROJECT, TAPE NO. U-3230.

GS: Good afternoon. It is Wednesday, October 30th, 2013. I'm here with Don Paul at his home in Mountain Green, Utah. And this is part of the Great Salt Lake Oral History Project. My name is Greg Smoak. And we're very happy to talk with Don today, who had a very long and distinguished career with the Utah Division of Wildlife Resources and is one of the true experts on the Great Salt Lake. Not to embarrass you starting out, but I interviewed Lynn de Freitas some time ago and she refers to you as the "holy man of the Great Salt Lake." So I wanted to sort of get at that. And I know that you have a great depth of experience.

DP: Well I don't know that there's anything holy about me, but I do have a lot of experience on the Lake, and I have an appreciation for it. Maybe that's where it came from.

GS: Alright. Well, let's get started. What I do wanna start with is a little bit of background about your childhood and exposure to the outdoors, to wildlife, and get at some of the reasons for your choice of careers to go into wildlife biology, and maybe more specifically into avian biology. And also, your first experiences with the Great Salt Lake.

DP: Well I'm the son of Frank Orson Paul and Ethel Strauser Paul. My father was born in 1891. So I actually grew up with parents like grandparents; I came along quite late in their lives. My mother was forty-two when I was born. She was from the northern Ozarks in Missouri, and came west, met my father while she was teaching at the school in Rexburg that used to be an academy. She had an interest in art, early, started early as a

schoolteacher, and finished a degree at Brigham Young University, and then eventually finished a master's degree at the University of Utah, working with LaConte Stewart. So her artwork somewhat, landscape artwork, follows his perspective in a lot of ways. If you look at his work and her work you can tell that he would've been a mentor of hers.

And my father worked for the railroad, later in his life. But earlier worked a variety of jobs. He was a storyteller. When he worked for the railroad he worked with rail gangs. He was timekeeper, so he worked with Native Americans and others that were part of the railroad gang process. And so he'd spend ten days somewhere in the Great Basin, on the track. In the summertime I frequently would have a chance to go with him, as a child.

GS: Not to interrupt, but did he work on the trestle and the causeway at times?

DP: He did not. He didn't work—to the best of my knowledge he never worked on a line that was associated with the Lake itself. But I guess where I'm headed with this is that, since my mother was a landscape artist, and still life artist as well, and she was a schoolteacher, she would take time off in the summer to paint. Which meant that she would be stable in the morning someplace where she could get morning light, and then she would have lunch, and then started painting in the afternoon for evening light and afternoon shadows. And then we'd stay overnight usually, and then she would get up in the morning and finish what she started the morning before, have lunch, finish the afternoon painting. And either we would come home or we would maybe stay another night. So, this put me in a relatively stable position in a natural environment. So I kicked rocks and chased lizards, and every once in a while would take a peek at her canvas. My

father was an amateur artist, an interest he developed related to my mother's profession. She taught him. So he would sit at an easel as well.

My father was a great storyteller. Since he grew up in the late 1800s he had many really interesting stories. He grew up on a homestead in the Teton Basin. So he grew up hunting waterfowl on the Teton River, catching fish, and just living a life there as a young person with eight brothers and sisters. And so, he reiterated these stories to me, almost every night when he was home, about his early life. And that, I think, along with this opportunity to be outside with my mother, who also had an interest in nature, really sparked my interest in the out of doors.

I grew up in Clearfield, Utah. We moved there when I was about four years old. I was born in Cedar City but we moved north with my father's work, in the mid-1940s. I was born in 1942. I'm seventy-one years old now. And, so I grew up actually in one of the small communities that was associated with the Great Salt Lake, a little bit further east than Syracuse.

Then, ya know I had opportunities to be somewhat more closely associated with the Lake as I grew up. Because of my father's interest in waterfowl hunting, I was anxious to become interested to do that as well. When I turned twelve I got my first hunting license, and went out with my father. My father had a bad leg. When he was young their well water was contaminated with typhus and so he had typhoid fever. So he lost, somehow, I'm not sure what the physiological process was, but somehow it shortened one leg, so he walked with a limp. So when I was born in 1942, he was already fifty-nine years old. So we didn't have much of an opportunity to hunt together. We did a little bit. But there was a dentist in the area who was a waterfowl hunter. He hunted with

a side by side twelve gauge shotgun. He took me under his wing, no pun intended. And we would go out hunting in that early period of my life. Eventually I got old enough to have a driver's license and a job, and I could buy my own shotgun shells and drive myself around. So I really grew up around the Lake looking for places to hunt waterfowl. I didn't look much beyond the wetlands at that time.

GS: And did you hunt Farmington Bay or up by Bear River?

DP: Oh I, eventually, through my adolescent years through high school, I hunted everything from the southern part of the Lake and the Jordan River Delta, to around Promontory Point. There was an access road that took you into the National Wildlife Refuge on that west side of the refuge there. And I hunted everything in between.

My modus operandi was to—I would take two cans of sardines and a half of a loaf of my—my father was the baker in the family—half a loaf of whole wheat bread that was three or four days old so it was kinda crusty, and a small decoy bag, they were called Dura Ducks at the time. It was a flaccid, flexible decoy that had a metal ring in the bottom, and it would inflate when you dropped it in the water. So you'd throw it in the water and it would inflate.

GS: How did it do that? You didn't inflate it yourself?

DP: No, you didn't inflate it yourself. I can't tell you the physics. But it would just inflate when a heavy ring forced air into the decoy as it struck the water—they weren't very big. So I put those in a backpack with my food and a handful of shotgun shells, and my father's that I inherited, Model 10A Remington, full choke shotgun. And I didn't have transportation in the wetland ("mare's shank" was a term I learned from my father about having to use your legs to get around.); I just had my legs to carry me. So I'd hike

around the refuges. And one of my favorite places was the west side of Howard Slough, which was a refuge constructed in 1958. And it had an association as kind of in tandem site with Ogden Bay that had been there for some length of time. And I'd find a muskrat house, and a place where muskrat had cleared vegetation around a small pond, and I would hunt waterfowl. Sometimes I'd be really successful, and sometimes I wouldn't. But it was always fun and interesting to me. At that time, it was very difficult to look at the landscape without seeing a short-eared owl in flight, which is really uncommon these days.

Eventually I looked further west in my youth. My folks moved. They built a home near our original home in Clearfield, in a place where my window actually looked out over Antelope Island. I could see it from my bedroom window. So I started to gain a perspective of the Lake that way. And at that time, because there wasn't any access that I knew, even though there was a road on the south end, Antelope Island was kinda the last bastion of wilderness associated with the Great Salt Lake. So for me it was my wilderness, in my mind. I didn't know much about it. I didn't even know at the time that there were bison there. But I understood it was a ranch.

GS: Did you get out to Antelope Island at all at that time?

DP: Well, that's interesting because a few years later, about the time we built the home, I started college. And I was going to Weber State. And, at that time the state had purchased the very north end of Antelope Island for a state park. And they were beginning to build a causeway to it. And it really disturbed me. Because it was going to interfere with my sense of wilderness—and I don't know, I've never been necessarily a wilderness type person. I've always been kind of a multiple-use perspective person. And

how I saw resources and resource use, it's obvious through my hunting background. But it really bothered me for some reason. I remember driving out there after class at Weber one day, to the end, after they'd been constructing for the day, and I remember getting a piece of paper out and I wrote this thesis to myself, about how the island was gonna lose its virginity, with that road. And so, I have that somewhere. I don't know where.

I wasn't really a great student in high school. I guess just to say one more thing about my early career, I really enjoyed sports, I played sports in high school, and that's kind of what I was interested in. My mother was really disconcerted with my lack of academic interest. But I had a high school teacher when I was a junior that, it was the first time that Davis High offered zoology and botany, a half year of each. And it wasn't an AP class, it was just what they did at the time. And so I took close ally science classes. And I had a teacher that… taught me that actually you could actually have a career working in the out of doors. I hadn't really thought about it much before.

GS: What was the teacher's name?

DP: His name was Ray Jorgenson… Later during my career with the Utah Division of Wildlife Resources, Ray worked on a team of volunteers that I coordinated for the evaluation of bird populations using the Great Salt Lake. It was a great experience to work with a mentor who had introduced me to the world of natural resource management.

So I found that out and when I started college I enrolled in a two year program that Weber offered for a transfer to Utah State, in forestry. It was pre-forestry, management. And, I had an interlude in my college career. I'm LDS so I went on an LDS mission to Berlin, Germany, right as the wall was going up. It was an interesting place to be.

GS: I was there right as it came down, or soon after that.

DP: And that gave me—this is a little contrary toward our discussion—but it gave me a perspective in Europe that I didn't ever have before. What they considered to be wild to me, was not wild. After hundreds of years of occupation one way or another, even the agrarian environments were, in my mind, such that they didn't bleed into any kind of ditch banks or sand hills or sage brush or anything like that. And when I was there I figured out in my mind that I lived in a special place. For me it was special. For me, the West had a natural feel that had not been covered by a veneer of history that I observed in Europe.

But anyway, back to… I guess the Antelope Island experience. After I wrote that thing—I mean, it took 'em a year and a half or so, I can't remember how long it took 'em to build this road. But in the winter—before the road had reached the island a friend who hunted waterfowl with me, his name was Val Judkins. He ended up being one of the Division of Wildlife Resources pilots. He actually ended up being the chief pilot later on in life. So it was interesting how two kids grew up and kinda came together. We always kinda stayed together. In fact, I probably helped him a little bit get the job. He was a fixed wing pilot and had flown a lot in Alaska, and had plenty of experience with the kind of flying that the State Division of Wildlife Resources does.

But at that time we were both interested in Antelope Island. So we borrowed, Doc Wright's canoe, the guy that used to hunt waterfowl with us as kids. He was the kind of dentist that would trade goods for services. And he had a bunch of junk around his place, including this canoe that had—it was a fiberglass canoe, but not one of the hard types; it was a canvas canoe with a fiberglass coating—

GS: So it had the ribs inside. It had that frame inside.

DP: Exactly. That's what it was. So this cold winter day, when it was still chukar partridge season, we decided that we'd take our shotguns and that we would canoe from the end of the causeway road construction, which was about two miles at the time, to the island. Because we understood now it was in state ownership. We didn't know what that meant, other than it was public land. And we had heard through the grapevine that there were chukars there. And there were. In fact, an owner that used to own the island independently, introduced chukars there because he was an upland game hunter. So we got there, and we landed about where the road comes into the island right now, hiked up probably where the visitor center is and over around those rocks where you normally find chukars, we found a few. Came back, got the canoe, and it had gotten really cold. And the Lake, as you may know, in the wintertime has—because of the chemocline effect of having freshwater on top over the heavier water will actually freeze. So we started back and it had frozen a little bit. So we were breaking ice, and all of a sudden we recognized that this veneer of fiberglass on one side of the canoe was ripped open and we were leaking water [laughs]. So we… we paddled this canoe kind of leaning over on one side, with one person breaking ice in front [laughs]. So we got back after dark at the road, and probably were lucky we survived. So that was my first trip to Antelope Island.

GS: That's a good story.

DP: And, so, then I graduated from college. I had an opportunity to interview—I was actually working for the forest while I was going to college. And I worked for the Region 4 Experimental Station in Ogden. I worked for the United States forest etymologist group there. And they were studying the lodgepole pine beetle and all the issues that were

associated with that. So I was a technician. I worked in their lab in the winter for a couple years, and then would work summers for them as a field technician. And they had actually helped me secure a job working for the US Forest Water Resources Lab in Logan. But I had a guy come, his name was Doug Day, ended up being the director of the Division of Wildlife Resources later on, but at the time, he was the human resources representative for the Fish and Game Department before it was the Division of Wildlife Resources. And he was interviewing people for summer jobs, and wildlife jobs. And I was really interested in wildlife, more than forestry. So, I threw away the opportunity to have a full-time job with the US Forest Service and took a job working as a technician on Lake Powell, with the fisheries program, in the summer. I was hired by the Division as a conservation officer that autumn in 1968.

GS: And what were the duties of a conservation officer? What would you do?

DP: Well then—they're different a little bit now—but then they were kind of cosmopolitan in their perspective. They did about everything. You would do wildlife counts, and you would develop a fish planning, fish stocking plan for the streams you had, and make arrangements with the fish hatch for when to plant fish. And you checked hunters and fishermen for their licenses and for compliance with state laws. And you would do public relations in the sense that you would go to schools and do school programs talking about wildlife resources in the state.

GS: Did you move around a lot? Were you based in one office?

DP: It was from one place. It was in North Salt Lake, which was about the least romantic place to be a conservation officer in the world.

GS: [laughs]

DP: In most people's minds. In fact, the one thing I did do, when I was young going to school, high school, is I took *Field and Stream*. And there was this ad in the back of *Field and Stream* that talked about how to be a game warden. And many states at the time didn't have a college requirement. And you could take this course, this kind of consultation course, and become a qualified person to be hired as a game warden. So I knew that there were those kinds of things, opportunities, but I didn't realize that in this particular case they had developed… a more intensive requirement with a degree. So that's what I did. I just did that for three years. I was a good conservation officer; a lot of people got arrested by me.

GS: [laughs]

DP: And, to be honest with you, that probably was the reason I left the program. I was invited to come in to the Division's Office and their Information Education Program. Because I really did learn I liked to talk with people and kids at that particular time. It was necessarily social. I didn't like what I guess I call social trivia, ya know, like going to parties at night, this, that and the other—but I did like to visit student and conservation groups. So anyway, I did that for nine years, five in the Salt Lake office and five in the Northern Region—I left the conversation officer program because I could see that law enforcement was starting to change my perspective on life and people. I started to mistrust everyone. And that happens in law enforcement I think. So I was given an opportunity to work as an information… I can't remember the title of the job now—an information education…

GS: Information specialist?

DP: Specialist. Yeah, thank you.

GS: [laughing] I have your resume here.

DP: And that gave me some really fun opportunities. Again, I still maintained my association with the Great Salt Lake, in that I hunted and fished, and I knew the wildlife managers there. The other thing I guess I would say about my conservation officer responsibility when I was in North Salt Lake is that I had a really complexes of wetlands assigned to me—it was a great place because part of my area of responsibility was the Associated Duck Clubs of the Jordan River Delta, and Farmington Bay State Wildlife Refuge. Part of Farmington Bay refuge begins in Salt Lake County. So it was the cat's meow; I really enjoyed doing that. It gave me a close association with people that were involved with resources on the Lake and gave me an opportunity to be associated with them at that time.

So when I was in the information officer program I had replaced Lee Robertson—it wasn't possible to replace him, he at the time was Mr. Outdoors. The original hunter education coordinator of the state. He used to do a program on KUED, called "Utah Trails."

GS: Oh, how long ago was that show on?

DP: It was on a long time actually. And I'll tell you, I'm really embarrassed that I'm not remembering some names at this time.

GS: We can always catch 'em later because you have a chance to edit the transcript. So you can always insert the names. We can always get those later.

DP: Ok. So anyway, he was doing this "Utah Trails" program, starting to develop a format. And the section chief at the time said, "We'd like to have Don do it for a while." So I did it for about two years. And it gave me an opportunity to travel around the state. It

was a quick and dirty thing. We would shoot positive film with a 16mm movie camera. Didn't do any sound on film recording; it was all sound over in the studio. So I'd go shoot a program on the Great Salt Lake about waterfowl hunting, or waterfowl management. And then I would have a guest, and the featured expert would come into the KUED studio during the program airtime. And we would look visually at the replay of the film that I'd edited together. I can't remember what it was, twenty-six minutes or whatever. And there'd be a live header and an end of the program and then we'd just look at the film, and people would talk over the film. Pretty loose. But it was fun.

After that I was invited to participate in the writing of a publication about raptors in Utah. I had an interest in raptors. And from that, I guess, they thought I had an interest as a biologist with birds, and so, the state decided to develop a non-game program. More and more people were interested in non-hunted species and their preservation and conservation. So federal agencies were wanting to do a lot of inventory work. So there was some money available through the feds at the time. There was some Section 4 money that came from the US Fish and Wildlife Service to do some endangered species work. So that was the beginning of the non-game program of the state.

GS: About what years was that?

DP: That started about 1975. And in 1980 they decided they'd start a regional program for non-game. So I was the first regional non-game manager in Utah. And then shortly thereafter Dennis Shirley came on board in the central region, and eventually the other three regions of the Division of Wildlife Resources had non-game managers. But that gave me the responsibility for the Great Salt Lake, in terms of the non-game birds.

About the same time as this was going on, the interesting court case was taking place between the National Audubon Society and LA Water and Power, concerning the dewatering of the Mono Lake Basin, in the eastern Sierras. And LA Water and Power had hired a PhD consultant from Hubbs-Sea World Research Institute, Doctor Joseph R. Jehl Jr, to look at their side of the program. And one of the things that they recognized right away was that Mono Lake was not the only place that had significant populations and migration of Wilson's phalaropes, and eared grebes and a breeding population of California gulls. But the Great Salt Lake, which was another, larger system, had a similar species, and they wanted to document it, that there were other places of importance, as part of this court case. Which is kind of interesting, because really, as it turned out, the consulting work that the Division of Wildlife Resources did for LA Water and Power fostered a greater interest in the resources of the Great Salt Lake and their conservation. So it's kind of an upside down thing.

GS: So LA Water and Power hired Utah Division of Wildlife Resources as consultants?

DP: That's right. And since I was in the northern region I had the assignment to fulfill the requirements of the agreement, which were, in this particular case, to do some sampling for densities for brine shrimp. And the only thing they'd ever done with brine shrimp before then was the handling (oversight) of commercial harvest and brine shrimp. During the 1970's the only commercial use of brine shrimp was the harvest of adults that were subsequently frozen and used as a food source for saltwater aquarium fish. And it was obvious that brine shrimp—the micro and other macro invertebrates in Mono Lake are similar to the ones we have, brine shrimp and brine flies, even though there's not

really a big brine fly system at Mono Lake. So, I did that. And then the other thing that they were interested in was the fall surveys for eared grebes, and the summer migratory surveys for Wilson's phalaropes. Another significant element in the contractual agreement was the survey of breeding California gull populations at the Great Salt Lake.

I remember talking with Nolan Nelson, who was the first Master's degree trained biologist in the state as I recall, and was in charge of the Ogden Bay waterfowl management area, which was actually the first government, Pittman Robertson—

GS: Conservation act project in the United States.

DP: —in North America. I remember him. He was a really interesting guy. He was really interested in waterfowl and waterfowl management. But he had a broader interest, and he used to talk about what—he predicted that there was a million phalaropes on the Lake when they migrated. And I remembered that. And people knew they were around, but just nobody had really paid much attention.

A lady came on board by the name of Margy Halpin, with the Division of Wildlife Resources, who had a much stronger perspective on non-game values. And she came out of, away from the state, so she wasn't looking at the forest from inside the trees, she was looking at it from outside. And she recognized—and I give her a great deal of credit that there was some really special parts of the Lake that we were not paying much attention to. Even though people like Dr. William H. Behle, professor of zoology at the University of Utah, back in the 1930s and '40s, did that seminal work on the Colonial Waterbird surveys of the Great Salt Lake. Just a lot of it got shuffled and was not part of the hook and bullet perspective of wildlife management. So these things kind of came together.

Margy Halpin suggested that we oughta be paying more attention to some of these resources. I remembered what Nolan Nelson said (during my early discussions in the 1970's about Wilson's phalarope's being an important species at the Great Salt Lake.) The LA Water and Power wanted to know more about this group of birds, and why shouldn't we be paying more attention to them. So we did the original surveys. I did the original surveys for Wilson's phalaropes and eared grebes and California gulls on the Lake. And in a few years, I can't remember exactly when, about 1970… Excuse me, about 1986 or '7, somewhere in there. The Western Hemisphere Shorebird Reserve Network sent out a… a feeler for what kind of populations of shorebirds we had at the Great Salt Lake. And we had this data for Wilson's phalaropes. So I sent it back. And their criteria was to qualify for a site of hemispheric importance for shorebirds at a particular place in migration. You had to have either half a million shorebirds, or thirty percent of the world's population of a species to qualify for a site that had hemispheric status designation.

GS: That's a pretty high bar.

DP: We qualified for both of those with one species, with Wilson's phalaropes.

GS: Are there other species that the Great Salt Lake qualifies for?

DP: Oh absolutely. That's the problem. I can give a junior chamber of commerce talk about this stuff… And it's amazing to me. It's amazing to me that it isn't recognized more completely and fully, however, I have to recognize how busy this world is. But there are, yes. In the periods of time since then we know a lot more about the Lake and its value. And to answer your question directly, we have more American avocets on the Lake, and this is through the Pacific Shorebird Flyway Survey. The Pacific Shorebird

Flyway did a survey for shorebirds; we participated in it. We have more American avocets on the Lake than all the rest of the Pacific Flyway sites put together: 250,000 American avocets a time. We have a large number of red-necked phalaropes, which is one of the other species of the three species that exists on this continent, and in the world actually. We have sometimes over 200,000 of those. We have the only known staging site for marbled godwits in the lower continental United States. We have half of this continent's breeding population of—migratory population of eared grebes. Between us and Mono Lake we basically represent the continental population in the winter. Right now in October they'll be here at the Great Salt Lake or at Mono Lake. Utah has the world's largest breeding population of California gulls. One of the two or three largest American white pelican colonies. One of the densest populations of breeding white-Faced ibis. Large populations of breeding California gulls. Significant numbers of least and western sandpipers in migration.

So, yeah, it's an important place. And these are things that have happened since my employment started for the non-game program in 1980.

GS: Ok. So to return to that, after this, with the non-game program, with the case with LA Water and Power, you progressively got more involved or more focused on avian biology at this point, would you say?

DP: I did. So I spent twelve years as the non-game manager in Ogden. And a large portion of what we did was associated with the Great Salt Lake. During that period of time, one of the programs that started in this, well in the late 1970s, was the recovery of the peregrine falcon, the demise of the use of chlorinated hydrocarbons through DDT, at least in the United States and Canada, and probably still have some problems in Mexico.

But anyway, and we knew that the biomagnification of those particular chemicals were on their way out. And so they started their introduction of peregrines. And I was the principal biologist for the reintroduction of the peregrine in the northern part of the state of Utah. So if you go around the Lake you'll still see—we've disturbed the view shed by building these peregrine hack towers. So we built towers to release these birds on. And we did that for five or six years. And since then they've been reoccupied. There's a lot of kind of biological and romantic stories about peregrines associated with the Great Salt Lake. So I was responsible for that, these surveys we talked about earlier.

We also, one of the things that LA Power asked us to do in subsequent years, a couple of years, was to redo the William Bailey early colonial bird aquatic bird surveys that were associated with California gulls. So I did that with a biologist that worked with me, or I had a couple of technicians and a biologist that I was responsible for. So we redid that work. Found that we had increased the population from about 80,000 breeding adults when he (Behle) was there doing this work, to about 160,000. And so we've learned that California gulls, a cosmopolitan bird that likes to hang around landfills—we provided an abundance of poor food but food around McDonald's and Arby's and whoever else has stuff in their parking lots, beyond the resources that they use on the Great Salt Lake. So, we did that work in the period of the 1980s.

Then I was asked to participate in an application process for the chief of the information education section. So I got that job. I went down and was on the director's staff for about three and a half years, four years. And then, they made some considerable changes on how they operated with the director's staff, in about 1994. And so, I took a position as a wildlife biologist in the Northern region here again. With the changes they'd

made they'd actually decided to—making management decisions that they would do away with the non-game section, but they would roll up the non-game work that was aquatic and terrestrial into two sections. So instead of having a fishery section they established an aquatic section; instead of having a big game or a game section, they had a wildlife section. And it pulled those programs into those different areas of responsibility. And my perspective is there's some good and there's some bad in all of that. But as it turns out I worked as the West Box Elder biologist. And the wildlife manager in Ogden that was my boss at the time said he knew I was interested and involved with the Great Salt Lake and because of my continued involvement the Great Salt Lake would be part of our responsibility. So I stayed with the program that way.

But it gave me a different perspective. I was involved with game as well as non-game management. I wrote the Bighorn Sheep Management Plan for Antelope Island. Was involved with the transplant of those sheep from Kamloops, British Columbia to the island. And subsequent transplants have taken place, out on the Newfoundland Mountains, down to Stansbury, and others from that population, that came from that management plan that I helped prepare.

So, ya know, I've had an interest and an opportunity to be involved with the Lake in a lot of different ways. But most importantly, then, from my perspective, I ended my career with the Division of Wildlife Resources by working with the Great Salt Lake Ecosystem Project. It was developed—I was the first avian biologist associated with that program. That started in 1996, as I recall.

GS: And what was behind that initiative? What led the Division of Wildlife Resources to think of this holistic approach?

DP: Well, actually, to be honest with you, it came about to figure out some way to manage brine shrimp in the Lake, as it relates to the industry extraction, as well as providing an opportunity to develop a program that was more specific to what we knew was important, and was not being addressed. So, it was funded through the royalties that the brine shrimp harvesters pay to do their harvesting. And in return the state took on a management plan to perpetuate the brine shrimp population, to establish a model that would allow that to happen, so that those resources that are important to birds as well would be available to them.

As it turned out—I think there was some skepticism at the front end of that. It was interesting to be involved with that up front. When they first started it was "us and them" kind of, the state's regulatory group, that program, the Great Salt Lake Ecosystem Project. And the perspective there was that they would look at it from an ecosystem perspective, which had a lot of interplay between food base and consumption and those kind of things, and harvest. And so you'd come to those meetings and everybody would have their biometricians there looking at each other's data with some suspicion. And as it turned out they found out that since the data was collected appropriately on both sides that they had the same data. So it turned out to be, I think, one of the more synergistic and symbiotic social and management relationships that the Division's had. And, the Division's been able to use that money to do a good job of looking at the ecosystem from the microhabitat up, through the… through the layers of the food chain.

But with that in place, one of the things that was missing on the Lake was some kind of a baseline that demonstrated the temporal and spatial relationship of birds as they

use the Lake. So I made the recommendation that we do a large scale aquatic bird survey. And how are you doing with time?

GS: Oh, no, we can take as long as you're willing to talk. I mean, this is very important stuff. I don't wanna wear you out. I don't want you to go too long if you have other things.

DP: No I don't. I just don't wanna—I can get carried away.

GS: No, carried away is good actually, from my perspective. 'Cause this is important from the level of the biology of the place, but also from the management history here is critically important.

DP: Well anyway, so we decided it would be important for us to do this large scale inventory. I guess you'd call it an inventory. It was a survey. And so, it was, logistically, very difficult, because our thought was that we would survey the Lake—the protocol we put together—we'd survey the Lake every ten days. And this would include all of the shoreline from where MagCorp is, around the south part of the Lake, up the east side, around Promontory Point. It excluded most of the west side, where the military range is, although we did have one survey site there. And it didn't include the north arm, the Gunnison Bay part of the Lake, which we decided was probably not important for the shoreline perspective because there wasn't much freshwater—

GS: Just too saline, yeah.

DP: So we did that. We did that from April through September. We surveyed every ten days. So somebody either walked, rode an ATV, drove an airboat, or flew over the Lake to collect this data. And we did that for five years, from 1997 to 2002. We averaged about nine million bird observations a year, hundreds of thousands of bird days used. And

we established that baseline. It's online, now, if you just Google "the Great Salt Lake Bird Survey" it'd come up. Not the whole report is online, but it's an interactive database online for people who like to use it. It tells you which species were, and what numbers were at particular sites. We surveyed about… I think about forty-seven sites around the Lake. We tried to do it so that our surveyor would have morning hours, or at least two hours, two to four hours for their area. Fish and Wildlife Service and BLM, several other state agency people, besides the Division of Wildlife Resources, had a really dedicated corps of volunteers, and the National Audubon Society and others, were trained each spring, and every year they would review the protocols. And so we amassed this really huge database.

So that was one of the things that I did. And that helped me. I was already familiar with the Lake. The other thing, I hadn't mentioned that back in the '80s when I was involved in the non-game program, another one of the things that we had continued on was the annual survey for the breeding population survey for American white pelicans on Gunnison Island. And, so we continued that as well.

We started, in this period of time that I worked for the Great Salt Lake Ecosystem Project, we surveyed the colonial waterbirds that were not necessarily just associated with terra firma. Those birds that nest on the ground are gulls, California gulls, and pelicans, double-breasted cormorants, and that group. But we took an interest in the birds that were nesting in aquatic vegetation over water. So we started the surveys for colonial white-faced ibis, and Franklin's gulls, and snow egrets, and great egrets, and black-crowned night herons, and that group of birds.

GS: Where on the Lake did they live mostly? Where did they nest?

DP: Well they obviously live where you have vegetation. And sometimes it's interior to the protected management areas, and many times it's not. But many times it's right outside. So, Bear River is an example. It has some of the largest white-faced ibis colonies outside of what they call the D Line Dike, on the west side of the refuge.

GS: I've seen quite a few large birds out at Locomotive Springs, Great Blue Herons and so on out there.

DP: Yeah, there are. And some of them are piscivorous, some of 'em are fish eating birds, and some of 'em are not. The white-faced ibis are not; they're usually eating some kind of, like, earthworms or microvertebrates. They forage inland. They nest in the wetlands, and they usually forage—they do forage in and around the wetlands too, but they often are seen foraging in flood irrigated pastures. And they come up into this valley, up into the Morgan Valley right where there's a high water table. That's a key foraging site for white-faced ibis. But the snow (and cattle egrets), which is an exotic bird that came in from Africa—

GS: I grew up in Florida, so I know cattle egrets well [laughs].

DP: And they came to Florida too from Africa. But you know the story. They didn't come here—I claim to be the first person to take photographs of cattle egrets in the state. It was about 1974. But who knows if that's the case or not. I can claim that I guess. [GS laughs]

DP: But I don't know of anybody else that has a photograph of that period of time. So what we've done, I guess, through time is just continued to learn more and more about the Lake. And it continues—from a biological perspective—it even surprises us still. As relatively simple as the Great Salt Lake ecosystem is compared to the Everglades, it's

still a very complex system. And it's still wild enough that sometimes you come up with things that we wouldn't have suspected.

There's an example in the ecosystem project: We decided it would be important to determine what kind of food resources are important to these birds that are spending the winter on the Lake. We know that eared grebes fly outta here as soon as the Lake gets cold enough that the adult brine shrimp die, because they forage adult brine shrimp. But we have common goldeneyes, and northern shovelers, and green-winged teal, that persist on the Lake through the winter. And so we started to do aquatic winter bird surveys for these species. And lo and behold we found out we had one of the, if not the largest, winter, forty-eight continuous state winter populations of common goldeneyes at the Great Salt Lake, 30 or 40,000 birds. And that's a lotta birds, especially if you consider it's a bird that nests in the cavity of a tree.

The other thing, I guess, that happened, we've continued to refine how we look at things. The brine shrimp harvest model is really an excellent model, has proven itself now for over ten years, to meet the needs of sustaining the population of brine shrimp on the Lake. And, the things that have come about through cooperation that are important for birds, as well as other aspects of the Lake are really interesting. Like the bathometric survey now of the Lake, so we know what the bottom looks like. We understand now that there's a submerged but a large bar that kind of separates the northern parts of Gilbert Bay from the southern parts of Gilbert Bay. And that helps us figure out some things that are going on relative to how birds are using the area, as well as how brine shrimp are being distributed across the system. So I think one of the successes for the Lake has been

the Great Salt Lake Ecosystem Project. And then there's all these other layers of things that have happened since then.

But back to my perspective on what the Lake is, what it means, what its values are: It's changed considerably from my microcosm of a muskrat house, me sitting there on top of it, or down on the side of it trying to camouflage myself with twelve Dura Ducks floatin' around in the water in front of me, to what I see now. I mean, it's layers and layers of information experience have been added to that.

I've had lots of opportunities now to see significant aquatic environments around this hemisphere, and in some cases in other parts of the world. When I went to work for the Intermountain West Joint Venture, which is, I retired from the state and immediately was asked to work with them as a consultant, but it was full-time consultation. I was the Great Basin Bird Conservation Region Coordinator. So I had the elements of the Great Basin that you'd normally associate with the physiography here, as well as the Columbia River Basin part of Oregon and Washington, so east of the Cascades.

GS: Wow, that is an expansive Great Basin.

DP: It is. So it goes up to the—

GS: Columbia Plateau.

DP: Yeah. It goes up to the... Canadian border. And in fact it goes into British Columbia some distance up the Okanogan drainage that way. And so I've become familiar with other parts of the Great Basin. I knew Mono Lake quite well when I was working as a biologist before my job with the Ecosystem Project. I went through a conflict of interest agreement with the state so I could work part time after my work here full time with the Division, to help them develop a water fowl management plan at Mono

Lake. So I worked Mono Lake for a year; I know it quite well. I know Abert Lake, and the Owens Lake Basin that's been impacted significantly. And so I know those salt lake systems.

And then, when I went to work with the joint venture I was invited to sit on the Water Bird Council for the Americas, and that includes cooperative agreements and associations within the hemisphere. So I've had opportunities to visit South America, and Brazil, and Argentina, and Central America, and Costa Rica, and the Bahamas, and Key West.

GS: Well I think that's one of the things about the Salt Lake, I've discovered in these interviews and the readings I've done, is it seems to be—it's an insular place and it's an inland lake, but it also has such connections hemispherically, and it's a community of interest in all of these similar systems that stretch Canada to South America.

DP: That's true. And I guess where I was headed with this last comment is that I can—I'm justified in my mind now that the Great Salt Lake is truly a hemispherically important site. Because I've visited these other sites and they each have their own values and their own particular way. Sometimes they're associated with this Lake and sometimes they're not. But looking at these systems in terms of their magnitude and values, for whatever those intrinsic values are, or extrinsic values that they share, the Great Salt Lake sits right there. Great Salt Lake is the most important inland aquatic environment in the lower forty-eight states. I believe that. And I think we can prove that in terms of birds, in terms of numbers of birds and species that are here. For one site it's hard to find another place that can do that.

And you're right, the Great Salt Lake, the way I look at it, and in terms of its value and trying to describe its ecological and biological value, is that it sits somewhere—let's just pick a degree of latitude, because it shares some degrees of latitude—but if it sits in the fortieth degree of latitude, it sits kind of halfway between where many of the migratory shorebirds nest in the Arctic and the Subarctic. So a western sandpiper is an example. It's kinda like halfway between where they're going to winter. And, in between that breeding ground in the Arctic and where they're going to winter, it's pretty much an arid climate. It's modified by the Rocky Mountains. We sit here looking out this window, you wouldn't necessarily think we're in an arid environment; but when it comes to an aquatic bird that requires aquatic resources like a marsh and a wetland, we're looking at less than twenty inches of rain from the parklands in Canada to Central America. And so strategically, the Great Salt Lake is in an important place. Size wise, it provides a table setting for many of the birds that need a place to rest and stop. The whole concept behind the Western Hemisphere Shorebird Reserve Network is just that, that for shorebirds there are strategic sites that they migrate to, and they do certain things physiologically there, in terms of molting and putting on body weight through subcutaneous fat that they use for fuel, or just for resting. And when you're dealing with large numbers of birds and migration—500,000 phalaropes—then you really need a place that can set the table for that. And when you have an aquatic environment that doesn't have an in-lake predator, so that you can release brine flies and brine shrimp to the next trophic level, then you've got a table set. And then you have this relationship between freshwater wetlands and saltwater environments that's unique. It's hard to find a place like that. You can go to Mono Lake and they've got the salt part, they don't have the

wetlands part, of consequence. So we've got 400,000 acres of wetlands, 1500 square miles of lake, when it's at 4200 feet above sea level, which it hasn't been for a while, that is just hard to ignore. So, we're the gas station on Route 66.

GS: [laughs]

DP: And not only are we the gas station, but we're the motel. And we're the place where birds that need to do wing molts or whatever else can do it. And they do that in other places, but not in the same magnitude. And in some cases they don't do it in other places. And other places, they have some unique values and interest there too.

So one of the things that came out of this that's really interesting to me is that—the Western Hemisphere Shorebird Reserve Network is managed out of Manomet Science for Conservation in Massachusetts. And, as a subsequent event from them having done these surveys for important shorebird sites, in recognizing the Great Salt Lake as one of those, in fact, by their definition, hemispheric site, they said, "Let's see if we can put together a grant that would let us figure out some way we can develop a greater association between sites who share the same birds." So in about 1997, '98 they were able to secure a grant through NAFTA, through the North American Fair Trade Agreement conservation side of this. So when they did all the agreements between the three countries, one of the things that fell out of that was to do something that would insure some environmental protection, in the free trade agreement. So, through this granting process we got like 80,000 American dollars, it was a lotta money, to try and experiment with pulling three sites together that shared the same birds. And in this particular case, the flagship was American Avocet. And so we worked with Canadians in Saskatchewan, where they have the only major salt lakes in Canada, in south central

Saskatchewan. So we're talking about the Quill Lakes and Old Wives Lake and Chaplin Lake, a group of lakes that kinda sit in that environment, where they have breeding avocets. And the Great Salt Lake, where we have breeding avocets, as well as, I would say it's a migration. And then we decided we'd include the state of Nayarit, Mexico, which has a large mangrove wetland complex on a coastal plain, called the Marismas Nacionales, where when they did the coastal flyway surveys around South American and Central America and North America up through Mexico for shorebirds. So we flew in a plane and did all these counts in the winter for a couple years. They found the largest winter population of American avocets there.

So, we all met in Regina, Saskatchewan. By all—I was asked to help put this thing together. Vicky Roy, who was a biologist at Bear River, came with us. Ella Sorenson, who now manages the Audubon site on the south shore, the Gilmore site. Wayne Martinson, who's the Audubon wetlands representative for Utah. And, I think that was who came from Utah. Then they had a group from Mexico that were part of the SEMARNAT, which, they're an environmental organization that includes a lot more groups together where we would separate them, like the EPA, and Fish and Wildlife Services.

GS: Ok. And what is that? Is that an acronym?

DP: It's an acronym, and I can't tell you what it is in Spanish but it's SEMARNAT (a Mexican federal agency that has a Secretariat in each of the Mexican states). And then they also had some people, some provincial people, provincial government, that came. There were like three or four of 'em that came. Then the Canadians that were from around that—Canadian Fish and Wildlife Service and Canadian Wildlife Service. And we

met together in Regina, and we thought it was a great idea, so the next year, on our own dime, we decided we'd try it in Mexico, go down to that site.

And subsequently it's developed into a program called Linking Communities, Wetlands and Migratory Birds. It's still in place. We've had some significant support, talking about Lake industries from Kennecott Copper, Rio Tinto, recently; and an interest through BirdLife International. There's a BirdLife International, Rio Tinto partnership that's outside of the Kennecott Copper Company, that's part of Rio Tinto. And they're based in the UK, that's where Rio Tinto is based actually. And they liked what—for the first ten years or so I guess—they liked what they saw and what we were doing. And so they wanted to kind of expand this Linking Communities program. Linking Communities are associated with these wetlands; they share common species of birds, or even common populations of the same species. And so that's kind of moved down into South America a little bit.

GS: What kind of programs take place in each of these three communities?

DP: Well we decided, since it can be really complex to try to work internationally with people. I've learned this. And as far as I'm concerned it's still kind of an experiment. But we decided that we would broadly select three areas of concern and interest. One was conservation, which would include biology, shared stewardship kind of things, on land stewardship; then, education, both elementary K-12, kind of, and then a higher education student exchange at the university level in the education part; and then ecotourism. And the reason we chose ecotourism is because the economies in Mexico, as an example, around these aquatic sites, have great potential to be strengthened through sound ecotourism. So, and obviously the thing that the people involved with conservation are

interested in is developing an economy that's clean, and where the community looks to protect it, because they see the economic value for tourism. So those are the areas of emphasis. And we've had success and we've had some failures in all of them.

One of the things that we've done that has been successful, especially here at the Great Salt Lake—and I think we can claim some relationship to this, even though there's been a lotta work outside of Linking Communities—is the relationship between these sites and bird festivals. So the idea was let's promote each other's site, kind of develop a business plan, that has kind of a passport perspective to it, where—

GS: People get the page stamped for seeing—

DP: Well, we wouldn't actually stamp it. [GS laughs]

DP: But where you can see American avocets in the prairies, along with marbled godwits, and greater sandhill cranes. And then you come to Utah and you can see these large numbers in migration. And then you can be a snowbird and go to Mexico in January when they're down there and experience that. And I think more than anything, that perspective—and we've actually had a couple years where we've shared the same bird, as a bird festival key bird for the year. So we had, as an example, marbled godwits that breed in the prairies, don't breed here in Utah, do stage here in large numbers, and then winter in Mexico. And we got some money to do some satellite telemetry. Had a school group that actually raised money to buy one of the satellite transmitters. And, ya know, that's pretty expensive stuff, when you get into satellite stuff. And we've had teacher exchanges, several of them now. We're gonna have another one in Canada this June. We've had really good success with getting students that are going to universities where they don't have a full spectrum of biology as part of their curriculum. So the University

of Nayarit in Tepic, Mexico has students that are interested in avian biology but they don't teach it there. So they've been coming to Weber State, working with Dr. John Cavitt, professor of ornithology and director of undergraduate research at Weber State University, the ornithologist there. And we've found the funds to do that through this program. And they work on a project of a bird that they can go back and continue to work on that species in their own environment (area). In the last few years since we started, since it's gone further south, this last year we had two Argentinian students, one from Chile, and two or three Mexican students that were here working with John over the summer. And then he teaches a kind of a quick ornithology course kind of as more of a lab course for them.

We've developed, in cooperation with the area in Nayarit around San Blas, a business plan for ecotourism. We paid for a consultant that's been working with Bird Life International and developing economic values in Africa for African communities that are associated with tourism.

GS: And how are these programs funded? Is it government funding, or is it non-profits?

DP: The funding we're talking about? This is funding we've largely gotten from Rio Tinto (Utah Kennecott Copper Corporation, a Rio Tinto company).

GS: Ok, so it is Rio Tinto.

DP: Over the last four years—we have one more year coming up—but over the last four years we've had about almost a half million dollars. Maybe a little over a half million dollars. We've had some others that have participated. And then there have been a lot of in-kind contributions. And when the company or the state helps us with

transportation and access, and the university helps us with housing when the students are here. The core group, which is pretty small for Utah Linking, provides a lotta their individual resources themselves; they're committed to do that. That's what I've done. Ya know, when I travel I travel on my own dime.

So, I remember working with Dr. Joseph R. Jehl, Jr., the scientist that was working for Hubbs-Seaworld, who's really a good scientist by the way, and worked for LA Water and Power. He did his PhD work at Churchill in the Hudson Bay.

GS: Out on polar bears I assume.

DP: Yeah, in the summertime. And he had been there for a long time, went back a few years ago. I guess he spent maybe—I'm not sure how many field seasons Joe spent there, but maybe eight field seasons. He took an interest in the site fidelity of breeding shorebirds. And it gave me a different perspective because he asked me to come up and help him one year. So I took some time, went up. Took the narrow gauge railroad up from Winnipeg. It was quite a trip. And it was my first experience in the Subarctic. I had not worked in the Arctic, but I'd been to the Arctic several times. But, so he has these big cordoned off transect areas that are physically laid out with a monument. And he does these surveys where he surveys nesting pairs of shorebirds to relocate shorebirds banded in previous years to determine site fidelity. So he's been doing it repetitively for several years. So every nest he finds he attempts to catch both the male and female and band them. And I don't know how many years he had under his belt before I got there, maybe four or five. But as we walked through these transects, sixty percent of the birds that we saw were banded, that had returned. I remember one time as we walked through this permafrost area, he says, "When you get up to this little hump here, you're gonna kick

out a least sandpiper." And I said, "Ah, you're kidding." And he probably couldn't have done that every time. But we got there and we did. So we got this little least sandpiper, that's banded. And, that was pretty cool. But what was really cool is, for me to recognize that that's a long range migrant. That bird has left that site, after it's been banded, and has flown to Bay of Panama, or someplace in that vicinity, in the west coast of Mexico, or further south, and has returned. Not just returned, but returned to that same clump of muskeg that's sitting there in the Subarctic near Churchill. So, those kind of things can't help but drive you, can't help but feed your intellectual curiosity, can't help but amaze you about how those systems work and how all that happens.

GS: To return to the Salt Lake, I don't mean to shift gears, I don't wanna keep you here forever today, but could you talk a little bit about what you see are the greatest changes you've seen, but also the issues that are facing the Salt Lake, whether they're threats, whether there's opportunities or reasons to be positive about changes that are out there right now.

DP: There's enough tape? [laughs]

GS: Oh yeah, this thing will actually record for about fifteen hours.

DP: Ok, I'm just tryin' to figure out how to do this.

GS: I won't keep you here fifteen hours.

DP: No, no. This is fun for me actually. I'm just tryin' to figure out how to start this. Well we have a lotta that information, on threats. And I'll just say that up front, and obviously I won't repeat it all here in this experience. But one of the things that's still outlying that I need to help finish up is that I also helped initiate the shorebird conservation strategy for the Great Salt Lake. It's well on its way. But part of that

strategy is the identification of threats, particular to shorebirds. So I know a lot of that information. But I think the biggest threat– just to start with the biggest threat—is the dewatering of the basin. And I'm not sure dewatering is the right term. It's a strange environment. Maybe this winter we're gonna have a hard winter. The Lake fluctuates back and forth. But the mean, long term lake elevation, as I understand it, is in decline.

GS: I read that lowering it to 4198, 4197 would be considered normal.

DP: So, and that's the threat to any kind of an aquatic environment. It might even be a threat to industry in some ways. But certainly it's important from several perspectives. One is that you have these managed areas that have been established either under the regime that they have water rights, or that they're gonna receive water after its primary use, or that they're gonna have water available from winter storms. There are people that have talked about capturing the runoff that's not used for agriculture, after the agricultural season has stored it in large underground…

GS: Reservoirs?

DP: Yeah, reservoirs. Things like that. And those are the waters that can, or still are important. So however you wanna look at water consumption, from my perspective, as it relates to water that otherwise would've eventually found its way to the Lake, is a threat. And it's a major threat.

Land use encroachment on wetlands is a threat. But, ya know, it's not as deep of a threat as I think water is, as I've described the water issue. And the reason I say that is, of these 400,000 acres of wetlands, about 240,000 of them are under some kind of management, conservation control. So Bear River operates now at about 80,000 acres. The state averages all together have operated about 80,00. About the same amount left

over is under some kind of conservation interests through duck clubs, conservation groups, the nature conservancy and others. But those also have to function with water. So, Bear River has a water right, but very few of the state agencies do. Some of the private clubs have better water rights than the agencies.

Contamination is becoming more of an issue. Mercury, environmentally deposited mercury probably. Selenium, which is probably largely produced, generated here and discharged into the Lake. Pharmaceuticals and all the things that can't be processed through treatment plants are issues.

In terms of land forms, one of the issues that I don't know that we're responsible for, it's just a matter of an ecological event, was when the Lake came up in the 1980s, through '84 to the end of that decade, somewhere in that period of time. We had a lot of—it kind of reset the clock. And I've talked about this a lot as being a function that's really important to the Lake, that's kind of reset the wetlands in the past, back and forth, that's pulled 'em back into a younger seral stage from otherwise a climax vegetation type. But when the Lake went back down after the 1980s high lake years, somehow we had this invasion of this exotic phragmites, which is a reed grass, this tall reed grass. And we did have phragmites. We had a species of phragmites that was here before then, but it was an anomaly. You'd see it very seldom here and there. Where you'd find it you'd have a few ladies go out and collect 'em for decorative vases around their house. But, since then another more aggressive species of phragmites has taken over a lot of what otherwise would've been inhabited by indigenous aquatic plants. So many of the native rushes, hard stem and alkali bulrush, and all these bulrush, and some of the sedges, are

being displaced in a major way by this phragmites. And that is, it's kinda like dense stands of cattail, which is not necessarily productive for birds.

GS: So this was a result of both natural forces, the rise of the Lake level, but also an exotic that had already been brought in.

DP: That's right. It probably set the table for that plant. 'Cause that's when it happened. All that occurred post high lake years. So, industry depends on how they do things can have a major effect on the Lake. If you look at the footprint, as an example, of Great Salt Lake Mineral, back when being able to permits for development on state land was more easily garnered, they put their plant and their evaporation ponds, really at some of the best wetland complexes that we have on the Lake.

GS: These are the ones right up here by Willard Bay?

DP: Yeah. The Willard Spur would've extended further down, and would've been all the way down through that property. And we forget that, but that's done and that's what they did. So I'm gonna guess maybe—you've spoken with Lynn de Freitas, if she may have talked about "death by a thousand cuts." And that is true. I one time did a PowerPoint program for a talk somewhere, looking at changes on the Lake, anthropogenic changes to the Lake through time. And, I mean, they go way back when we first got here. We put in our first salt extraction ponds just a few years after the pioneers arrived, maybe within a couple years. And, we've had that happen over and over and over again, and there are a lot of wetlands which are perched above the Lake at different water table systems that are now developed into community projects. When I was a conservation officer in North Salt Lake I used to drive up Parley's Canyon. And I would ask people every once in a while, a deer hunter or somebody, if they ever thought

about the fact that there was a stream in the bottom of the canyon. This is a big canyon. Where's the stream? People drive up and down that canyon—I mean, when you go up the canyon normally—

GS: There's a tumbling river. You're following the river.

DP: That's where water is. And, I mean, that's the same kind of a thing that happens around the Lake. You can have a small project that doesn't make an astronomical difference to the system, but it's additive, and it becomes compounded. And I don't know how you deal with that. I wish it wouldn't be that but that seems to be—we settled the valley in the place where we had the greatest opportunity for water and water resources and resources, and it's just continued that way. If you look around Utah, that's what happens. Unless you have big ideas like bringing water from Lake Powell to Las Vegas, ya know, or stealing groundwater from the major underground aquifers. If you look at surface water, you can tell how Brigham Young colonized this place: He put people where there was a possibility to live, that's where it's wet, or where you can have water.

I think the other thing that's hard to describe, because it's not a physical thing, is attitude as it relates to the Lake. And I think it's improving in a lot of ways. I think there's a lot more known about the Lake, scientifically. I think there's more of a phenotypic expression in politics and in social environments for preservation of the Lake. But I think still a lotta people just don't recognize—I don't know if they see a diamond at all, let alone a diamond in the rough. I think, everything being considered, if the ownership of the Lake bottom would've gone in a court case to the federal government—and this is not a slam against state government, it's just an artifact of how we operate—but I think if it would've gone that way I wouldn't be surprised if this couldn't have been

a national wildlife refuge, the whole thing, or a national park. I mean, if you put all the resources together and looked at it from a holistic perspective through a year's time, it's as magnificent, believe it or not, as the Everglades, in a different way.

GS: Well I've actually talked with a number of people about this idea of a national park, and the way in which national parks, there's many of them now that are managed with these multiple agencies involved, the national parks and reserves like Great Sand Dunes or like Craters of the Moon where you have different management agencies involved. The industry and the history of the place would also be critical to what would be a Great Salt Lake National Park.

DP: Oh yeah.

GS: At least in my view.

DP: Yeah. So it is a great lake. It's the great Great Salt Lake. And it still is great. It's suffered a lot of cuts. But it does have a healing capacity. I'm impressed in a lot of ways how resilient the ecosystem has been, given some very significant changes in my tenure of forty years. But there's been some really very stable things. Whoever decided on the National Refuge System, however the State Wildlife Management areas, waterfowl management areas came about, those were monumental decisions as it relates to the long-term sustainability of the Lake.

GS: Well maybe—we've been here quite a while—maybe I'll close with a question that I've asked everyone, and that is—I'm kind of a place based person so I like this question: What are your favorite places on Great Salt Lake and why?

DP: Well I think Antelope Island's a special place. And I've changed my mind. I think I would write a rhetorical response to my letter that I wrote to myself at the end of the

causeway in 1968 or whenever it was, whenever it happened, in the ’60s. And the reason I say that is that I think the best place to see the Great Salt Lake is from Antelope Island. It lets you look both ways. It lets you look east, it lets you look west. And I think for most people it speaks to value, from that perspective. So I think Antelope Island is one, even though now it gets a lot of use.

But I think one of the places that’s really intimate to me that—it’s not just a place, it’s a time and place—was at the Ogden Bay peregrine Hack Tower, after we’d released birds from that site. I think we released ’em there three years. Started in 1979. And so about 1983, we had installed, before the birds had returned, by then we started to have—the young had returned as adults, and they were taking on the site as a potential nest site. And, we had placed some old World War II ammo boxes on an extension of the deck of the hack tower and put in a small black and white video camera, surveillance camera. And we ran a thousand feet of coaxial cable, which is a long ways to pull a signal, out to a point where we thought we could drive up to it and plug it in to a remote monitor in a truck, and watch what’s goin’ on with these birds, because we were suspecting they were going to breed.

So they did. They showed up and they laid their eggs. And the incubation period for a peregrine’s about thirty-one, thirty-two days. And I was a non-game manager at the time, I had a lot of other responsibilities. But every opportunity I had, especially as we got near to the end of the incubation period, I would go down there and plug in this coaxial cable. And on my little TV it would get static horizontally and static vertically and pretty soon it would pull this image up and there’d be this female or male sitting down on the scrape. We call a falcon nest a scrape. They don’t build a nest, they lay their

eggs on gravel or sand. So I got there about the thirty-first day, thirty-second day, and I plugged it in, and I got all of the same static. And all of a sudden it came up. And here she was, and she looked like she was lifted off the nest a little bit. And all of a sudden this little head popped out. And I rolled up my windows and I screamed and I yelled and I did somersaults inside the cab of a truck like you cannot believe. It was a special experience for me. A lot of work and a lot of effort, a lot of summer employees sitting and watching young that had been hatched, trying to protect 'em from getting eaten by great horned owls, had taken place. It was the first successful nesting of a peregrine on a tower west of the Mississippi River. So that was a special place and time. And I think, more than place, sometimes it's a circumstance of an event.

I guess the last one I would say that does have historical context is on Gunnison Island. And very few people, even today, even though they've been banding pelicans with crews out there now, even today very few people have ever been on the island. And I was responsible for its management. And that was a special thing. And I remember, a couple times we went out to try to fine tune our survey methodology. And these adult pelicans, we would actually fly them twice in the spring, once about the 20th of May, and about the 20th of June, and photograph 'em. Because they're large birds, they separate themselves socially when they're incubating eggs and on a photograph you can count them quite easily. And we had some outliers that would be hanging out. Usually there's just one adult there because of the distance from a fishery. So you just have one taking care, the other one would be off fishing. So we went out there several different times to… make any adjustments we needed to in how we read the photographs when it came to Pelicans around the site.

And if you go up what they call Lion's Head, which is on the north end of the island, you climb up to a rocky rampart that was put in place by Howard Stansbury in 1850. And at that place there's still a timber that hangs out over it that was part of the triangulation tower for flagging purposes to triangulate the Lake in their survey methodology in 1850. And, to go up there by yourself, and know that very few people, except… a few—the guano miners that were there, and I can't remember the artist's name—

GS: Lambourne.

DP: Thank you, Lambourne. To go up there and be there in that kind of a situation, to have that kind of an artifact still in place, was a privilege, an honor, and a blessing that I'll never forget.

GS: That's a great way to at least end this interview. We can always talk again some time. But it's been an honor to talk to you. It's been fun to talk to someone with such a deep experience with the Lake.

DP: Well I hope it wasn't spread around so much that there wasn't some continuity.

GS: There was. And so thank you very much.

DP: You're welcome. Thanks for doing the project. It sounds like it would be fun.

END OF INTERVIEW