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Edwin Philip Pister

PRESERVING NATIVE FISHES AND THEIR ECOSYSTEMS:
A PILGRIM'S PROGRESS, 1950S-PRESENT

Includes interviews with Roger Samuelson and Steve Parmenter

Interviews conducted by
Ann Lage
in 2007-2008

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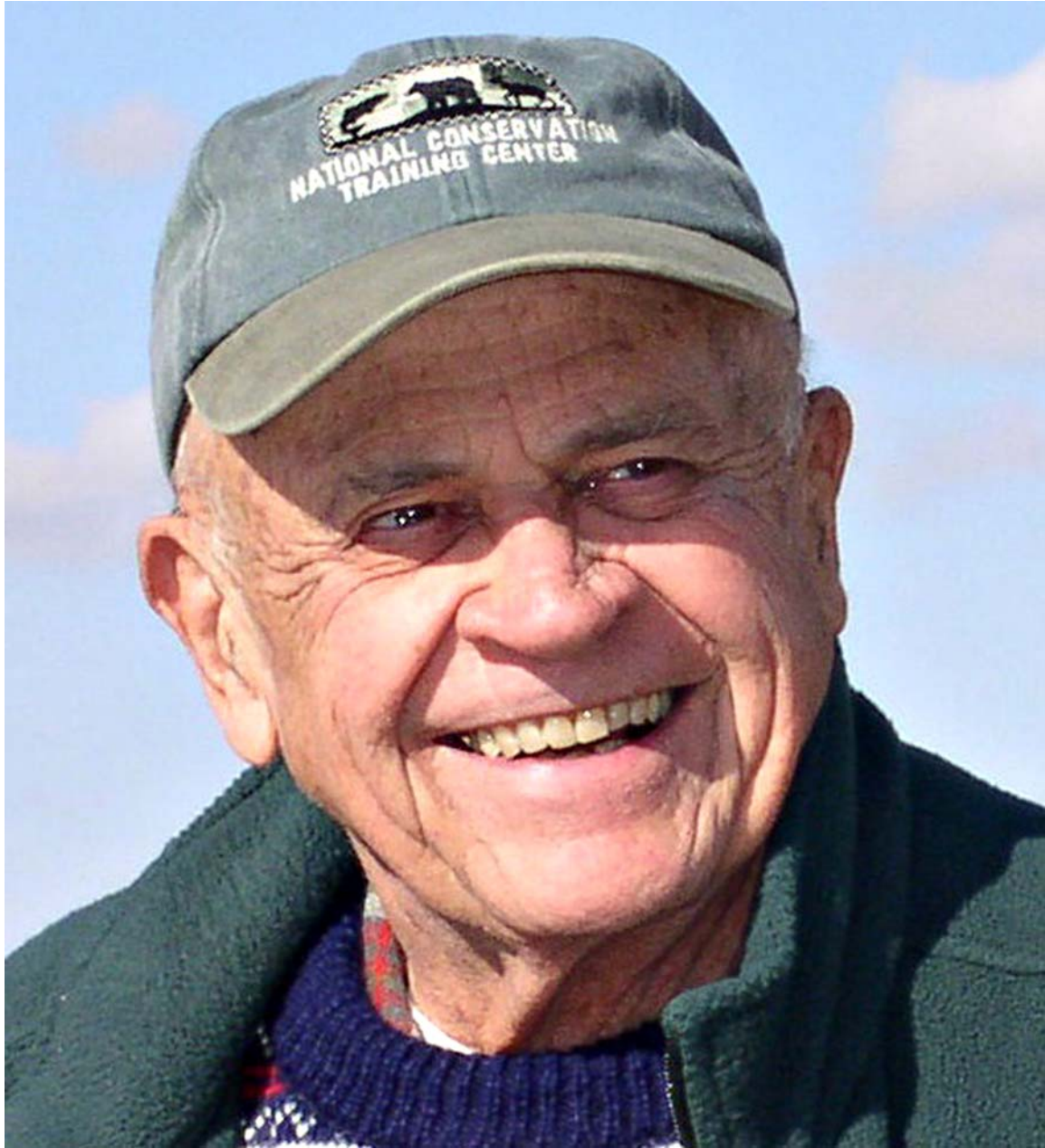
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Phil Pister at Fish Slough in Owens Valley, November 2003

Photo by Kim Milliron

PHIL PISTER ORAL HISTORY PROJECT

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Interview History – Phil Pister

The idea for an oral history with Edwin Philip Pister originated with his High Sierra backpacking expedition co-leader, Roger Samuelson. Roger and other expedition members had reveled in Phil's campfire stories of his long career as a fishery biologist for the California Department of Fish and Game. Roger knew that Phil's tales were not just entertaining but historically valuable, illuminating a profound shift in thinking about the environment and our relationship with our fellow species. When the Regional Oral History Office agreed that an oral history with Phil Pister would enhance its series on natural resources and the environment, Roger proceeded to develop funding for the project. The list of donors alone substantiates the breadth of Phil's associations and the regard in which he is held.

The story of Phil Pister's eight decades of immersion in California waters and fascination with aquatic wildlife begins in the 1930s with summer-long family camping trips to Tuolumne Meadows in Yosemite National Park, where he fished in Sierra streams and hiked with his father and older brother, Karl. It continues with his education in the immediate postwar years at UC Berkeley, where he enrolled in a new major, wildlife conservation. In 1949 Professor Starker Leopold brought to class the typescript of a soon-to-be-published book completed by his father shortly before his death, and Phil first read Aldo Leopold's *Sand County Almanac*. Leopold's thinking became a profound and lasting influence.

As a graduate student at Berkeley in aquatic biology, Pister worked for the US Fish and Wildlife Service at the Convict Creek research station on the east side of the Sierra Nevada, studying the ecology and biology of high mountain lakes. In 1953 he began his career with the California Department of Fish and Game. He secured an assignment in 1958 as an associate fishery biologist in Bishop, California, a position he held until his retirement in 1990. His territory included all of Mono County and south to the Kern County line and east to Nevada. As he describes it, "the lakes and streams and marshes and aquatic systems that were my responsibility went essentially from the top of Mount Whitney at 14,496 feet . . . down to Badwater at the floor of Death Valley below sea level. And everything in between, biologically and politically, and everything else."

The major theme of his oral history is the evolution of Phil's thinking about biodiversity and ecosystem integrity and his efforts to protect endangered species and their habitats. Phil's intellectual journey both reflected and helped shape shifting public and professional attitudes about species and habitat preservation. His oral history records the epiphany he experienced when he learned that the two-inch-long pupfish, native to his home territory of Owens Valley and long thought to be extinct, were still surviving in Fish Slough, the last remaining wetland in Owens Valley. This experience was key to the shift in his thinking and the beginning of his years-long struggle to protect the Owens pupfish. He was also instrumental in a long campaign on behalf of the equally endangered Devils Hole pupfish in Death Valley National Monument, as well as in preserving the California golden trout and other native fish. As part of his species-saving focus, he worked to bridge the gap between academic wildlife biologists and fish and wildlife agency personnel and took a central role in founding and sustaining the Desert Fishes Council, a research organization of academics, agency biologists, and public conservationists.

Throughout the oral history, Phil foregrounds his interest in the ethical aspects of species protection; he has written and lectured on environmental ethics in many venues, from classroom to courtroom. At the same time, he recognizes the thoroughly political nature of his mission. He felt the constraints of his position within the California Department of Fish and Game, whose leadership and bureaucracy were devoted primarily to enhancing the sport-fishing resource. He describes engaging in a sort of guerrilla warfare, where he occasionally had to challenge authority directly but most often stayed under the political radar as he turned from planting game fish to protecting endangered species.

A continually resurfacing theme in his oral history is the role of the University of California, not only in Phil's life but also in the crucial task of studying and preserving California's natural resources. In that regard, Phil has worked with UC scientists throughout his career and has had a close relationship with the university's Natural Reserve System and the White Mountain Research Station. To discuss these interrelationships, Roger Samuelsen, founding director of the Natural Reserve System, joined Phil for a May 2008 interview session on the NRS's role in many of Phil's endeavors, including preserving Fish Slough in the Owens Valley. In a later session of the oral history, videotaped at Fish Slough, California Fish and Game biologist Steve Parmenter joined Phil to discuss the complex management efforts undertaken since Phil's retirement to provide a suitable habitat for the Owens pupfish.

The oral history with Phil Pister was recorded in nine interview sessions, beginning in September 2007 and ending in June 2008, a total of more than twenty recorded hours. Phil journeyed to Berkeley on three occasions for several days of interviews, and I drove to Bishop for the final two sessions, in which we videorecorded Phil in *his* habitat—in Bishop, the White Mountains, and among the pupfish at Fish Slough. Following transcription of the audio files, Phil carefully reviewed the transcript, correcting errors and spelling of names, but making no substantive changes. Roger Samuelsen and Steve Parmenter also reviewed their transcribed remarks. The full-text transcripts and video clips from this oral history and others in the Regional Oral History Office's extensive collection of interviews relating to California's natural resources, parks, and environmental activism can be found online at <http://bancroft.berkeley.edu/ROHO/collections/subjectarea/index.html>, under the heading Natural Resources, Land Use, and the Environment.

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Ann Lage
Interviewer
October 5, 2009

E. Philip Pister
Interviewed by Ann Lage, ROHO
Interview #1: 09-24-2007

Begin Audio File 1 Pister_e_philip1_09-24-2007.wav

01-00:00:05

Lage: Okay. We are on the air.

01-00:00:08

Pister: Okay.

01-00:00:09

Lage: And I will give the date: September 24, 2007. And this is the first interview with Phil Pister. A first of probably a number of hours of talking about your career as a fisheries biologist. Did I get that right?

01-00:00:27

Pister: Yeah. Or conservation biologist.

01-00:00:29

Lage: Or conservation biologist.

01-00:00:30

Pister: It all fits together.

01-00:00:31

Lage: Today, we're mainly going to talk about your personal background, particularly with an eye to the influences on who you became and what you did. But it all starts back in the family.

01-00:00:46

Pister: Well, it does. Particularly in this case. I'm a product of my own upbringing so to speak. Fortunately, had a couple of parents who appreciated these things, and spent much of my time as a child in the mountains. Born and raised in Stockton, California, over in the Central Valley; born in 1929, and grew up during the Great Depression.

01-00:01:10

Lage: Yes.

01-00:01:11

Pister: All during the thirties.

01-00:01:03

Lage: Start by giving us a little background on your parents.

01-00:01:17

Pister: My parents were—my mother's family started in the San Joaquin Valley in 1850. And Dad was born in 1892, the child of German immigrants. The family came from Germany in the late 1800s and settled in Illinois, where my

grandfather ran a brickyard. Dad's father came over to the States to keep from getting drafted into the Prussian army by Kaiser Wilhelm. And they moved to southern California in 1914. My mom's side of the family has been in the Central Valley, as I mentioned earlier, since 1850. And they were—

01-00:02:02

Lage: So you date way back in California, as Californians go?

01-00:02:05

Pister: Oh, way back, yes. The place where I grew up and still visit frequently was acquired by my great-great-grandmother, and it began in 1850 and was finally the property settlements were all made and the land designated in 1853. Back at that time, of course, there were huge areas of acreage that the family owned. And then when my grandmother, my mom's mom—she's a German herself—married then into the other side of the family—that was my grandpa Smith, who was a North Carolinian, as was his grandmother, the lady who settled in Stockton. Originally, it was all grain farming that we had there. Like I mentioned, there were thousands of acres, and these two big families merged, and there's even more acreage.

01-00:03:05

Lage: Oh, so they were both families who owned land?

01-00:03:08

Pister: Yes, and through the normal procedures of inheritances through big families back then, where we grew up my brother Karl and I, was only twelve acres of land.

01-00:03:23

Lage: I see.

01-00:03:24

Pister: And then back then, of course this was during the Depression times and up through World War II, we were pretty much dependent, in many ways, upon that land. We had the dairy cattle, not many, but enough to sell milk. It was very minimal health qualifications back in the forties. You could sell about anything. You know, nowadays it's just all of these huge, bureaucratic constraints on people being in the dairy business for themselves. And I would go home from Berkeley on the weekends, and help take care of the cows, milk the cows, and spend all my summers there on the farm.

01-00:04:06

Lage: And that's hard work, from what I understand?

01-00:04:09

Pister: Oh, it is. Particularly around Stockton it sure is in hot summers, you know, it's pretty fierce.

01-00:04:14

Lage: But growing up on the farm—your parents were teachers, though.

01-00:04:18

Pister: Yeah.

01-00:04:19

Lage: But did they also operate this as a working farm?

01-00:04:20

Pister: Yeah, they did. But this is where my mom had grown up, and she was very devoted to her father. And he died in 1917, I think it was, either just before the First World War or during it. And my mom made a commitment to him to make sure that his wife, my mom's mother, was cared for. So this meant then—Grandma didn't want to leave her own home, nor did my mother—so Dad kind of assumed the proprietorship of the place. I just have nothing but huge admiration for my dad, who was able to teach full-time and then run the farm there as well. Do all of the milking and getting up well before dawn. See, during World War II, we had double daylight saving time, and it made the mornings awfully short. And so he'd go out and we'd bring in the cows and, soaking wet from the rain during the night, have to milk these things.

01-00:05:26

Lage: So this was in high school too, you were working on the farm?

01-00:05:28

Pister: Yeah. Oh yeah, definitely, all the way through high school. I started high school in 1942 and finished in '46. And one of the reasons I'm here in this oral history is that I had just some superb teachers at Stockton High School, as I had in elementary school as well.

01-00:05:47

Lage: Before you talk about that, I want to go a little bit more back into the family, and then we'll move up into high school.

01-00:05:51

Pister: Okay. Fine.

01-00:05:53

Lage: I know that the family had a lot of tradition. And you mentioned the Confederate connection.

01-00:06:02

Pister: Yeah.

01-00:06:03

Lage: And here you were, California pioneers. What I'm curious about is how much did this influence—how much were you aware of this as a child? What were the family stories to you and what impact did they have?

01-00:06:15

Pister: Of course, it's hard to say how much of this stuck there, you know?

01-00:06:21

Lage: Right.

01-00:06:22

Pister: That you weren't really aware of. And I was always really interested in this. I heard, maybe through my mother, detailed stories about her childhood. She went to a finishing school in Stockton, and then from there up to UC Berkeley where we are today.

01-00:06:37

Lage: Was she from a well-off family?

01-00:06:40

Pister: Well, not really. I'm not sure where in the, say 1890s into the early part of the twentieth century, what the status of public education was. And both she and her mother attended what they called finishing schools.

01-00:06:59

Lage: Were they local or did they go to other cities?

01-00:07:01

Pister: Yeah. They're in Stockton.

01-00:07:02

Lage: Stockton.

01-00:07:03

Pister: And then too, back then, this is really—some of these stories are just fascinating. How they'd have to hitch up the team of horses onto the wagon, they'd drive the wagon about four miles into Stockton from where our home was, or is, and to go shopping they'd have to do the same thing, you know. It's amazing the technology. I'm not sure we're better off now—we were better off back then.

But education was always a major point in our family. My brother Karl and I, there was never a question that we were going to go to the university, and since my mom had attended Berkeley before World War I, in her mind there was no other place to go. And I'm glad she felt that way because my brother Karl ended up as dean of engineering here at Cal for ten years, and chancellor at Santa Cruz. And of course my curriculum here was just beginning after World War II, the conservation of natural resources.

But back again into earlier times. So we had this great background, and as I mentioned during lunch today, we had even the close association with the migrant farm workers during the Great Depression. Back then they were called Okies or Arkies. People from the Southern Central United States.

01-00:08:24

Lage: And they tended to be looked down upon.

01-00:08:26

Pister: Well, they really were. And my mother was never quite sure about these folks, although she was very hospitable to them.

01-00:08:33

Lage: Tell me the story of how this association came about.

01-00:08:35

Pister: Okay. We were well aware, with the press and of course it was well before TV; this was in the early thirties about where my first recollection of anything began. But before World War II, they had the big Dust Bowl. It's a huge drought in the southern states, strictly in the Mid-West, just tons of soil would blow out everyday. And these people, they were just dirt farmers. They had no way to sustain themselves, and the word was out that they could get work in California in the fields picking whatever. It went all the way from cotton to peaches, you know, one end of the valley to the other. So many of them, of course then, just as you read in Steinbeck's *Grapes of Wrath*; this is just literally a reflection of what John Steinbeck wrote about.

And I recall this one instance—and again I was quite young then, I would say maybe seven or eight years old—during a driving rain storm in the wintertime there, in Stockton. Of course, Stockton was pretty much right smack in the middle of all this. Lots of crops, you know, all the way from Bakersfield, north, well into up around Redding, and the whole valley was pretty much the nation's bread basket, even back then. Heard this knock on the door, and my mother went to the door, this was after dark, and there's this poor, bedraggled looking lady there: Mom Jordan. And she said to my mother, "Ma'am, do you have a place so we can spend the night? Nobody will take us in." And they had—again, right out of Steinbeck. They had this old truck with everything they owned stacked on top of it. I'm surprised the thing ran at all. And, yeah, we had a couple of out buildings there that had been there for many years. Yet they were clean, and the roofs didn't leak. So we let them spend the night there, and the next day got to know them better. Mom and Dad both being very perceptive people. You can tell pretty quick whether somebody's legit or not, and they were. All they wanted to do was survive. That's why I have so much respect for people like Cesar Chavez, you know, and the whole movement there. And what Steinbeck wrote is exactly on target.

So they stayed there, and they would go out everyday in their truck and pick anything that was in season. A lot of tomatoes, we were right smack in the middle of huge tomato plantings there in the middle of Stockton. We were east of Stockton, about four miles, out toward Linden and Bellota, the two towns that you go through on your way up to Ebbets Pass through Valley Springs and up through there. And with their kids, they had several children, and my brother and I, much of our early childhood was playing with the Jordan kids.

01-00:11:32

Lage: So they were there for years?

01-00:11:33

Pister: Yeah. Well, yeah, not for many years but I would say from the mid-thirties until World War II started. And then there was all kind of employment then. And interestingly enough, the migrant workers were taken into things like the shipyards at Stockton where they built PT boats, Higgins boats [landing craft], stuff of this kind. And so we ended up then as high school students; this would be, like I mentioned, say 1943-44, in there. They'd let us out of high school at noon. We'd start, just literally at dawn, get our classes in, then they'd load us on buses, and we would go out and pick tomatoes.

01-00:12:16

Lage: Because everyone was busy working?

01-00:12:17

Pister: Yeah. Everybody else had jobs in the defense business. And I recall very well, we got paid fifteen cents a lug box, these big lug boxes, for picking tomatoes. My brother Karl started a bit earlier on this; they got ten cents a box, for a farmer right next to us there.

You know, I took that money and salted it away, and when I was at high school I bought a really nice watch. I've still got that watch, and it still runs like it did back fifty-some years ago.

01-00:12:46

Lage: Oh wow. Brings you lots of memories.

01-00:12:48

Pister: Oh, it really does. I was literally brought up with huge numbers of memories. I think I mentioned, Ann, just yesterday we had this big family reunion for both sides of the family. And gosh, everybody brought old pictures of the old farms and the twenty-mule teams dragging these big grain harvesters across the fields, you know. And I did some of that myself during the war. In World War II, I helped local farmers. I'd go out there just as a day laborer, you know, help run the harvesters and things of this kind; you see the big sacks of grain drop off the back end, you know.

01-00:13:28

Lage: It sounded like the family had quite a bit of land originally. And you had the twelve acres. What—?

01-00:13:32

Pister: Well, originally, yes. The Grupe side, and that's kind of what that yesterday was, the Grupe side, G-R-U-P-E, an old German family, and John Carsten Grupe was the progenitor of all of that side, which was my grandmother's side. He came here, California, in 1849 and beat my great-great-grandmother by a year, essentially. But this was when things were pretty rough in

California. I think California population, maybe two hundred thousand. The Gold Rush brought a lot of people to California.

01-00:14:10

Lage: Yeah. Sure.

01-00:14:11

Pister: And my great-great-grandmother then made a living, along with her farming activities, by hauling freight from the Port of Stockton, which existed even back then, with teams of horses and mules up in the gold fields.

01-00:14:25

Lage: And you had mentioned to me that her husband was an invalid?

01-00:14:29

Pister: Yeah. Yeah, he was, but he died not too terribly long after they got here.

01-00:14:32

Lage: I see. So she was doing this on her own?

01-00:14:34

Pister: All of this on her own.

01-00:14:36

Lage: Now was that something that was discussed with the boys and you know, were the strong women something to be admired or—?

01-00:14:44

Pister: Yeah. They're still there. Curiously, my niece who runs the place now, she's in her early fifties, a high school teacher in Stockton, but she has felt—now she's a very deep person. Her great-great-great-grandmother started the place, a very strong woman as we've talked about. Anybody who could take her kids and invalid husband and haul them to Panama, go across on mule trains to the Pacific Coast, and on to San Francisco, you've got to be pretty tough to do that. And she then and my grandmother are kind of the same, but my mom was very much that way also. Nothing would stop her at anything. She was a very nice person, but very determined.

01-00:15:34

Lage: Can you think of an instance that would illustrate that?

01-00:15:41

Pister: I think the best instance here on Grandma, or my mom, the grandmother of my kids, hard to believe that, was when she decided in high school that she wanted to attend UC. So she did this in two ways: she came to Berkeley, and her field was home economics. Back then they called it domestic science, but it's called home ec now. And she took a number of basic courses here at Cal, but they had a very good program at [what was] back then Santa Barbara State Normal College, which is now UC Santa Barbara in Goleta. And so she—to get there from Stockton, she had to take a boat down to Sacramento, San

Joaquin River, to San Francisco, got on another sailing ship, and then went down to Santa Barbara, all on water, rather than going out to Highway 101 and driving like we do today.

01-00:16:41

Lage: By sea.

01-00:16:48

Pister: And then to cap it all off, her family, they weren't too sure about women doing stuff like this. This was really pioneering. She was class of 1914 here at Cal, I think, maybe a year later than that. This is interesting, and not too long before mom died, obviously; this would be back in the seventies. The Park Service asked me to come to Yosemite Valley. They were having a John Muir Institute there. They wanted me to talk on water diversions, like the Hetch Hetchy project and so on, and the impact on aquatic resources. There was a fellow there who had been director of the National Park Service, Horace Albright, who curiously Albright was a native of where I live now—Bishop, California. And he, along with Stephen Mather, had started up the Park Service with the strong encouragement of Theodore Roosevelt. Well, mom had taken classes with Horace Albright. They looked at each other, Mary Smith, Mr. Albright, and so they spent quite a bit of time sharing the old days of UC Berkeley and the different directions their lives had taken them.

01-00:17:59

Lage: Oh my.

01-00:18:06

Pister: And Albright himself was just a marvelous guy. After that meeting, we got to be really good friends. He'd come up to visit there in his old hometown there in Bishop. And we'd talk about everything. He was deeply interested in the work that I've done so much on the golden trout. You've been over that road, Ann, going over Tioga Pass, down into the Mono Basin where Mono Lake is. Horace wrote this marvelous description of his first time over that pass, where they had—it was really a big-shot type of thing—they had U.S. senators that came to the west side; they put them on horses and mules, came up through the Kern, over into the Owens Valley and to Lone Pine, up through there. They had a couple of bottles of sea water they were bringing from the ocean. And this was to dedicate the old Tioga Road.

01-00:18:56

Lage: Oh my.

01-00:18:57

Pister: All my early recollection of the Tioga Road when I was kid were nothing but a couple of tracks in the dirt. It has always been a really dangerous road. Someone was killed there just a couple of weeks ago. They went off the edge, and down they went, and it was the end of them. So they got the top and had their dedication.

People in the Bishop area had always had a strong affinity, of course, for trout. Half of the world goes trout fishing up there. And that's sort of my original job was, Cal Fish and Game. Probably should mention here that I was hired by the Department of Fish and Game in 1953 after doing, I'd say, apprentice-type work with the U.S. Fish and Wildlife Service, all in that area of the Eastern Sierra.

And so the group, they'd go up through there, and the different Chambers of Commerce in the little towns—Lone Pine, Independence, Big Pine, Bishop—would have trout feeds for all of these distinguished people. So they got up to Tioga Pass, broke the bottles of sea water, and then came down the other side, the same route, essentially, that I took coming over here from Bishop two days ago, on Saturday.

And Horace was a great rider. That goes back too in the early history of the Sierra where the Tioga Road itself was essentially purchased from a mining company by Stephen Mather, who then went back and started up the Park Service with Horace Albright. So all of these things kind of—.

01-00:20:29

Lage: There's so much history here.

01-00:20:31

Pister: Oh, you know there really is. I could see why you wanted history for a major. I have a friend back at the University of Wisconsin. I think this is true. I said, "You know, the future belong to the historians, if you really think about it, you know." And this is true. You could learn so much from what's going on in the past, besides it's fascinating.

01-00:20:48

Lage: Now, I want you to stick on your history though. [laughter]

01-00:20:50

Pister: Okay. We'll leave the philosophy for later. So now I'm where?

01-00:20:59

Lage: We've talked about your parents.

01-00:21:02

Pister: Okay.

01-00:21:03

Lage: Your mother became a school teacher.

01-00:21:04

Pister: Yeah, and Dad did too.

01-00:21:07

Lage: Did they meet in the schools there or—?

01-00:21:09

Pister:

Oh, they had met in Stockton. Stockton had what they called the Pre-Vo School, Pre-Vocational, where kids weren't necessarily going to go on for PhDs anywhere. In fact, back then, very few people did. They just wanted to get jobs in the building trades or whatever. That's why my wife's dad taught welding and my dad taught engineering drawing and math, engineering math, and wood shop, stuff of this kind. And mom was teaching home economic or domestic science right at the same school, so they met there.

01-00:21:41

Lage:

They met on the job.

01-00:21:42

Pister:

In Stockton, yes.

01-00:21:42

Lage:

Did your mother continue to work after she started a family?

01-00:21:45

Pister:

Well, yes she did. Not right away. My brother's three and a half years older than I. And mom, I remember, she substituted a fair amount, and you know, back then in that era you took every nickel you could get just to feed the family.

01-00:22:04

Lage:

That's right. That's right. Were teacher's salaries cut [during the Depression] or—?

01-00:22:11

Pister:

Well, no, teachers—but salaries were all lousy, you know? I remember my friends at Lottie Grunsky School, the east part of Stockton. The heavy agriculture area, very strong minority population even then of a number of blacks, Japanese kids, Japanese farms nearby. And we were kind of the—can't think of a better term—elitist in that sense, you know.

01-00:22:34

Lage:

Was there that sense of class and race?

01-00:22:37

Pister:

Well, younger kids I don't think have that so much. I know this that the blacks have always been superb athletes, and they showed that there too. One of the schools we'd play games against, Fair Oak School, a lot of black kids there. And we were always terrified because these kids were so good and so big, you know.

01-00:22:58

Lage:

Were the schools mixed or was it—?

01-00:23:00

Pister: It was a pretty much segregated—de facto segregation simply because of population over there. I don't think we ever had busing or anything of that nature there in Stockton.

01-00:23:12

Lage: Did you go to the same schools as the Jordan kids, for instance?

01-00:23:16

Pister: No. No. The Jordan kids went to a school where my mom had gone, and in retrospect I wish we had done this: it was the old one-room school house about a mile from where we live now. It's still a school there. What was the name of that? Glenwood School. And so they went there, and later on I learned that that's the ideal learning experience to be in the one room school where you're exposed from your first grade on up to everything that goes on.

\

But my parents thought we'd get better preparation for high school and college if we went into one of the larger schools in town. And since dad had to go in there everyday anyway, and mom too, to teach they just took us, dropped us off, which was right on the way to the high school. And so we probably lost out because all of our friends, farming kids around there, they all went to the Glenwood School, and they ended up being very good citizens, and got their own college degrees, or whatever.

01-00:24:16

Lage: Yeah.

01-00:24:17

Pister: Probably better off than we were; only time shows those things. [laughter]

01-00:24:21

Lage: Now did you—I'm thinking ahead to your interest in natural science. Did that show itself in those early years?

01-00:24:28

Pister: Oh yeah. Yes it did. I think—

01-00:24:31

Lage: Did you play with rattlesnakes and—?

01-00:24:33

Pister: Well, we don't have—there aren't any rattlesnakes down that low, but we had everything else. Like the Beechey ground squirrel. The whole Central Valley is loaded with these kind of gray-looking creatures running around, diving down holes in the ground, you know, and sitting up on fence posts chirping away.

And early on, my dad and mom—particularly my dad—loved to go fishing, trout fishing. So he would load us up, being a teacher he could do this, he would have our family camping trailer all loaded up with camping gear, and

hooked up to the old '28 Buick. Literally the morning after school was out in June, we were heading up into the mountains, usually to upper Yosemite, in the Tuolumne Meadows area. So my brother Karl and I literally grew up there in the upper part of Yosemite.

01-00:25:24

Lage: And how long would you stay?

01-00:25:26

Pister: We'd stay all summer.

01-00:25:27

Lage: All summer?

01-00:25:27

Pister: Yeah. There were no restrictions at the campground at that time. You could stay there as long as you wanted. So we set up a rather elaborate camp, and it was just really enjoyable to do that, you know. And that, I think, probably that type of an experience, along with being raised on a farm, you know, kids raised on a farm you know how life works. And so that, together with these times in the mountains—I've got a great picture one of our friends took up there of me holding a string of fish. I think I was only five years old. And so it took off from there.

01-00:26:02

Lage: And was fishing the primary interest for your dad?

01-00:26:05

Pister: Probably for my dad. You know, the—

01-00:26:08

Lage: And he came from Orange. I wonder where he got this interest in fishing.

01-00:26:12

Pister: I think after he moved north to Stockton—they came from Illinois, and I don't remember him—there was a Spoon River back there. There's that thing written about that, the anthology.

01-00:26:25

Lage: The *Spoon River Anthology*.

01-00:26:26

Pister: But I don't remember him ever talking about fishing there. He learned this, or got interested in it, after he came to California.

01-00:26:35

Lage: Now tell me more about these trips.

01-00:26:37

Pister: Well, okay. The reason Dad started—when he was in Orange, he would come up the Owens Valley, which is the route that people still take from Southern

California. There are about twenty-five million people down there now, and this is probably their major recreation area, along with the Colorado River, but much of it right there. And dad used to come up before there was even a road. There'd be planks laid across the desert, and they'd get up. There's a place that's north of Bishop called Tom's Place.

01-00:27:06

Lage: Say it again?

01-00:27:07

Pister: Tom's Place on Rock Creek, which is one of the really nice streams up there. And they would camp there. Back then you could catch about all the fish you wanted, and I think he got inoculated in fishing there. And then when we moved north, it was easier, by far, to get up into the Sierra from Stockton than it was from south of L.A.

So this is one of the major motivations. He would get up at these incredible hours of the morning to beat all of the other fisherman out. He'd be up at three in the morning; Dad's always done this.

01-00:27:39

Lage: And would he be taking you and Karl?

01-00:27:41

Pister: Yeah. Mainly Karl first, and then when I grew up to about age of accountability, maybe when I was ten or eleven I could start doing this too. When Karl and I get together we still talk about those early times.

01-00:27:55

Lage: And where would you hike to go fishing?

01-00:27:58

Pister: Out of Tuolumne, it's a big muddle of granite rock, Lembert Dome. That's where John Muir hung out, originally in the 1860s, with sheep. There's the old Lembert spring house there where the Sierra Club Parson's Lodge is now.

01-00:28:15

Lage: Yes.

01-00:28:16

Pister: We'd go right just to the north of that, or northwest, up to a place called Dog Lake. We'd go from Dog Lake up to the Young Lakes. Young Lakes were close to Roosevelt Lake. Roosevelt Lake named after Eleanor Roosevelt, who came up there in the thirties during her husband's presidency, and they named the lake after her. It's right at the base of a major peak called Mount Conness. My brother Karl climbed Mount Conness when he was about twelve, I think. So just this morning, when I left there his home here in Lafayette, he showed me this kind of mural or montage of photographs he made of pictures I'd sent him, from the air, showing Mount Conness of all of the different perspectives there. Back in that era, way back before this era, there were heliograph

stations during the early surveys of the western United States. Heliograph stations on Mount Conness, to the north Round Top Peak above Carson Pass, and then Mount Diablo right here. And they could communicate by sun signals. And this kind of set up much of the early survey of the western United States. And there are still remnants of this now at the tops of these peaks. I haven't been up to Diablo for quite a while, don't know if there are markers there still, but definitely on Conness, the stairs that fellows used to go up there to the heliograph station. Same thing on the Round Top. So all of these things kind of tied together.

01-00:29:51

Lage: Yeah.

01-00:29:52

Pister: You know, we just dearly loved that place.

01-00:29:53

Lage: Would you spend the night at these different lakes?

01-00:29:55

Pister: Yeah. Often we would.

01-00:29:58

Lage: And was your mother there?

01-00:30:00

Pister: No. Mom wasn't really that much into hiking and stuff. She liked to—she would take up volumes of things to read.

01-00:30:05

Lage: So she'd stay in the campground?

01-00:30:07

Pister: Yeah. Yeah. And do what women in that era were supposed to do: make sure the meals were cooked and the clothes were washed, you know, and do her reading. Thankfully, things have changed since then. [laughter]

01-00:30:21

Lage: She probably enjoyed the reading.

01-00:30:22

Pister: Well, I think she did. She was by herself. You know, and being a teacher all year long. You know, being a housewife back in that era too was not easy. Wringer washing machines and cooking stoves often didn't work, often time wood stoves; she had to split the wood, haul it in, and you know. [laughter] Dad tried to help a lot. We got fairly decent kitchen appliances.

01-00:30:47

Lage: You didn't have any sisters? It was just you and Karl.

01-00:30:48

Pister: No. Just Karl and me.

01-00:30:50

Lage: So did you help your mom with the housework at all?

01-00:30:52

Pister: Yeah, to some extent. To some extent. Although most of our time was outside with dad working the fields and stuff of this kind.

01-00:31:00

Lage: Now back to the fishing. Was there any catch and release in those days?

01-00:31:03

Pister: Not then. Not then.

01-00:31:05

Lage: So you would eat most of the fish?

01-00:31:06

Pister: Pretty much. Yeah. Or just release them, you know, if you don't want to keep them. But most of these lakes, like Dog Lake, and the Young Lakes, Roosevelt Lake had rainbow trout, but most of these other ones had eastern brook, which were brought in in the early 1900s from the eastern part of the United States where they're native. And back then if something was wet, the managers felt fish should be dumped into it. And now we're paying a real price for this because in my own graduate research when I was over at LSB [Life Sciences Building] on the Berkeley campus was into the impact of major invertebrate predator into these pristine ecosystems. And we had a lake up in the upper Convict Creek basin, and it had never been planted with fish. So we would study this lake, get all of the data we could get: invertebrates, water quality. We'd test everything we knew, pH, whatever. And then after we knew everything there was to know, then we brought in some trout to see what they would do.

01-00:32:10

Lage: Brought in some of this eastern brook trout?

01-00:32:12

Pister: Yeah. Mainly in one lake called Bunny Lake. This is about a one hectare, about two and a half acre lake, and studied this thing up one side down the other. Put out some very good publications, that shows what we're finding out now fifty years later, if you want to maintain a pristine ecosystem you don't dump trout into it. You probably heard about the depletion of amphibian population lately, mountain yellow leg frog. The introduction of trout no doubt is a contributing factor to their depletion although there are other things as well. There's a chytrid fungus that they get now, we have pesticide drift coming off the Central Valley from westerly winds. So all of these different things, but basically—and then furthermore, once these fish have eaten everything there is to eat in the lake, then they what we call stunt, they never

grow very large. They get to be what I call ballpoint pen fish, about that length, about the same body confirmations of a ballpoint pen.

01-00:33:08

Lage: Now do the golden trout, who are native, have the same effect on the ecosystem?

01-00:33:13

Pister: Yeah. Pretty much. Yeah. But the golden trout are not native to the High Sierra other than in the Kern River Basin. That's where they evolved after the ice age.

01-00:33:21

Lage: So most of the creeks didn't have trout at all?

01-00:33:24

Pister: No. And in the Owens system, curiously and ironically, one of the great fishing areas in the world for trout, trout are not native there. The first trout that came in were out of the Walker River, up from the Bridgeport area; these are cutthroat trout. These are probably back in the 1860s and '70s.

01-00:33:42

Lage: So it goes way back, this moving of trout to different—?

01-00:33:44

Pister: Yes. Oh yeah, it does.

01-00:33:47

Lage: So what kind of trout were you catching up in Tuolumne?

01-00:33:49

Pister: Eastern brook. Mainly eastern brook trout, yeah. And back then we were—

01-00:33:54

Lage: Did you even think of this at the time? Anything about the fact they'd been planted?

01-00:33:59

Pister: No. No. This is just something to go fun to catch and go eat.

01-00:34:02

Lage: Sure. And they're tasty.

01-00:34:06

Pister: Yeah, the ecological significance of this didn't really hit me until I was a grad student here at Berkeley.

01-00:34:11

Lage: Which we'll get to.

01-00:34:11

Pister:

When I did my own research, yeah, on this very thing. So we just loved to go fishing up there. We went along with dad, and we'd bring back nice—My mother would fry up, and dad too, in a big frying pan, you'd dump in all the grease you could find, and fry these poor things up. And they're good to eat, no question. They're top-flight eating.

01-00:34:32

Lage:

Now did you—was there evidence of the Park Service there at Tuolumne? Was there a campground program and all of that?

01-00:34:40

Pister:

Yeah, there were. They'd have the ranger naturalist programs there at Tuolumne. And they were right there in Tuolumne, they also brought up some from the valley but mainly right there, and they give some of these really great talks in the early geology reflecting Muir's philosophies, his observations on glaciations, whatever. And we all looked forward to those; we never missed one of them, because they're well done. And the Park Service has done a marvelous job through the years on this type of interpretation.

01-00:35:08

Lage:

Were there people who came year after year that you got to be friends with?

01-00:35:12

Pister:

Well, yeah. In fact, from Stockton High School, where my parents were, a number of our—literally every year—co-campers were faculty people from Stockton.

01-00:35:26

Lage:

I see.

01-00:35:27

Pister:

Yeah. We had a group there called Faculty Wives, which my mom was active in. These were kind of the ladies auxiliary of the—although some of themselves were teachers, like mom. And some of our very best friends, remaining even today, were teachers there. Although most of them are gone now.

01-00:35:46

Lage:

So this was like a community thing to go to Tuolumne Meadows.

01-00:35:49

Pister:

Yeah, it really was. The elaborate bear traps we would—not bear traps, but bear deterrents—where a bear would come into camp and trip a wire, and all of these dish pans and all of the racket creating to get the bears scared away they go.

01-00:36:03

Lage:

Did you sleep in tents?

01-00:36:04

Pister: Yeah. We had a little trailer. In fact I still have the trailer that my dad built in 1933. It's probably the oldest vehicle registered with the Department of Motor Vehicles now. The same trailer, don't use it for camping anymore, but dad had it fixed up on both sides so that canvas cots would lay out. It folded up in the trailer, but they'd lay out at night.

01-00:36:25

Lage: On the ground?

01-00:36:26

Pister: Well, no. Right off the ground.

01-00:36:27

Lage: Off the ground?

01-00:36:28

Pister: Yeah. So Karl and I would sleep in the trailer tent. And my folks had a regular tent with tent poles and the whole thing.

01-00:36:38

Lage: Anything else about the equipment? What did you have by way of a backpack?

01-00:36:43

Pister: Well, backpacking then was pretty much in its infancy. Back then, we had what they call a Trapper Nelson backpacks. These were all wooden frames, and you would just string a knapsack onto these. Nothing like these internal frames, the sophisticated things you buy today.

01-00:37:02

Lage: Yeah.

01-00:37:03

Pister: You know, I still use an external frame Kelty that I've used all my life pretty much. All right, so World War II ends, my brother Karl was in the Navy, I was too young to get into World War II. Okay, we're both students here at Cal. There are great places to go backpacking in the Sierra. So we started this in 1946, the war was yet a year old, you know it ended in August of '45. So in July of '46 we were up with our backpacks going up over Mono Pass we talked about earlier today, and into the Recesses named after the four pioneer railroad men of California: Crocker, Stanford, Huntington. [laughter] And so this was our—and then we did a lot of fishing here. You know, back then.

01-00:37:52

Lage: This was just you and Karl?

01-00:37:53

Pister: And a friend from Stockton. We would go up there and carry all of our food, and back then there weren't all of these nice freeze-dried dinners you'd get

now. You eat a lot of fish, you take up dried potatoes, and dried eggs. Most of this stuff just an aftermath of World War II.

01-00:38:10

Lage: Army surplus.

01-00:38:11

Pister: Exactly. Yeah. Much of our stuff, like our backpacks, were army surplus backpacks. They called them ski trooper packs, where the ski troopers—they even had white things you could tie on them for camouflage. Tenth Mountain Division stuff, you know.

And then big polyethylene tarps we have now? At that time, forget it. Those things did not exist. We had what the army called shelter halves, and that was about what they did, they sheltered half. So in a rainstorm at night, you had your choice: to keep your head dry or your feet dry, but you couldn't keep them both dry. [laughter] And propane stoves, forget that, you just used wood. One time I remember at Pioneer Basin we got one of these really protracted rain periods there. We tried to cook, and we'd taken up dry beans. It's hard enough to cook beans at sea level, but you've got up at twelve thousand feet, and the temperature's so low at boiling—we finally ate these things and it tasted like eating walnuts, you know? [laughter] We had dried beef; just buy big chunks of dried beef. Kraft dinner was one of our salvations, as Lipton dried soups still are. They had come along in there.

01-00:39:30

Lage: Yeah.

01-00:39:30

Pister: So we lived okay on those backpack trips.

01-00:39:31

Lage: How long would you go?

01-00:39:33

Pister: Well, this first trip was about a week. The next trip in '47 we went over Piute Pass out of Bishop, that was two weeks. That's when we climbed Mount Sill, we talked about earlier today. Then in '48, we made really a long trip. We were out for three weeks. We weren't replenished at all. We carried everything with us for three weeks.

01-00:39:52

Lage: Were you moving everyday?

01-00:39:54

Pister: Yeah.

01-00:39:54

Lage: You had a goal.

01-00:39:55

Pister: Pretty much. And that was our first time in the golden trout country. We went over really high passes. There was Forrester Pass, over thirteen thousand feet; that was in the upper Kern. And that was a marvelous trip. We just did everything there. When you're in your teens and full of fire, you climb all kinds of stuff; you never think about it. I'd be terrified by the thoughts now. [laughter]

01-00:40:20

Lage: Somewhere I read, I think in the little autobiographical piece you gave me, that you also went camping with an Uncle Carl. Tell me about Uncle Carl.

01-00:40:31

Pister: Uncle Carl was from Orange, my dad's brother. It was one of the typical, early German families. They had a fair number of kids. Dad had two brothers, Carl and Frank. But Carl just loved to go fishing up there and camp with us at Tuolumne Meadows. He was a landscape guy, and way ahead of his time. He went out and made his living essentially planting trees, and mowing lawns, doing all that stuff. Carl never went to college, but just a great guy. So all during World War II, when I was too young to get into the service, I took the train down to Orange or L.A., or bus down to Orange and I'd come up through the Owens Valley with Carl. We'd camp there all summer long along with my dad. And I was just spoiled rotten by all of that. I had an aunt that just loved. [laughter]

01-00:41:24

Lage: She went also?

01-00:41:25

Pister: Yeah. Yeah. Aunt Agnes. And she was—

01-00:41:27

Lage: So that was Owens Valley?

01-00:41:29

Pister: Yeah.

01-00:41:30

Lage: Place.

01-00:41:30

Pister: Well, they came up through the Owens Valley, but we'd end up usually at Tuolumne Meadows.

01-00:41:33

Lage: Oh, usually at Tuolumne too?

01-00:41:34

Pister: Yeah. It would go clear up over Tioga Pass. And then I'd go home with my parents when they would go home. So Karl and I, we've often said that we had an idyllic childhood. Being able to grow up on a small ranch or a small

farm. And the values back during the Depression are vastly different than they are now. You know, we learned to live with very little. Drive a car until it fell apart, and we didn't have TV, we didn't have computers.

01-00:42:05

Lage: Were the values transmitted by your parents talking about family values or what?

01-00:42:12

Pister: Yeah, but then living it too. No—we always had plenty to eat, but we didn't have t-bone steaks every night, you know. You know, the entire nation was on rationing during World War II. We had meat rationing, gasoline rationing, other things were rationed. We had books. You could buy so much gas. This was a critical issue with us because we lived quite a ways out of town. We got four gallons a week, and that's not enough to take us, what we had to do for dad to get to work. But you had options. You could go to the—what was it? It was the Office of Price Administration, OPA, then, or something. And because of the unusual circumstances, there's an A card, four gallons a week, B somewhere in between, and then a C, not unlimited but you could get all the gas you needed to stay alive.

01-00:43:05

Lage: So it had some flexibility?

01-00:43:07

Pister: Yeah, but along with that, getting back to the meat thing, we could raise our own beef, had enough pasturage there. So we used to do that. We could take a steer, and have it butchered, and frozen, stuck into a meat locker. So we lived much better than many people lived like that. My friends from in town, they'd come out. They couldn't believe the life that Karl and I could live there.

01-00:43:34

Lage: More sustainable living.

01-00:43:36

Pister: Well, yeah, it really was. It really was. So those were good things about that. You know, all of this then merges into the values.

01-00:43:44

Lage: Right.

01-00:43:45

Pister: What are values? You know, I do a lot of lecturing on environmental ethics, which essentially is applied values. And so I use this as a kind of a metaphor in these lectures I'd give. You look out at the audience, there are maybe fifty people. You know, I could pass out fifty pieces of paper to you and have you all write your own definition of what values are. And I get probably fifty fairly similar things, but they'll all be somewhat different. So let's take a little trip here. We'll go back to the Mississippi River, say in the 1993 floods where there's a family there, their home is right in the flood plain of the Mississippi

River. And they know that the river is raining in the upper basin, they know the water's going to keep coming up, and is going to take their house. So they have to make a judgment. Let's say they take the family station wagon, back it up to the door, and start loading in all of the stuff they feel they have to have, including the kids and their things.

So they get done, and they have room for one box, yet there are two boxes they'd like to take. One box contains the old leather-bound family Bible with the births and deaths of all of the members of the family clear back into the 1600s, written in the handwriting of the mothers and fathers of those generations; that's one option. The other option is a box full of the videogames the kids have just made. And so rather than be too authoritarian, I say, "Okay everybody, what do you want to take?" You can see the answer, the kids want to take the videogames, and teenage son pipes up. He says, "Well, you know the pawn shops uptown are still open and they're not going to get flooded, they're up in a hill. Let's see what we get the most money for: the videogames or the old Bible." And the parents say, "You know, we don't like to have to do this. But we're going to take the old family Bible, because there are values there that can never be replaced." And endangered species are a good example of this.

So they do, they keep the old family Bible. They say, "Well, we know very well, kids, that before too much longer you'll understand why we made that decision, and you'll see the relative values of videogames as opposed to an old document like that." So that's how I kind of level the playing field there on what values are. But these same values, then, have got us into this. Karl and I were kind of subjected to that early on because we had a lot of that type of thing around the house. Pictures of the old harvesters being hauled by mules, you know, and the early harvesting procedures, the huge old oak trees were cut down. You could count the rings as to who did what as these rings were counted.

01-00:46:56

Lage: Yeah. A lot of sense of history.

01-00:46:58

Pister: Oh, yes. So we had that. And all of that stuff stuck with us. Pushed by both parents, but maybe my mom who had probably a keener interest because of her own personal interest in it. My dad was just back to when he was born in Illinois in 1892.

01-00:47:15

Lage: Now, I think it was in Karl's oral history he talked about the Daughters of the Confederacy, and your having to go to meetings?

01-00:47:26

Pister: Oh yeah. Oh jeez, this is great.

01-00:47:28

Lage: So give us a little background in how that played out in your family.

01-00:47:31

Pister: Okay. Well, see, I don't know how far back you want to go in this.

01-00:47:35

Lage: Well, I want more of how you experienced it.

01-00:47:38

Pister: Okay. Well, here's how this worked. My mother had a strong southern heritage from her great-grandmother, who settled our place there in Stockton. She was a North Carolinian by way of New Hampshire, but there's a lot of extenuating circumstances here. She had two, they would be cousins I guess, that were both Confederate officers. And Grandma Rhodes, who set up the place, was a strong Confederate. So mom then had this deep sense of history going clear back, and I'll be there tonight [at a reunion in Stockton]. The place started up in 1850.

01-00:48:29

Lage: Yeah. Yeah.

01-00:48:30

Pister: And so she had this. And to her, history meant so much sense.

01-00:48:34

Lage: But what did it mean to her to take the confederate side? Did she connect it to current issues, or to black people in the community?

01-00:48:42

Pister: Well, I think she felt an obligation more than anything. [laughter] She was never really accepting of minorities of any type. Now, in Stockton High School, she taught all kinds of ethnic groups, that she'd find in a cosmopolitan city like Stockton. But she always would refer to them as foreigners in her mind.

01-00:49:05

Lage: So it did somehow fit.

01-00:49:09

Pister: Yeah, okay. Sure it did. So my poor brother and I were dragged into this, probably screaming and kicking. They had a group called the Daughters of the Confederacy, but we were the auxiliary of the daughters. I've still got the certificate I got, naming me as a member of the Children's—I think the Sterling Price Chapter of the Daughters of Confederacy. I remember I had to even take part in a play that they had there, which I didn't really enjoy. Now, I think Karl remembers this too. I think we couldn't escape this. You know, you have a very determined mother and you're a little kid, she can do what she wants to do. So that's how we got to be members of the auxiliary of the Daughters of the Confederacy. And you know I go back to the east coast a fair

amount now. It's mainly Washington DC. I never got back there that I don't think of this. [laughter] I've become quite a Civil War buff. I really enjoy Civil War history because it's such a fascinating time in our nation. Such an informative time. I think I mentioned at lunch today where because of my great-great-grandmother's work with the soldiers on both sides, after the war she received this very nice personal letter from Robert E. Lee, which I just sent a copy of back to the historians in Gettysburg.

01-00:50:30

Lage: Do you still have that letter?

01-00:50:32

Pister: Yeah. Bancroft should have them. I'll send it to you because most of the stuff that we had, for better or for worse, my parents donated to the library—Early California History Library at the University of Pacific. And I think they're being good stewards of it. My niece goes there frequently and looks up old titles, and deeds, like the one signed by William Sherman, who was the head of the bank instrumental in us getting the property there in Stockton.

01-00:51:05

Lage: The same *General* Sherman.

01-00:51:07

Pister: Exactly. Lousy real estate guy or banker, but he was a very effective general. [laughter] This must have really—I can imagine. Can't you imagine after the war how my great-great-grandmother would have just had to sit down, have her place signed by the guy who burned half the South to the ground, you know? [laughter]

01-00:51:28

Lage: But I'm wondering if any of this carried over to current events like Ku Klux Klan, or anything, or was it a totally different realm?

01-00:51:39

Pister: Also kind of a different thing but my brother and I are both liberal in our thinking. You know, we would have no sympathy at all for the Southern cause.

01-00:51:47

Lage: Yeah.

01-00:51:47

Pister: Which was very obviously a selfish thing by wealthy landowners in the South. It wasn't a matter of state's rights. They said it was, but it wasn't. It wasn't at all. So things like the KKK, the Ku Klux Klan, we just viewed with great disdain.

01-00:51:59

Lage: Were they active in the valley?

- 01-00:52:01
Pister: No. I don't think so. I've never—no.
- 01-00:52:05
Lage: Not in your awareness.
- 01-00:52:05
Pister: No, in California it never got there. Pretty much Mississippi, Alabama connection there.
- 01-00:52:12
Lage: Now let's see. What else do we have from your early childhood? We didn't talk about family religion and family politics.
- 01-00:52:22
Pister: Well, Karl and I were both brought up as Congregationalists.
- 01-00:52:28
Lage: Was it a serious matter in the family?
- 01-00:52:31
Pister: Not really.
- 01-00:52:31
Lage: Did you go to church or—?
- 01-00:52:32
Pister: Well, we would go to church on occasion. Like the typical, God-fearing Protestant, you'd go into Christmas and New Years and Easter, you know, things like that.
- 01-00:52:47
Lage: Bible reading or anything like that?
- 01-00:52:50
Pister: No, not a serious thing. We both attended Sunday School. It was difficult because during the war, you didn't have all this gasoline, and we lived quite a ways from the Congregational church in Stockton. We've pursued other religions through the times. For a while I pursued the Mormon religion, and I dropped that. And Karl has—we just talked about this this morning at breakfast. He married a lady, just a marvelous lady who studied at the College of Holy Names here at Oakland, a very deep Catholic. And so Karl became a Catholic. So if he had to identify through religion now, he would be probably Catholic, but very peripheral. I do the same thing. I'd say I would consider myself a liberal Protestant. The church I identify with mainly now is part of the United Church of Christ, the Orinda Community Church over the hill, out at Orinda.
- 01-00:53:46
Lage: Because your friend is the minister there.

01-00:53:47

Pister: Yeah, my good buddy Frank Baldwin. Yeah.

01-00:53:49

Lage: Right. Right. And how did you get involved with the Mormons?

01-00:53:54

Pister: Well, this was when the kids were quite little. The Mormon missionaries came by one day and I was busy doing other stuff. So my wife was very impressed by the boys themselves, and you know I've always viewed the Mormons this way. Probably some of the best people in the world. They have marvelous programs for their youth, very community oriented. It's like when Katrina hit New Orleans a couple of years ago, the big Mormon 18-wheelers were the first ones who arrived there full of food, and blankets, and everything else that the people needed, even though they weren't Mormons, most of them blacks. And so they have those programs. But the religion to me—some very intelligent people, like Brigham Young University professors, can subscribe to this. But I guess being a Berkeley product, it's a very—you might say a critical attitude, not a cynical attitude but a critical one. It just didn't add up to me.

01-00:54:54

Lage: Yeah. Yeah.

01-00:54:55

Pister: But religion, per se—Dad I don't think ever went to church. My dad suffered from very serious hearing loss.

01-00:55:08

Lage: Oh, he did?

01-00:55:09

Pister: Yeah. When he was a child, I think his mother had German measles when she was carrying him. And this, I guess was probably the best thing that could happen; it wasn't his eyes, it was his hearing. I don't know how he ever did this, but he taught high school very effectively with this very serious hearing loss.

01-00:55:26

Lage: How serious was it? Can you describe?

01-00:55:28

Pister: Well—

01-00:55:30

Lage: Did he have hearing aids?

01-00:55:31

Pister: This was before hearing aids, largely. Some of the first hearing aids were a huge thing, a big thing. You'd have to hang it around his neck, you know, it wasn't an ear piece. But he could read lips quite well, and the students knew

this, so they would help him and they'd speak louder. And so that's how—and dad, during the war, I remember during World War II I just saw pictures of that yesterday. He had this big Packard Bell radio, and at 10 o'clock at night they had the Richfield Reporter, and he just lived for that. You know, newsflashes by Richfield, and they would give all the latest war news. And so he would sit there, literally with his ear up against the radio. His left ear was nearly worthless, his right ear he could hear out of reasonably well. And he would sit there and take in all of the World War II news.

01-00:56:26

Lage: Wow. Did that affect the family, do you think? Or your attitudes?

01-00:56:31

Pister: Well, the war of course—

01-00:56:33

Lage: No, I mean your dad's impairment.

01-00:56:35

Pister: Oh. I don't know, I don't think so. No, it had nothing to do with that. He could hear well enough to get the news.

01-00:56:41

Lage: Yeah.

01-00:56:42

Pister: And teach, and that was about it.

01-00:56:43

Lage: Yeah.

01-00:56:45

Pister: And when Karl went into the service, he was in the Navy V-12 program here at Cal, living in the I House [International House] where they headquartered that whole thing. And I was too young, the war ended when I was sixteen in 1945. And as far as I was concerned that was okay. I went into then, at Berkeley, an ROTC program here because the draft continued after the war ended. So rather than get drafted in the army, I went through ROTC here and got a commission in anti-aircraft artillery right here at Cal. I spent some time in the service during the Korean time.

01-00:57:21

Lage: Yeah, I wondered if you'd had.

01-00:57:22

Pister: Yeah. Not overseas, but just here.

01-00:57:25

Lage: Did you have to leave your job and—or was it summer?

01-00:57:28

Pister: Well, this is all just summer.

01-00:57:30

Lage: Summer reserve.

01-00:57:31

Pister: Yeah. I went to summer camps like Fort Bliss where anti-aircraft artillery and all of the rocketry and stuff was down there. And that itself was a really—I enjoyed that. ROTC had never been a hot thing at Cal, but back then it was a whole different philosophical attitude. We were fighting—Those things that started last night on the war, Ken Burns thing, boy I tell you, that brought back so many memories that first episode.

01-00:57:55

Lage: I bet.

01-00:57:56

Pister: See, in Stock—

01-00:57:57

Lage: Tell me about it in Stockton. We still haven't gotten—

01-00:57:59

Pister: Okay. We're still in Stockton.

01-00:58:01

Lage: You're in high school during the war.

01-00:58:02

Pister: Okay. This was an interesting thing here. I remember there were three of us, and this was a great story. There were three of us that kind of palled together in elementary school. Myself, son of German teachers pretty much, Joe Bacigalupi from an Italian farming family, and Kiyoko Kamadoi, a Japanese girl whose family raised strawberries up near Lodi, north of us.

01-00:58:31

Lage: Now how did you happen to pal together?

01-00:58:33

Pister: Well, I don't know. We just had the common interests.

01-00:58:34

Lage: Yeah.

01-00:58:35

Pister: And Kiyoko was just an absolutely adorable little girl. She'd come to school now and then wearing her kimono and whatever, Japanese, and all of the boys would just fall in love with her, you know. Besides just being a really nice person. And then the war came along, December 1941, and the early part of '42 Kiyoko came to school one day with tears just streaming down her face.

We're going to have to leave. Well, why Kiyoko? I don't know, the government says we're going to have to leave. And that was the beginning of the relocation of Japanese people from the west coast.

01-00:59:09

Lage: You must have seen a lot of that in Stockton.

01-00:59:10

Pister: Oh, I did. I did. And some of my best friends were moved out. And in retrospect, I guess all you could say is in war time, you do dumb and frantic things, and this is what caused that.

01-00:59:22

Lage: How did you feel about it at the time?

01-00:59:25

Pister: Kind of puzzled by the whole thing. Because I knew that Kiyoko wasn't going to bomb something here in the west coast, nor were her parents.

01-00:59:30

Lage: Yeah.

01-00:59:33

Pister: Some of that thinking still pervades now sixty some years after the war. A lady I ran across not too long ago at a meeting there in Stockton—see right there just south of Bishop is one of the big relocation centers of Manzanar.

01-00:59:50

Lage: That's right.

01-00:59:51

Pister: And the Park Service has a historical facility there. It's part of Death Valley National Park, it's run through Death Valley's administration. And they have it really well done. They had inherited it after the war, they had taken it over, and made it quite a historical display there. Showing the things that I remembered so well from Stockton, like the placard placed up on the utility polls. "Attention all persons of Japanese ancestry," report at a certain time with one or two suitcases, all they could take. They lost everything they had. I never saw Kiyoko again after that.

01-01:00:33

Lage: You didn't?

01-01:00:34

Pister: She never came home, at least to my knowledge. But here's the irony of it. Okay. The war goes through, it ends, our family status quo. Baccigalupi's family ends up millionaires because they took over all of the Japanese farming capabilities.

01-01:00:51

Lage: Oh they did?

01-01:00:54

Pister: Kiyoko suddenly lost everything because there was no way they could hold on, without farming, to keep up the payments on their farm. And during the war, my friend Baccigalupi and I would say, “Jeez, I wonder when they’re going to lock us up?” Because I was a second generation German, he was a first generation Italian.

01-01:01:13

Lage: Yeah.

01-01:01:14

Pister: And these were the three Axis powers.

01-01:01:15

Lage: Right.

01-01:01:16

Pister: And so it really didn’t add up at all. And even now in retrospect, having looked at it all at my advanced age, it was just a terribly wrong thing to do.

01-01:01:25

Lage: And you must have seen a lot of that transfer of property and—.

01-01:01:28

Pister: Oh yes. Yes. I did. Cause we were right there where it was happening here in Stockton. So that was—but the war itself had a huge impression on me. Things changed so much and I was very impressionable during the high school years.

01-01:01:43

Lage: And your brother was off.

01-01:01:45

Pister: Yeah, he was in the service. But this kind of sums it all up. Some of my older friends in Stockton high school were—

01-01:01:53

Lage: Would you stop for one minute? [laughter]

[End Audio File 1]

[Begin Audio File 2 Pister_e_philip2_09-24-2007.wav]

02-00:00:00

Lage: All right. This is tape two of our interview with Phil Pister. And Phil, I interrupted you almost in mid-sentence, so recapitulate a minute.

02-00:00:13

Pister:

Okay. Well, we talked about values, we've talked about this earlier. Martha and I live now in Bishop. We see high school kids come by our house everyday and you can see them, most of them on their cell phones, some are puffing on a joint, you know. [laughter] Interject here, in 1945, the winter of '45-'46, Stockton High School had a top flight basketball team. And I was on that team.

02-00:00:53

Lage:

And they won the state championship.

02-00:00:54

Pister:

Yeah, we won a state championship. Yeah. So when this happened, this would be in 1995, fifty years after we got this award, this in the Stockton paper, showed a picture of the old team and all this stuff.

02-00:01:12

Lage:

Fifty years later.

02-00:01:13

Pister:

Yeah. So I dug up my old yearbook, the old blue and white, and I looked at 1945 and in the 1945 blue book I thought of what the kids doing now. There was a page there devoted to my classmates who were killed in action in the South Pacific and Marine battalions, flying over Germany, and bombers shot down. I thought, "Golly, I don't think kids now even have any recollection of what has been sacrificed for their standard of living and quality of life." What I have in my little office, which you will probably see one of these times you come down to Bishop, I have all of the different plaques and awards I've gotten. To put this in perspective, my wife gave me this about a year ago. It's a picture taken on D-Day of the paratroopers landing in Holland and France. And what that does is make you realize what other people have done of vastly greater significance than I've ever done. In terms of just basic courage and all. Can you imagine jumping out of an airplane, in the pitch dark, knowing there are people down there who wanted to kill you?

02-00:02:30

Lage:

Yeah. That's something.

02-00:02:32

Pister:

So that was one of the examples of the impact of World War II on me.

02-00:02:37

Lage:

And you did think of it in those terms at that time?

02-00:02:38

Pister:

Oh yes. Yes. Yes. Definitely. I remember when D-Day, June 6, I think, of 1944. This was right after my wife's birthday—we weren't married then, but I knew it was her birthday. Reading about that and then the battle later in the Pacific, and Iwo Jima, and so on and so forth. And I could still get choked up talking about that.

02-00:03:02

Lage: Did you think that you might go yourself?

02-00:03:04

Pister: Well, yeah. I really did. We didn't know how long the war was going to last. Of course, the nuclear devices, most of which Berkeley took a large part in developing, stopped all that. And as I look at it now and read books, and talk to my brother Karl who—one of his first jobs was a CB Officer after he got his engineering training here at Cal. And he went over to Okinawa to repair American bases there after a huge, what they call typhoons over there, it's hurricanes here.

02-00:03:36

Lage: After the war.

02-00:03:37

Pister: After the war, yeah. But he saw what the Japanese had done there, and there were still Japanese soldiers in caves and stuff there. And he said he knew it would have been just an absolute terror to invade Okinawa, well, we did invade Okinawa, but to take that and the mainland of Japan. Okinawa, of course, the Japanese looked at this as a part of their homeland. It's the first place that we had invaded that they felt was their homeland. And so they were all set to just go to the bitter end on that.

So probably in some respects, even though the darn bombs were horrible, and I think there might have been better ways of doing this, the fact remains there were a lot of American lives saved. You know, very likely in the long run Japanese lives too. That had to be a tough decision to make.

02-00:04:25

Lage: When you were in high school, was this kind of a specter hanging over the school?

02-00:04:29

Pister: Well, in a way. But we became an active part of this, the students. Back then, and this major part Ken Burns' documentary last night—financing the war: buying war bonds. It was a huge cost, this is not compared to what's going on in that mess in Iraq now, but still they had to buy Jeeps. And we would have drives, buy war stamps then. Have a book of stamps and you'd turn that in for an \$18.75 war bond, which if held until the ten-year majority would jump up to \$25. Of course, things were very different then economically. So we would do that and most of the kids there had parents, or brothers, or sisters were in the war.

02-00:05:11

Lage: So you must have all been following it closely.

02-00:05:12

Pister: Oh very closely.

02-00:05:13

Lage: On the radio every night.

02-00:05:14

Pister: Oh yes. We were indeed. And this was before TV, so about everything you had was both from the printed media and also the radio. We kept close track of it.

02-00:05:23

Lage: What about politics in your family?

02-00:05:28

Pister: [laughter] This is interesting. I didn't really know what politics was until maybe I was in high school. My mom was a strong Democrat cause her dad was a Democrat and had even run for congress when he lived in Stockton and didn't get elected. Dad's side, on the other hand, was very conservative. Old German family, as far as they were concerned the liberals were something to be taken out and shot, you know.

02-00:05:54

Lage: So they weren't fond of Roosevelt?

02-00:05:56

Pister: Oh no. No. He had all kinds of expletives discussing Roosevelt. He was no doubt the best president we've ever had in many respects. So politics were not a major discussion. [laughter] But all of dad's side of the family. One time Karl and I had an elderly aunt that passed away, Aunt Amelia. So we both went down there. Karl then was, I think, an associate prof here at Cal. And I came down to go to the services for Aunt Amelia. [laughter] All of our cousins were there.

02-00:06:27

Lage: Now was this your mother's family or your father's?

02-00:06:29

Pister: Dad's. Dad's sister, older sister, Amelia. And we learned right away, why it is probably not a good thing to talk about politics. Cause these people were—you could see why the Germans caused so much trouble. They're just a warlike people, including my relatives, you know? [laughter] So we just shut up. When Karl appeared, typical Berkeley professor, I'm sure the relatives looked at him, and "Who's this guy?" [laughter] You know? He had to be Karl Marx himself. [laughter]

02-00:07:00

Lage: Right. [laughter]

02-00:07:01

Pister: So politics—then, I think because of the academic background we've both become liberal thinkers in our later years.

- 02-00:07:10
Lage: So different from your family here.
- 02-00:07:13
Pister: Yeah.
- 02-00:07:14
Lage: Okay, let's see. We haven't talked about education, school, and maybe mentors and influences during those school years.
- 02-00:07:32
Pister: Okay.
- 02-00:07:32
Lage: Not counting Berkeley.
- 02-00:07:33
Pister: Okay. Both Karl and I were very blessed to have very fine teachers all the way through, beginning at kindergarten. I think we may not even attended kindergarten, so first grade. We had excellent teachers, learned the basics really well, and we got three Rs whenever, and then went into high school. Karl was exceptional this way. I think he skipped three grades. I think he entered high school at twelve and graduated Cal at eighteen or something of this nature. Of course he was accelerated, three semesters a year then during the war.
- 02-00:08:14
Lage: Yeah. That's right.
- 02-00:08:15
Pister: And Stockton High School had just really superb teachers. I had a—Karl had him too—a biology prof there. Did graduate work here at Cal and published some good papers on genetics. This guy's a high school teacher, and transmitted that to us as students. And I'm convinced if it were not for Harry J. Snook, who had published—he'd even written books on tidewater invertebrates and things.
- 02-00:08:46
Lage: This man had?
- 02-00:08:48
Pister: Yeah. There's a very famous book—*Sea Animals of the Pacific Coast*, Johnston and Snook, and these were the two authors of that very famous book. And we took both biology and physiology from him. And even now I can go over 200 points in a human skeleton and tell you exactly what they are cause we had to learn this. And he lit the fire, you know.
- 02-00:09:19
Lage: So did you have a special interest in biology?

02-00:09:22

Pister:

Well, yeah, because of him. Yeah, the life sciences. So when I came to Cal then, with equally good teachers in math and English, really all of the basics, civics, history, these were great teachers. Went into Berkeley then, I passed history 17 AB or the history requirement, you know?

02-00:09:43

Lage:

History and institutions.

02-00:09:44

Pister:

Yeah, history and institutions. And I passed also the subject A exam. I didn't have to take English, but I did just because I was interested in it. I mean I took speech, it was a big thing. Critical analysis of essays, and I learned—I read essays there I still use today. "On the Disadvantages of Being Educated" by Albert J. Nock. And this was a marvelous essay. You never wanted to get educated, you'll never be satisfied once you get educated. Your mind will keep reaching out there. Boy, he was right on target.

02-00:10:14

Lage:

Do you remember any professors outside your field?

02-00:10:17

Pister:

Oh yes. One of the big ones was one that Karl took a course from, [Arnold] Perstein, he was a speech prof. And he had us do critical analysis of essays. We didn't give speeches, but we knew how to take an essay and critically analyze it. What's good about this thing and what's worth remembering—the key points there. And so when I started at Cal as pre-med, because I liked living things, but back then see, there were not really established courses in what I ended up majoring in. It was just getting off the ground following World War II. A couple of schools, Wisconsin through Aldo Leopold had one, and maybe a couple of others. But the UC system wasn't deep into that. And about that time, right after the war, Aldo Leopold's son came here as a professor or associate professor of zoology.

02-00:11:18

Lage:

Oh, so he was new to the campus then?

02-00:11:20

Pister:

Yeah. He did his doctorate here. But he was essentially born and raised in Wisconsin. He did his PhD on studying wild turkeys in Missouri. That's where he did his research. So Starker came aboard, and started up then, I think, in 1949 his curriculum in wildlife conservation. And my brother, Karl, knowing my interests, and he knew that I was kind of floundering. I told people when I enrolled in pre-med this was the only major dealing with living things, and I learned some basics.

02-00:11:56

Lage:

But you didn't really want to be a doctor?

02-00:11:57

Pister:

No, I never really intended to. Then you had to have a language exam and all this stuff. I took German, medical and scientific German both. There was a really great prof here, Kurt Edmond Heller, who came out of Heidelberg and had a dueling scar on his cheek. He was a great Sierra Clubber too.

He just loved to climb mountains, spend his time up in the Sierras. So I learned a lot. But then Karl phoned up one day. I was at Bowles Hall then where I lived my entire time here at Berkeley. And Karl says, “You know, I was looking through the general catalogue, the latest one. I think there’s something here you should check out. There’s a guy over in the life science building, Starker Leopold, who has a course, a major, in wildlife conservation. You ought to go over and talk to him. So I did, and just that fast switched my major.

02-00:12:47

Lage:

So it immediately appealed?

02-00:12:49

Pister:

Yeah, it did. Cause I—Starker was just a marvelous person.

02-00:12:52

Lage:

Do you remember your first conversation with him? What—?

02-00:12:55

Pister:

Yeah. I do. I said, “Oh, Dr. Leopold.” I told him what my background was pretty much like we’ve talked about today. And I have a deep interest in living things, and wildlife, and fish too. And he had this deep interest in fishes as well, but all of my undergrad work was in wildlife. Then as a graduate student I went into aquatics.

02-00:13:17

Lage:

I see.

02-00:13:18

Pister:

And then I did all of my graduate work in aquatic biology and ecology.

02-00:13:22

Lage:

So tell me more about this—if you do remember that first—?

02-00:13:25

Pister:

Well, okay. Though we just kind of—I don’t remember it intimately, but we talked back and forth. I didn’t even know who Aldo Leopold was at that point, and here I am with his son, who is very—

02-00:13:36

Lage:

Just a young—

02-00:13:37

Pister:

—very much a chip off the old block though. Starker was deeply infused with that philosophy because he was raised with it through his mom and I know all

of his brothers and sisters since then. Sister Estella was in the graduate program here at Berkeley in paleobotany.

02-00:13:55

Lage: When you were there?

02-00:13:56

Pister: Yeah. And she's now an emeritus prof at the University of Washington in Paleobotany. His sister Nina runs the Leopold Reserve out of Baraboo, Wisconsin. And Luna, other than Starker the most widely known. He ran the U.S. Geologic Survey, director of that, then came here as a professor, over at earth sciences, a professor of geology there, hydrogeology. And Carl is a professor at Purdue in natural resource.

02-00:14:27

Lage: Quite a family.

02-00:14:28

Pister: Oh, this is great. This is a great way to end today or at least get toward the end. Starker, then, went up through the academic hierarchy here in zoology. The Museum of Vertebrate Zoology at Berkeley is very prestigious. They have a worldwide reputation. So Starker came—and it came to be his turn to become director. Some of the people, which I recall were a bunch of pompous individuals at the museum, thought, hey this guy, he's doing Mickey Mouse stuff. He's not doing the stuff that we think our director should do. His research is different. So there was enough pressure raised against Starker that Starker, not being a fighter, he says "Okay, you guys do your thing." He moved across the street from LSB to Mulford Hall, and set up the curriculum in conservation of natural resources. And this was after I'd gone. The neat thing was the next election to the National Academy of Sciences, they elected Starker, Luna, and Estella Leopold all at the same time; never before or after has this happened. They didn't touch anybody at the museum. And when Starker died, one of his graduate students, Dale McCullough, who I think is emeritus now, but Dale wrote up kind of a elegy to Starker. They have an obituary that came out in the Cal alumni magazine. He said that even though Starker was not one to gloat, he must've taken a deep satisfaction in that episode. [laughter]

But that shows the kind of a guy he was and is. People like that never die. They stick around in many different ways. And I told the story about Starker coming into class. People who might be viewing this may not be aware of the Leopold legacy, which is a huge thing in my field. Literally, Aldo Leopold was the first ecologist to really integrate all of the different phases of science in with people. And this was most interest experience, but his book, *Sand County Almanac*, Aldo Leopold, published by Oxford in 1949, remains probably the most significant book ever written in this field.

Starker came in to class one day, this would have been in April of 1949. Aldo had died in April of '48 fighting a fire back in Wisconsin. And Starker had a sheath of paper maybe $\frac{3}{4}$ of an inch with a binder clip, or whatever they had up at that time. And he said, "Here's some stuff dad wrote. You might like to look at it." And it was a draft of the unpublished manuscript of *Sand County Almanac*, which I read with great interest, and then read again later on. It really made my career change like we've talked about all today.

02-00:17:44

Lage: And we'll talk about later.

02-00:17:45

Pister: Yeah. But that was a—

02-00:17:53

Lage: You say he just put it on the table in a casual way and said, "You might want to read this."?

02-00:17:56

Pister: Oh yeah. Exactly. And Starker, he was just one of these laid-back people. I never, in my life, heard him ever use anything that could be construed as an egotistical statement. He didn't have to. And his dad was the same way. So, to maybe go on with this, this is the beauty of the University of California, Berkeley. And the other nine campuses are fine too, but this is something special, particularly in my field. Now most of the stuff that I studied here is now at Davis with equally good professors. But that was a special time during the formative years of conservation. After World War II, we had a nation that was totally worn out fighting wars, with deprivations of all kinds of things. Nothing compared to what the people in Europe went through. We didn't have bombs dropped on the United States, but this was a very interesting time. People were emerging then in late '45 into '46-'47. They wanted recreation, and so that's what I was trained to do. Provide fishing for people, hunting for people, whatever. And it was later on, after *Sand County* had really got hammered into me that I saw there was a much bigger world out there that I needed to address. And then did the things that kind of bring me here to do the oral history.

02-00:19:24

Lage: And that's going to be the theme of our continuing sessions.

02-00:19:29

Pister: Yeah. And you know, I still get communication, and I'm really gratified with this that they recognize this contribution I was able to make. Because I essentially changed the entire direction of fisheries management in the United States, through California.

02-00:19:49

Lage: Through the change of direction that you yourself took?

02-00:19:51

Pister:

Yeah. Yeah. And making other people aware of this, and to getting this typical reaction: “Why didn’t I ever think of that?” You know, it’s like—who was it? Thomas Huxley, I think, when Charles Darwin published his paper on the *Origins of Species*. “How stupid of me not to have thought of that!” [laughter]

02-00:20:11

Lage:

Right. Okay. Well, is this a good place to stop, do you think?

02-00:20:14

Pister:

Fine.

02-00:20:15

Lage:

And we’re going to explore this, all of this, later. And come back more to your time here at Berkeley.

02-00:20:19

Pister:

And now that we know each other better, I think we can be even more productive.

[End of Interview]

Interview #2: January 22, 2008

[Begin Audio File 3 Pister_e_philip3_01-22-2008]

03-00:00:05

Lage: Okay, that was our moment of silence, and now comes our ID. This is January 22, 2008. And I'm here interviewing Phil Pister for the Phil Pister oral history project, part of our environmental series. I am Ann Lage for the Regional Oral History Office. So Phil, this is our second interview. You've just taken a long drive yesterday from Bishop.

03-00:00:29

Pister: Yeah, long drive.

03-00:00:31

Lage: And we're going to start with a delving back into the topics from last time to pick up a few things. We talked about your boyhood, your family I think very nicely. But I didn't get a good sense, other than that you love the out of doors, I didn't get a good sense of what kind of a kid you were.

03-00:00:50

Pister: Okay, yeah. Well, yesterday driving from Bakersfield where I came around the end of the Sierra into the Tehachapi Mountains, and then driving the two hundred-some miles right up I-5 on the west side of the valley, it brought back many childhood memories, because that's where I grew up. In Stockton, which is not right there, but just in that same kind of an atmosphere.

03-00:01:16

Lage: Central Valley.

03-00:01:16

Pister: Sure. I was thinking about some of those early days because I knew that you wanted to pursue this to some extent. And I would have to say this, probably. Let's put it this way. I was a good kid. Both of my parents were teachers. I recall some days in elementary school—and Karl and I attended the same school there in Stockton, the Lottie Grunsky School, named after an early teacher there in the Stockton school system. Occasionally, particularly when a substitute teacher would come in, the kids would just harass her something terrible. And to me this was just something you just didn't do. Usually I just maintained a discreet silence. I remember one—can't remember the teacher's name. She says, "You know Phil, I wish every student in this classroom were the same kind of person that you are. Thank you for helping me be a good substitute teacher." Well, that—I deeply respected my parents, and them being teachers as well, this was just heresy for kids to treat a teacher that way. And then my teachers were excellent all the way through elementary school, then into high school. We talked to some extent on this last time.

But my teenage years were pretty much skewed by the impact of World War II. The nation was quite different then, and—so let's put it this way, there was

a wet blanket put on society back in that time during the forties. I entered high school in 1942 when I graduated from the eighth grade—this was all during the war years, '42, '43, '44, early part of '45, before the war ended. And I graduated then from high school in June of 1946. And to show the difference say between now—and Karl and I were talking about this last night, the difference in perception of kids now of history—I remember we—I think I mentioned this. We had a very good basketball team back in Stockton High School, won the state championship.

03-00:03:54

Lage: And you were a member of it, which we didn't talk about too much.

03-00:03:59

Pister: Yeah, I was a member of it. Didn't probably contribute too much, but I was still a member. And I played a fair amount, really.

03-00:04:04

Lage: What position?

03-00:04:07

Pister: I played left forward. And I had a legendary ability to hit the basket from—without using the backboard—from way out in the side, three-pointer nowadays. Back then just two points.

So when 1995 came around, that was the fiftieth anniversary of our team, which was the '45-46 winter. And now I was thinking, we've always lived near the high school there in Bishop, and have always had an interest in kids at that age, having had a couple of mine go through the same thing. I would watch them after school there, and they would be out doing what kids do far more now than they did then. They'd be out fooling around, ripping up and down the street in their hot rods and drinking beer perhaps or smoking a fair amount. And I then picked up my old high school yearbook, and I looked through there, and to show the difference, there was a page in my high school yearbook devoted to my classmates who were killed in action in World War II.

03-00:05:23

Lage: Your classmates actually?

03-00:05:24

Pister: They had enlisted as early as they could, at seventeen, thereabouts, and were then killed in the South Pacific, flying over Europe in airplanes, D-Day, all through that. And we were talking about how it's too bad in a way that our kids nowadays don't have a better appreciation of what was sacrificed for them to do what they can do today, the freedoms we have. We lost some of our very finest people back then.

03-00:05:52

Lage: Yeah, and I can see, as you say, it put a different cast on the—

03-00:05:56

Pister:

Oh, it did, it did. Yeah we had rationing back then. Gasoline rationing—well, our basketball team was in what we called the Sac-Joaquin League, Sac being Sacramento. And this league had all the major high schools in Central Valley during the war years. There was Grant and Sacramento and McClatchy, the three up north, Lodi, Stockton, Modesto, Turlock and Fresno. And all through the entire Central Valley that's the only major high schools that there were. Now there must be dozens, maybe even hundreds, of high schools in that same area. Okay, say you were going to play Fresno. Stockton would be playing Fresno. We have to get there somehow. With gas rationing this wasn't easy. So we would have to go around, the different players on the team and the coaches, and we'd get hold of what gas coupons we could. A coupon would get you four gallons of gas. And we would pool enough of this so we could get to the game and back.

03-00:06:56

Lage:

In your own cars?

03-00:06:57

Pister:

In our own cars, yeah, we didn't have school buses back then to take us. So different from today. Kids just take this for granted, get in the school bus or airplane and fly where you got to go.

And we were deeply interested, of course, in the history of the war.

03-00:07:15

Lage:

So you followed the war on the radio.

03-00:07:16

Pister:

Oh yeah. I remember one time there was a famous time, it was 1942 or '43 perhaps, when we had broken the Japanese codes. And we knew that General Yamamoto—or Admiral Yamamoto, who commanded all the Japanese naval forces, was going to be flying from some island there in the South Pacific to Bougainville, and we knew about when he was going to be doing this. So the Americans launched six P-38s, very heavily armed planes, long-range, and they shot this guy down. And I remember talking to my dad about this. We drove home. We lived six miles from Stockton, and we had more gasoline than the average person, because we had to have it just to get back and forth to work and school. And I said to my dad in a bit of overenthusiasm, "I wish I could be over there," thinking of the war, taking part in it. He turned and he says, "Phil, no, you don't." We were talking about this last night, Karl—

03-00:08:24

Lage:

And Karl was in the—

03-00:08:27

Pister:

Karl was at that time pretty much here at Berkeley. He was in the Navy V-12 program headquartered over in the I-House at that time. What was named at that time Callaghan Hall, Callaghan Hall, named after an admiral who had

been killed early in the war, Dan Callaghan, C-A-double-L-A-G-H-A-N. And then it went back to I-House after the war. And he was in the V-12 program here in engineering, and finally when he finished up, which would have been in the early part of '45, got his degree and his commission as an ensign in the Seabees, actually, which would be what he would do as a civil and mechanical engineer. His time in service then was short, but he went over on active duty to Okinawa and spent most of his time there. Okinawa had just suffered a huge hurricane or typhoon that hit and leveled much of the American military presence, and he had to go back and help rebuild that as a Seabee. So then right after that I graduated then in June of '46, and then July-August-September I was here at Berkeley.

03-00:09:44

Lage:

Right. Now, let's move into Berkeley then. We talked last time about some of the academics, but we didn't get much about the social life. And also I'm interested in how you saw the campus with the returning veterans.

03-00:09:57

Pister:

Well, that made a major impact. Before I get into that I should probably backtrack a bit into my time in high school.

03-00:10:08

Lage:

Okay, I'm sorry if I didn't—

03-00:10:07

Pister:

Well, that's okay. But because of the distance that we were from downtown Stockton where all of the social events occurred, tied in with my natural shyness at that stage of my life, I was very much the wallflower, so to speak. And I didn't attend the big dances or anything like this.

03-00:10:31

Lage:

I can't imagine you a wallflower or shy.

03-00:10:33

Pister:

Well, yeah, I changed drastically after that. But I was. I was very shy. I think this is what did it. I finally mustered up enough courage to ask this girl—to me a very attractive girl—if she would like to attend the senior prom with me. She—I think this had more to do with shooting me down—she says, "Well, I would like to, but that's the night that my mother and I go grocery shopping." [laughter] I thought, that's a pretty lame excuse. Okay, so I just walked down the stairs, and Elsie went her direction, I went mine. That was the end of my social life.

And that continued on when I got to Bowles Hall. A lot of this stuff went on up there. Oh yeah. But there were two groups. There were people like me who were right out of high school, then you had these people that came back, Marine veterans that had fought at Iwo Jima and Saipan and so on. And they looked at education very differently, very serious about it. Right out of high

school, to me going to get away from home and being able to drink beer freely overwhelmed everything.

03-00:11:50

Lage: And that group of vets also lived at Bowles.

03-00:11:53

Pister: Oh yeah. I can see these. We had our house meetings on Monday nights I think, or Monday evenings, there in the lobby there at Bowles. And we had some pretty good arguments, because those of us—I would not have—but who took a bad attitude toward the returning veterans, because they had all kinds of preferences, rightfully so, in admissions, tuition breaks and all this stuff that we didn't get. And I remember this one guy, who was a Marine who had come back from somewhere in the South Pacific, saying "Yeah, but you know, we fought hard for those things. Some of my best friends were killed standing right next to me." And I think I understood this, but there were some—finally I think this began to sink in.

So there was that structure. This continued for a number of years after the war through veterans' preference. When I went to get a job with the state, jumping ahead of ourselves here, the veterans got ten points tacked onto their civil service exam scores. It made it tough for those of us who didn't have this to even get a job.

03-00:12:59

Lage: So there was a bit of resentment.

03-00:13:02

Pister: Yeah, there was. It was just a natural resentment. Certainly wasn't justified, because those people had worked really hard, taken major parts of their lives while we were fooling around over here with no danger at all to us.

03-00:13:19

Lage: Were there disagreements about how you planned the social calendar up there [at Bowles], or how much quiet and—

03-00:13:24

Pister: Well, to some extent, but not too much for that.

03-00:13:27

Lage: Were there competition over girls?

03-00:13:28

Pister: Well, maybe to some extent. But I think back then there were very few ladies in the service of course. We had some coming back from the WACs and the WAVES and so on, the women's auxiliaries during World War II.

03-00:13:42

Lage: So you didn't have that many of the older girls.

03-00:13:46

Pister:

No, no. Probably there were some, and I think probably the girls would probably tend to favor the older men and so on and so forth. That didn't bother me because it was kind of in another room as far as I was concerned. And I never had a date, with a couple of minor exceptions, during my entire experience at Berkeley until I started going out with my present wife.

03-00:14:12

Lage:

My goodness. Now was she from your hometown?

03-00:14:16

Pister:

Yeah.

03-00:14:18

Lage:

Now how did that happen? Tell me about your wife.

03-00:14:19

Pister:

Well, this is worth recording, because it's so unusual. As I mentioned, both of my parents were teachers, Stockton High School teachers. My mom had spent a year at Cal studying home economics, they called it back then, or domestic science, I think it was back then. And they didn't really have the curriculum here that she felt that she wanted to have, so she went down to Santa Barbara State Normal, which is now UCSB. And this is off to the side there again, but Dad was down there too. He taught industrial arts and engineering, drawing, industrial mathematics, stuff of this kind. Well, when they then came back to Stockton, because they could both get jobs there, my dad's room in, they called it the vocational building, I guess, was right next to my wife's dad's room. I was born in January. Martha was born six months later in June of 1929, yeah. So my mom gave a baby shower for my wife's mother before Martha was born. And so we grew up together, never really close until—she went to University of the Pacific and got her—

03-00:15:49

Lage:

Did you know her in high school?

03-00:15:51

Pister:

Yeah, but not well.

03-00:15:53

Lage:

But you didn't date because you didn't—

03-00:15:54

Pister:

Just to go, "Hi, Martha, how are you?" They'd come out and visit us. We lived on a little farm outside of Stockton, a neat place, which I'll probably stop by at on my way home on Friday. We had an olive tree there, and I guess boys do things like this. I would throw green olives at Martha when she would come. She always reminds me of that. But then when we started dating then—

03-00:16:17

Lage:

In college.

03-00:16:20

Pister: Yeah, but I was—where was I? That was then early fifties, because I didn't finish my degree—

03-00:16:27

Lage: You were in graduate school probably.

03-00:16:28

Pister: Yeah, well, yes, I was. So we started dating then. I'd come by her place there in Stockton. And we'd always been close as families. We camped together and did things like that. Always a very platonic relationship until later. And so, but I think we've had a good marriage. We've had some bad health problems with her side, particularly. But there was a huge advantage. We both came out of the same economic circumstances. So we both learned early on you eat everything on your plate and you read the menu from right to left, you had five dollars, you saw what you could get for it rather than ordering something, "Oh my God, I can't pay for this." That kind of thing. And this has been a big help all the way through. And our kids were raised that same way.

So okay, so high school then was a fun time for me, and I did take part in some of the athletic groups there. We called it the Block S Society. To get the block S, to wear the Stockton High School sweater, which was a big thing, with the block S on it, indicating what you got your block S for. And I was also part of the track team. But as track manager. And the track manager, we would go to meets on buses usually. You have to do that, because of the vaulting poles and things you couldn't put on a car. So we were able to scrounge that, and I would make sure that everybody remembered to bring their spike shoes and that sort of thing. So I had quite an athletic involvement. My brother Karl, he graduated from high school I think in '42, about the time I got there. And he was what they called commissioner of athletics at Stockton High School. And we've always had a deep interest in athletics anyway. Much to our chagrin during the last football season when we lost—was it six of the last seven games we lost, something like that? It's terrible.

03-00:18:31

Lage: Now when you came to Cal did you follow athletics, or was there much of an athletic program?

03-00:18:36

Pister: No, only some intramural, but I wasn't good enough, world class stuff.

03-00:18:41

Lage: Did the football team keep playing and all? Did Cal have a team during the war years?

03-00:18:44

Pister: Oh yes, we were talking about that on the way in. Yes, I think Cal played some of the service teams. I remember that.

03-00:18:57

Lage: During the war.

03-00:19:01

Pister: Yeah. There was what they called—gosh, some of the pre-flight schools, they had some very good teams too. Like playing Air Force now, about the same idea. And University of the Pacific had an excellent football team, I think, in 1946. And the entrepreneurial groups within both schools, hey, we could put on a game of our own. Of course they weren't scheduled. So Cal played University of the Pacific, and I think Pacific beat them by, I think, one touchdown, something like that. But that was a lousy year. Then Pappy Waldorf came and things just turned upside down when he came. And we lost very few games during that Waldorf period.

03-00:19:49

Lage: So you were here during that period for Cal football.

03-00:19:51

Pister: Oh yeah, Karl and I were talking about this this morning. During the Wickhorst years, which was in '46—

03-00:20:00

Lage: Now Wickhorst was the—

03-00:20:00

Pister: Frank Wickhorst was Cal's football coach.

03-00:20:02

Lage: Before Pappy Waldorf.

03-00:20:03

Pister: Yeah, before Pappy came. And this is probably in Karl's oral history. But it fits in so well. See Karl's job now in retirement is to head up the stadium reconstruction project.

03-00:20:16

Lage: Isn't he lucky?

03-00:20:20

Pister: When he was an undergraduate, in protest, a bunch of his fellow undergraduates ripped up some of the seats there in Memorial Stadium just in protest to the lousy football season we had. So now what goes around comes around. So now he's having to rebuild the stadium.

03-00:20:39

Lage: Not as a result of that, however.

03-00:20:40

Pister: No, no, no, that's just incidental to it, but just showing what we do. Karl ended up probably one of the most prestigious people here on the campus in many respects.

So then, my time here at Cal I was lucky. Many of my teachers at Stockton High School were Berkeley graduates, and this was a big help. I remember my English teacher, Anna Marie Devlin, arranged, because she had a very good friend on the faculty, arranged for me to get into Bowles Hall. And it was tough back then.

03-00:21:16

Lage: It was a tough place to get into?

03-00:21:19

Pister: Oh yeah, yeah. And a couple of others from Stockton High School, we ended up there at Bowles Hall thanks to her. And also thanks to just a superb biology teacher I had in Stockton High School, Harry Snook, who for a high school biology teacher did amazing. Wrote books and published papers in the university publication series, *UC Publ Zool, University of California Publications in Zoology*. And he published his master's—he never finished the doctorate. Back then people in this field didn't go too much into doctorates. I got halfway through my program when I was hired by the US Fish and Wildlife Service as a graduate student, what they would call a GS-7, which was one of their early grades in their professional series, as a grad student. And during the Eisenhower administration in the early fifties, they had some huge budget cutbacks, and I just got out of a job. There wasn't any more money to hire guys like me who were not on permanent. I was on just temporary assignment. So about halfway through my program, I had to stop the PhD.

03-00:22:29

Lage: Oh, you were working towards it at the time. I see. And you were doing the Fish and Wildlife research as part of it.

03-00:22:40

Pister: Yeah, the work I was doing was of great importance to the US Fish and Wildlife Service. So they said, "Okay, so this guy is doing the research for us, we'll help fund his education," which was really nice. Because with a schoolteacher's family pulling out of the Depression, we didn't have much money. But to help that, I think, Bowles Hall room and board was seventy-five dollars a month. And back then there wasn't tuition per se, but we paid an incidental fee, which was seventy-five dollars also, a semester.

03-00:23:15

Lage: A semester, yes. That's important to record, I think.

03-00:23:16

Pister: That's all we paid. Yeah, so that was the atmosphere here at Berkeley at that time. But my mom, having spent a year, she fell in love with the campus in her year here, and would speak glowingly about her times at South Hall. And Harmon Gym had just been built not too far along before that. In fact, it was still going full-speed when I was here, the basketball pavilion was there. We didn't have Haas Pavilion then. All the basketball games were there at—

03-00:23:54

Lage: And did you go to a lot of sports activities?

03-00:23:47

Pister: Oh yeah, yeah, I never missed a game, because with an ASUC card they would let you into all the games. You would sit in the rooting section, rude as heck.

03-00:23:58

Lage: Sounds like you had a good time.

03-00:24:00

Pister: Oh yeah, I did.

03-00:24:00

Lage: And did you make a lot of lasting friends? Was Bowles a community?

03-00:24:05

Pister: Yeah, it was. In fact we have now a Bowles Hall Association headed up by one of my classmates at Stockton High School, curiously, who came on—was at Bowles, guy named Bob Sayles. He has probably been the motivating force [recently]—plus the earthquake restrictions—in keeping Bowles Hall from becoming a lodging facility for the Haas Business School. It probably was a combination of things: We had the laws that restricted, you shouldn't build buildings on top of earthquake faults and stuff, which I think it missed the stadium pretty much, it went right under Bowles.

All the time I was there, I was at Bowles for five years. Then later on I was there for a year as a grad student, which is unusual, just having my meals there. And I had a room up in North Berkeley up on one of the streets up there off of Scenic, somewhere up in there. And just a place to stay. I didn't cook there. Did most of my cooking later, after I was out of Bowles, in my own lab, little cubicle there in the Life Sciences Building. Cooked on a Bunsen burner on a frying pan.

03-00:25:25

Lage: You're kidding.

03-00:25:25

Pister: That's right, I did.

03-00:25:28

Lage: And that had to be done on the quiet? Or was that accepted?

03-00:25:30

Pister: Well, they didn't really encourage it, nor did they discourage that. But I think most university department chairs are pretty tolerant because they themselves went through the same thing. And I've essentially retained much of the frugal perspective of life that I had back then. I stayed in the room rented to me by an older couple, Mr. and Mrs. Parker, just lovely people, and they were kind

to me. If I'd pick up a cough or something, they could hear me coughing in my room, so they would bring me cough syrup and things of that sort. I'd go to Cowell Hospital. This was before really the splurge of antibiotics. You'd just fight it out if you got a cold. Remember one time—I was telling Karl about this this morning—we drove right past Memorial Stadium, went up to I guess you call it the northwest edge, around that way, and I looked over there and I saw the same row that I walked down when Cal played Washington, probably '47, '48. Washington had a marvelous running back, Hugh McElhenny. And I just couldn't stop from watching this guy. It was during a pouring rainstorm, and I got pneumonia. And I thought I was going to die. I had to miss classes for about a week. I couldn't breathe.

But my work at Berkeley was just phenomenal. The professors were just superb. I really didn't appreciate—I think this is typical of life, you don't appreciate things until you can view them in historical perspective. I realize now how one or two of them stood out even back then, Starker Leopold being the main one who put me in the right direction. But there were others as well.

03-00:27:25

Lage:

And we didn't talk about the others. This might be a good time.

03-00:27:30

Pister:

You mentioned them in some of your summary outline. Robert Usinger, who was in aquatic entomology, he was on my thesis committee when I was doing my master's.

03-00:27:37

Lage:

Aquatic entomologist.

03-00:27:39

Pister:

Yeah, and he was, I think, over in, was it Gilman Hall? Hilgard Hall, one of those. That's where the en [entomology] people were then. I'm not sure where they are now. And he was a big help, because I learned limnology from him, and that was—

03-00:27:51

Lage:

Which is?

03-00:27:51

Pister:

Limnology would be best described as freshwater oceanography. The study of all the different life processes, chemical processes in a body of water, freshwater. The early work on this all derived from the University of Wisconsin at Madison, which abuts right on Lake Mendota there in Madison. And the early textbooks, and even now Wisconsin is where you go if you want to become a PhD limnologist. I've been through there a number of times now. I've got some very good friends on the faculty back there at Madison. There's really good people there as well.

But okay, back out to Cal then, so there's Bob Usinger, Starker of course. Paul Needham, N-double-E-D-H-A-M, was on the faculty. He was brought in following World War II. The legislature, California legislature, felt that Berkeley should have a fisheries program. This was before Davis began assuming that general obligation. So they looked around. "We got to get a guy with a PhD who's had some experience." Well, Needham was with the US Fish and Wildlife Service up in Portland. I think he did some teaching at Oregon State. So he came down to Cal to fill that position.

03-00:29:23

Lage: And when you say fisheries, you mean fish hatcheries?

03-00:29:26

Pister: No. Well that to some extent, but mainly the management of wild fish populations. To differentiate between that and fish hatcheries. And that's an interesting thing too. Needham was essentially brought up with wild fish. Salmon, steelhead, the wild fish populations of the Northwest. He got his doctorate at Cornell, and his father there was a world class entomologist, the world dragonfly expert.

So Needham then, of course, he was one of the two major forces. Usinger crept in from the side. And the other member of my committee was an invertebrate zoologist, Willard Hartman, who since I had a lot of bug stuff in my thesis research, I wanted him to be on the committee along with Leopold and Needham and Usinger.

03-00:30:46

Lage: And then how would Leopold's specialty be defined in those days?

03-00:30:49

Pister: Well, Leopold was—back then we would call him a wildlife research biologist. He got his PhD here at Cal, and as I understand it he did his dissertation work on wild turkey populations in Missouri. And it was just an excellent study that he did there, and I think that had a lot to do with him—as soon as he finished his doctorate here, he went right onto the faculty. But this is interesting in itself. I've got to tell a little story here because this is worth recording. Starker was very much a chip off the old block and viewed animals as his father might have, in a more integrated perspective of how they fit into their environment and so on and so forth. At any rate, when it came time for the normal rotational procedure for him to assume the directorship of the museum—.

03-00:32:04

Lage: The Museum of Vertebrate Zoology.

03-00:32:04

Pister: Yeah, yeah. And there were professors there that felt that this would demean what in their minds were the top cutting-edge science that they were doing, to bring someone like Leopold, who didn't view science the same way.

03-00:32:20

Lage: They were more interested in the individual creature?

03-00:32:23

Pister: Well, they were interested in the, back then, the early days of DNA research and so on. I first heard the term DNA when I took ZOO 1A here. It was just brand-new back then. So Starker, he knew that there was this dissension there. So he was not a kind of a guy that demeaned himself by getting into a faculty fight. So he pulled out of zoology and moved across the street to Mulford Hall and set up a whole new curriculum of conservation of natural resources, which was far more what he was into than his colleagues there in the museum. Well, and the program there has been just really excellent. People they've turned out of there have been just marvelous. The bottom line on this, Ann, and this is just beautiful. The next election to the National Academy of Sciences, they elected Starker, his brother Luna, and his sister Estella all at the same time, and didn't touch any of the people in the museum. Dale McCullough, one of Starker's graduate students, wrote his obituary, came out in Cal's magazine. He said, "Even though Starker was not one to gloat, he must have taken deep satisfaction out of that. It was really just deserts. These guys got what was coming to them."

03-00:33:44

Lage: Now did that happen after you were here? This isn't something that happened during your—

03-00:33:49

Pister: No, this was I think—yes, shortly after, this would have been probably during the later fifties, maybe even early sixties.

03-00:33:52

Lage: So he was in the zoology department for some time?

03-00:33:55

Pister: Yeah, he was a professor of zoology here, which was certainly fitting for him. And I have to commend the legislature. They saw that type of professor more than the publish-or-perish type. Although Leopold did his share of publishing. But the others would be more your typical academic tenure-track advancement people that viewed science more from what it could do for them rather than what they could do for science.

03-00:34:26

Lage: Well, how did he fit with these other people on your committee? Did they have—

03-00:34:28

Pister: Well, no, they got along fine. In fact Leopold and Needham and Usinger would often come over—okay, my job, I started with the US Fish and Wildlife Service in 1950 as a summer employee. And I learned about this from one of my classmates in zoology here, a fellow named Norman Reimers. Reimers was typical of the group that had just come back from the war. He

was a lieutenant aboard a LST, a landing ship tank. And they were hit by kamikaze planes and so on, and Sam was executive officer on—we call him Sam Reimers, Norman Sam Reimers. And I was just fascinated by the stories he'd tell about what he was doing over on the east side [of the Sierra], because I have always had, even when I was this high [gestures], this interest in the mountains, particularly the Sierra. I said, "Gosh, Sam, is there any chance I could maybe get a job like that?" And so he talked to the boss, and I got a letter from the boss, fellow named Pete Nielson. And Pete said, "If you want to work for us this summer, love to have you."

So I went over there, and there were four of us in that research team. One of them still lives just south of Bishop a ways. John Maciolek, he went on for a PhD at Cornell. Harry Kennedy, who flew B-17 bombers over Europe during World War II. And Harry Kennedy, myself, and then John and Sam. There were four of us. Well, they would come over, Leopold, Usinger, and Needham, to visit us, over on the east side at the research station, because what we were doing was very interesting to them. I don't know why at the time. But when we finished up our research, this was published as a major bulletin of the US Fish and Wildlife Service, for which they took much credit, and deservedly so. We were their students, and we were doing this, and it really reflected very well on their tutelage of us.

03-00:36:28

Lage:

And this is the Convict Creek limnology studies?

03-00:36:32

Pister:

Yeah, yeah, it's what they call now. Back then it was the Convict Creek Experiment Station of the US Fish and Wildlife Service. And it remained that until early seventies, when the Fish and Wildlife Service decided to consolidate their research efforts. They closed smaller stations like Convict Creek and pulled all that kind of research to a place in Montana, Whitefish, Montana. Well, this was interesting. Reimers stayed on as a resident person there in the later part of the sixties, and he phoned up one day and he said, "Phil, the service is going to relinquish their holdings here on Convict Creek. Do you know anybody who might want to pick that up?" You know, Ann, it wasn't a minute elapsed between his call to me, I called Roger Samuelsen, who I knew just vaguely then as director of the Natural Reserve System, and said, "Roger, this is something the university should pick up, and I think with the university's prestige and all they would get the whole thing free." And literally that's exactly what happened. It now is operated as the Sierra Nevada Aquatic Research Lab and Valentine Reserve under UCSB, under their direction.

03-00:37:57

Lage:

UCSB [University of California, Santa Barbara].

03-00:37:57

Pister:

Yeah, because they've got some very good people in stream ecology and so on and so forth. Much of the Mono Lake research has been done by them now. Professors—well, they're all PhDs from Cal or Santa Barbara that work there and do their research, because they just love living there. They live right on—

03-00:38:17

Lage:

That's quite a story. But you didn't know Roger that well at the time.

03-00:38:21

Pister:

No, no. I knew him well enough that I could talk to him pretty much straight across. I knew what he was doing. But as I mentioned earlier on, my first real—I told Karl about this on the way in this morning. My first acquaintance with Roger, I really got to know him, he came over one time because the university and the Reserve System was interested in picking up both SNARL—it's the acronym for Sierra Nevada Aquatic Research Lab—and the Valentine Reserve, which is at Mammoth Lakes. The Valentines have always been, well, very benevolent philanthropic people. And when time came for old Mrs. Valentine, she knew she couldn't take care of the property anymore, she donated it to the university's Reserve System. Some of the most desirable property in that whole Mammoth Lakes area. I'm convinced that when she did that, every real estate agent in Mammoth went out and got drunk and have remained that way ever since. This went into the university, because they could see subdividing all that.

So okay, so I got hooked up with Roger. But when he came over, he came over to Bridgeport, which is the county seat of Mono County, which Mammoth is in, as is Sierra Nevada Lab. And we went there to the Board of Supervisors to get their blessing more or less on what we were planning to do here. I'm rather amazed. They went along with this, although most county supervisors, back then particularly, bad enough now, were very anthropocentrically oriented. To them that could be tax money if the university didn't get it. Think of the things that that—well, Roger has to be one of the most suave diplomats I've ever run across in my life. And he just had those guys wrapped around his finger in about thirty minutes, and they gave their full blessing to all of this.

03-00:40:21

Lage:

Now what time are we talking about?

03-00:40:21

Pister:

Well, we're talking here—this was—I got it here. I think this was in actually January of 1972.

03-00:40:28

Lage:

Oh, okay, okay. So did Roger use economic arguments or—

03-00:40:31

Pister:

To some extent. It was mainly just, "Hey look, here you can have these marvelous research facilities that can be used"—and this has been true. The current resident manager of Sierra Nevada Lab, a guy named Dan Dawson, he's manager of both of them. He's from Santa Barbara. He's a chemist from down there. But just a highly effective person. He's gone to Mammoth, and he's gotten huge grants, the ski lift up there from—they have lots of money. And real estate people, everybody else, and they've built—much of what we have there now was built after I left, dormitories. Caltrans had a big maintenance station literally right across Highway 395 there. And they had a big building there that they wanted to—they were going to tear it down. So Dan went to talk to them, and they moved that onto the SNARL property, and now that's the computer and research office lab, and it's just—

03-00:41:32

Lage:

So it's quite a research station.

03-00:41:32

Pister:

Well, yeah, and this has been just really a great thing. They put on seminars. We've tied in closely with what I do at the White Mountain Research Station out of Bishop. Usually we're tied in, and we have the same research scientists come for a Wednesday—Thursday night series. Wednesday night SNARL and Thursday night down in Bishop, because we do a lot of that there. And so we were visionary enough to see that. And I've always drawn a strong association between the university and natural things anyway. It just fit in so well with my own background, the background of professors that I dearly loved here.

03-00:42:16

Lage:

So although we've jumped ahead in time it, connects to your experience in the program at Cal.

03-00:42:21

Pister:

Another thing I did along here along with my academic studies, after World War II the draft was still on, and I thought I don't want to get drafted in the doggone army, so I went into ROTC here. I went through it, and of course the military was still very strongly in everybody's mind after World War II. Before long we were into Korea right after that. So I was down by Hearst Gym, down a ways just below that, down toward the main gate, and that was the ROTC building. And I enjoyed it, it was fun.

03-00:43:17

Lage:

But how was that going to keep you out of the army? I would think it would get you into the army.

03-00:43:20

Pister:

Well, I'll tell you how. This was an interesting part of things. Went to ROTC summer camps. This was in artillery. We were in antiaircraft artillery. Our summer camps were down at Fort Bliss, Texas, where that was the major facility for students, well, for officers training, to go down and learn how to

shoot these great big guns. So I went down there and finished up my training. But you couldn't get your commission until you had a degree; that was part of the army's regulations. Okay, if you want to be an army officer, you've got to have a degree from an accredited university program to do that. So I finished up here in February of 1952.

03-00:44:17

Lage: That was with your BA?

03-00:44:24

Pister: Yeah. And I was well into my master's program. I'm trying to get this chronology here properly. It could have been February '51. I think it was. Yeah it was February—

03-00:44:31

Lage: Because you came in '46.

03-00:44:34

Pister: Yeah. So that would have been February '51. Normally I would have—I was in the class of 1950 to start. But because of the ROTC thing, which is a full course, it took me away, and I had to spend another semester to get enough credits, units to get my bachelor's degree. Well, the minute I got that in February '51, here came this order from the army to show up at the—I'm sure that someone upstairs likes us now and then—to show up at the Oakland Army Base for my pre-active duty physical. Meantime, the war in Korea was going hot then. Most of my guys in my class of 1950 were over there, and the tragedy being they were brought in—see, the Koreans and the Chinese, neither of them had airplanes. What are you going to do with an infantry officer? Well, you hand him a rifle, say, "Okay, you're in charge of an infantry platoon." Had no training in that at all. And the mortality rate was very high. I think the West Point class of '50 and the ROTC classes same way, something like upwards of 50 percent casualties over there. It was just terrible.

03-00:45:43

Lage: Were you aware of that at the time?

03-00:45:44

Pister: Yeah, I darn well was. Okay, so I drove a military jeep. When Karl got out of the service in 1946, he was able to get a Ford jeep in a box there in Stockton Army Base. And he was gone then, so this was my car. I drove it back and forth. And I parked in the parking lot up behind Bowles Hall, the eucalyptus grove up there. I think something like three or four days before I had to go for my physical a huge storm came through the Bay Area, and it ripped a big limb off a eucalyptus tree that came down and smashed the windshield on my jeep. (The circuitous thing I'm telling you about, enters into my being here talking to you today.) So I phone up my dad in Stockton. "Dad, we got to get a new windshield for the jeep," because we use that in the summertime to haul hay with and so on at our farm here in Stockton. So he said, "I'll look around." He

phoned up a day or so later, said, "Yeah, I've got a windshield lined up. It'll fit fine. Come on home and we'll put it on."

Well, here's this jeep, and the storm continued for about a week. The weather like this, only worse. Raining hard. I drove that darn jeep from Bowles Hall to our place in Stockton, about seventy-five miles, and I came down with another case of pneumonia like my Memorial Stadium [incident.] I've always had a tendency to that. Always had allergies, and when I'd get bronchitis it hit me really harder than most people.

So okay, I drove back home with a new windshield and parked, drove down to the army base with my bright new shiny bars on my shoulder, in full uniform. As I walk in there all the enlisted men start addressing me as sir. [laughter] They're old enough to be my father, most of these guys. So I'm going in there with this terminal case of pneumonia and passed everything. Finally the guy listens to my chest and says, "My God, do you always sound this bad?" And I said, "Well, sometimes it's better, sometimes it's worse." He said, "We better look out, watch for you for a while. We're not going to put you into a uniform over in Korea, for gosh sakes." I thought, boy, what a break. So in February of '52 they called me up again. That time the war was going well enough that they didn't need me over in Korea. So I was given a military medical discharge from the army.

03-00:48:35

Lage: Again with the chest?

03-00:48:35

Pister: Yeah. And so I was released from active duty then or any—it was discharge out of the army. I got my papers in my pocket here if I ever should need them. I think this is true. I was discharged, I think this was within a week or so of when General MacArthur was discharged. So I got to thinking two great soldiers, the same time. But if I'd gone over to Korea, I'd have had a very good chance of being killed over there. Certainly severely wounded. I'd have been right in the MASH unit there, certainly.

03-00:49:06

Lage: Well, what was the attitude? The attitude towards World War II seems so, as you said, you wanted to get into it. What was the attitude on campus [about the Korean War]?

03-00:49:13

Pister: Well, I did, but boy, I think I gained a little wisdom back then. It's easy to say, when you're a high school student not about to get drafted, "Gee, I wish I could be over there helping those guys." "No, you don't, Phil." So it changed to a point then I realized that I had applied in the meantime for the Medical Services Corps in the army because of my training here in entomology, whatever. I thought maybe I'd get a job with the army killing mosquitoes

somewhere, not having to shoot at real people and them shoot at me. So that kept me out of the army.

03-00:49:47

Lage: So you weren't eager to get in. There wasn't that kind of eagerness.

03-00:49:48

Pister: No. No, no. And I think after World War II, we began to view some of these other wars as political wars more than survival wars. World War II we had a good justification. That was a terrible thing.

03-00:50:00

Lage: Did the fellows that you did your research with and whatnot, did they talk about the war?

03-00:50:05

Pister: Oh yeah, yeah, yeah, sure did. John then went on for a PhD, like me, he went in the Air Force, yeah, I think became an Air Force—went from Army Air Corps to the Air Force about that time. And he was in for a while. I don't know what the heck he did. He didn't fly airplanes or anything, but doing something with the Air Force. Other two guys, Reimers, who was a naval officer, Harry Kennedy was a pilot flying over Europe. Yeah, they'd tell about their experiences in England.

03-00:50:37

Lage: But what was the tone of it? Did they tell of it as a trauma or as a triumph?

03-00:50:43

Pister: Well, yes, to some—well, they took it—like Reimers on the kamikaze plane coming in, he was in command of a five-inch gun shooting at these planes when they would come in. He knew they were aiming at the ship. And apparently one of them came to hit the bridge of the LST, and the Japanese pilot was just cut in half. They found him in the plane, part of him here, part of him there. And they unwrapped the Japanese flag from around him, and Reimers brought that back with him along with a couple of Japanese rifles and things. Harry would tell about like some—he was on some of the really ungodly bombing runs over Europe. And the Germans had some excellent anti-aircraft.

03-00:51:29

Lage: A lot of people killed in those.

03-00:51:31

Pister: Oh, there were. And Harry said they'd come back sometimes in their B-17 flying fortresses with holes all over that darn airplane. Holes through the wings. And so you wonder how they could ever get those things back. He said, "Some of them we had to really fight hard to get them back onto the ground." They'd come in in one gear, spin around, and all. Fire trucks would come up, and they'd get them out of the plane okay. They had a number of

people killed on their plane, but luckily the pilots were able to bring them back okay. I never—

03-00:52:03

Lage: That's got to change you, being in that sort of a situation.

03-00:52:05

Pister: Oh gosh. And my boss down at Long Beach, he was a belly gunner on a Consolidated B-24 Liberator, and he was in a belly turret looking down at the plane beneath them. And the guy in the top turret, a cannon shell just completely destroyed this guy, just removed him. Practically nothing left when they got back to the airbase. You see those horrible things. Be like living in Baghdad and you hear of suicide bombers.

03-00:52:44

Lage: We hear so much today about post-traumatic stress and all. But did you feel that these guys were—how did they cope?

03-00:52:49

Pister: These guys, they drank a lot. And I didn't know of any of them having what you call post-traumatic stress syndrome, PTSD. They didn't show any of that. Oh, I'm sure. Now some of my colleagues when I started to work for Fish and Game were older than I, and one of them particularly, yeah, he sure did. He was a lieutenant in the infantry during the Battle of the Bulge there at Bastogne. He's a schoolteacher. I loved to hire schoolteachers because they brought maturity with them and much more reliable, they had families there and all. And so Bob, I noticed on our trips, he'd stumble a bit. Never thought much about it. He tried to ride whenever he could. And one time, I was on the school board then, the elementary school board. He applied for a year's leave of absence, and I talked to him about that during his leave. He said, "Phil, I had to get away. I was starting to have nightmares. My friends over there in the Huertgen Forest and all getting killed right next to me," he said, "I just couldn't take it anymore." So we gave him a year's leave on full pay just out of recognition of that.

Another one, the same, he was in the infantry, Fred Patterson, a high school principal over there. He said that he was so scared over there that to dig a foxhole, he'd dig the foxhole big enough he could put his entire cot and everything else down inside the thing. Said, "We were just scared to death because the Germans were excellent soldiers."

One time, to bring this a little more close to home here, but it's an interesting story, I went to a meeting back at Penn State, University Park, Pennsylvania, I think it is. And coming in from the airport I sat next to this fellow, and he spoke with a bit of an accent. Turned out he was a graduate student from the University of Stuttgart in Germany. And just a nice guy. A lot of common interests. Because there were Germans who were over here, didn't make much difference. Well, it came time for lunch one day. We all ate at the university

cafeteria there. And I looked over, there was no place to sit. I came in late. But there was one chair, a place at his table, sitting with a couple of Japanese guys from the University of Tokyo.

03-00:55:20

Lage: Now when was this?

03-00:55:24

Pister: This would be about—not very long ago. This would have been about 2002.

03-00:55:24

Lage: Oh, recently.

03-00:55:27

Pister: Yeah, the early part of this century actually. And I got to thinking while I was sitting there talking to these, here just a few years ago we were trying to kill each other. I thought of the absurdity of war that puts you into these circumstances. And so we spent a lot of time together during the meeting just because of these common interests we had. And the guys from Japan were the same way.

03-00:55:51

Lage: Did you discuss this with them?

03-00:55:51

Pister: No, I didn't bring that up.

03-00:55:55

Lage: I wonder if they might have been thinking—

03-00:55:57

Pister: Well, yeah, particularly the Japanese guys with the atomic bomb being dropped over there and so on. One of my colleagues at Cal Fish and Game, I guess they're still pretty much—at least at that time this would have been probably sixties—Ken Sasaki, Ken was gone for about six months. And he came back, brought a bride back from Japan. It was all arranged by his family apparently, these arranged marriages. And I don't know where Ken was from, Kyoto, somewhere in there. But the bride he brought back was from Hiroshima. And I said, "I bet she's got some stories to tell," because she would have been about that age, she would have remembered. She won't even talk about it, it's just so horrible. I've often wondered myself if we really had to do that.

03-00:56:50

Lage: Apparently, there's a new documentary that relies on going back and interviewing people who were teenagers at the time.

03-00:57:00

Pister: Did I talk at all last time about the thirties and our time there in Stockton when we had people coming in, migrant workers?

03-00:57:09

Lage: Yeah, we did talk about that, and about Japanese relocation.

03-00:57:14

Pister: I thought we did. Yeah. We have that big Manzanar Relocation Center, it's now part of the National Park System, right south of us here at Independence. And that's very, very well done. Sure brings back memories for me when I go through.

03-00:57:27

Lage: So you can visit.

03-00:57:28

Pister: Yeah, it's about forty miles south of us.

03-00:57:31

Lage: Yeah, I know where it is, but I didn't realize it was open for—

03-00:57:33

Pister: You go down to Kearsarge Pass, you don't go quite that far south, because it's just south of Independence.

03-00:57:39

Lage: Okay, I'm going to change our tape here.

03-00:57:43

Pister: Sure, okay, I'll take a drink.

[End Audio File 3]

[Begin Audio File 4 Pister_e_philip4_01-22-2008]

04-00:00:26

Lage: Okay, now we went off on the war. I want to come back to the program at Berkeley. You were in wildlife biology, right?

04-00:00:39

Pister: My major in the College of Letters and Science was wildlife conservation. But the major was structured by Starker, very much as his—Starker was a chip off the old block all the way, and becoming an Aldoholic was only natural for me.

04-00:00:58

Lage: Say it more clearly because—

04-00:00:59

Pister: Aldoholic, yeah.

04-00:01:01

Lage: We don't want to give the wrong—an Aldoholic.

04-00:01:04

Pister: Aldoaholic, yeah.

04-00:01:06

Lage: Meaning an Aldo Leopoldholic.

04-00:01:07

Pister: An adherent to the philosophies of Aldo Leopold. Well, okay, so the major was structured to me just ideally. He brought in everything. The first two years are general anyway. But we took all kinds of neat stuff. I took plane surveying, which I used later on. I don't know if I mentioned this interview I had with Dean Alva Davis.

04-00:01:36

Lage: No. I've heard about Dean Sailor they used to call him, Sailor Davis.

04-00:01:39

Pister: Yeah, well, I couldn't understand as a freshman, seventeen-year-old kid coming out of a very restricted lifestyle in World War II Stockton, why anybody should have to take—if they wanted to be a wildlife biologist, why should they have to take English, speech, foreign language, history, all this other stuff. And I couldn't see any relevance at all to my future career. Mathematics, of course that's a major part of it now. So I went in to complain—not complain as much as to query Starker Leopold. And he says, "Well, I could answer that, but why don't you go talk to Dean Davis?" So I set up an appointment with Dean Davis. And I went over, said, "Dean Davis, I don't understand this. Taking my time and money and my parents' money, and we're not well-off, to take things I see no relevance at all." And his answer was just superb. He said, "First off, trust us." He said, "I've heard this many times. I've been through this. Trust us." He said, "We in higher education have been trying, ever since the days of the University of Alexandria, to decide what makes an educated person. We're getting closer. We'll probably never hit it the way we should because things change so much." But then he said this, and this is the thing that stuck in my mind. He said, "We want your education here at Berkeley to make your life far more than your living." And even at my immature age I could understand that. Your life is a much bigger thing.

And it goes to what I had as a subscript in my emails rather recently by B. F. Skinner at Harvard. Where he said that education is what remains after what you've learned has been forgotten. And I really like that quote, because it fits together with what the dean told me. So I thanked him. He was probably an older gentleman, probably like me now, in his mid seventies, mid to late seventies, and he could speak with the wisdom that at my age I just had a tough time understanding. He put it in an understandable way. So we had this really great curriculum. In upper division and into graduate school it really fit there, because I took some really good stuff here.

04-00:04:00

Lage: Now tell me more what you took. Did you take ecology or anything that talked about ecology?

04-00:04:04

Pister: Well, okay, yes I did. I took ecology probably the first time it was offered here on the Berkeley campus. It was offered by a fellow there in the museum, Frank Pitelka, P-I-T-E-L-K-A, who died within the last couple of years. Passed away. I communicated with his son, who's teaching somewhere else now. And Zoo 125. Allee et al. was the textbook, and it had a big list of authors, but Allee, famous ecologist, wrote the textbook. So that was my first introduction to ecology as such. But it just formalized it. With Starker's curriculum, the way he'd structured it, you became an ecologist. You may not have known the term, but you knew what ecology was all about.

I took botany from a fellow named George Papenfuss who came from the University of Berlin in the late thirties. Lectured with a strong accent. But yet he taught the principles of botany, what that was. And Starker also had us take plant taxonomy from another professor you may well have heard of, Lincoln Constance.

04-00:05:16

Lage: He was one of my interviewees.

04-00:05:19

Pister: Good. Well, Lincoln was just a great guy. He had us going all over the Central Valley collecting plants.

04-00:05:26

Lage: Oh, so you did fieldwork.

04-00:05:26

Pister: Oh yeah, sure. That's part of it. To get a grade you had to collect plants and have a plant press, and you submitted them to him for inspection to see if your collection was up to the Department of Botany standards here. And his son Ted became a herpetologist, and I worked with him a lot over on the east side. Ted was working under David Wake, Wake being another legendary person of that museum, along with Robert C. Stebbins.

04-00:05:59

Lage: In the—

04-00:06:01

Pister: MVZ.

04-00:06:02

Lage: Museum of Vertebrate Zoology?

04-00:06:04

Pister: Yeah. They were both in the museum. They're both professors of zoology.

04-00:06:06

Lage: Okay, I was thinking about the botany side of it, the herbarium.

04-00:06:10

Pister: Well, the botany, that was a little bit different, yeah they were—but that was all part of LSB, the second and third floors and the basement.

04-00:06:15

Lage: Well, that's interesting. So you studied with Lincoln Constance.

04-00:06:20

Pister: Well, yeah, Lincoln Constance. And when he retired—I've saved all this—he wrote a very—I wrote him a letter thanking him for his part in my education and all. And there was another fellow there, one of his—the late Robert Ornduff. Ornduff was one of his colleagues, and when Lincoln passed away I wrote to Ornduff and expressed my concerns over this, and I got another nice letter back from Ornduff. Who else was there in botany?

04-00:06:58

Lage: I think Alva Davis was a botanist. That's what I'm remembering.

04-00:07:01

Pister: Was he a botanist? Could well be. There's another, Herb Mason. Mason was a marsh specialist. And he came over a couple times when we were working on some wetlands north of Bishop. And his son David went on for a PhD working on Mono Lake. I'm not sure where David is now. He's teaching somewhere.

04-00:07:22

Lage: It's like a genealogy of these biologists.

04-00:07:26

Pister: I love academic genealogy. And in my field, in fishes, it's just fascinating. Goes clear back to David Starr Jordan, and before Jordan, who was the first president of Stanford, and president, I think, in 1892. He described this golden trout that I'm working on right now. And so Stanford and Jordan and the ichthyological perspective on academic genealogy really fits in, more than it does at Berkeley, because many of the early ichthyologists were Stanford people. And it shows today. We have some of our very best—

04-00:08:01

Lage: And did they not come to Berkeley?

04-00:08:08

Pister: Well, some of them did. There is a fellow that—the American Society of Ichthyologists and Herpetologists, I served on their board of governors for a couple of terms. The head ichthyologist back at the Smithsonian, he and I took ichthyology together here at Cal. This would have been '51, thereabouts. Then—fellow named Stan Weitzman. Stan went on to Stanford then for his PhD under—oh gosh, his name will occur to me. Names escape me. But he

went on to Stanford for his doctorate under probably George Myers, who was one of David Starr Jordan's colleagues there. George Myers was the name I'm trying to think of here. Myers was the last real ichthyologist there. I don't think Stanford is—Stanford recently, they had a beautiful fish collection there. I think they gave all that to the Cal Academy [of Sciences] in San Francisco. And I think it pretty well stopped that. Stanford went strongly to molecular biology.

04-00:09:20

Lage: Yeah, very much so. Do you see a conflict there between the people interested in the whole animal or the system, and the molecular biologists?

04-00:09:28

Pister: Yes, yes, yes. Indeed. The conflicts come from this, because the major grantors are people that fund the molecular biologists. And the guys out in the old days with a pair of binoculars and notebooks and plant presses, they don't bring in big grants. So universities being structured as they are, department chairs and deans being as they are, know they've got to make their money somehow. So they emphasize the molecular end of things.

04-00:10:03

Lage: Do you see that affecting who's coming into your field?

04-00:10:09

Pister: Yes. Now it's almost up to the last couple of days. One of my colleagues working out of their Fresno office—he lives in Visalia—for a long time out of Bishop we handled the Kern Plateau and the fish populations there. And the Kern Plateau is where the golden trout evolved, in about the last 10,000 years, into two separate groups of golden trout, the ones in Golden Trout—have you ever been up there? Golden Trout Creek in the South Fork Kern?

04-00:10:44

Lage: I think I have. No, I don't know if I've actually been on the plateau. I've been at the Cottonwood Lakes.

04-00:10:48

Pister: Yeah, okay, you didn't come over the hill. And this is a major part of my paper, going into this stuff. So my friend Stan Stephens, who's my counterpart for Fresno—and when I retired in 1990, the guy who took over from me figured he had enough problems of his own, and that Kern Plateau area geographically should be handled by what we would call Region 4, Tulare County, which is where all that is. So it went over to our counterparts, who've done a very good job of taking on where we were. See, I started in 1965. And it was literally part of my blood, and I didn't want to trust it to anybody else. But they've certainly vindicated themselves from any things I might have felt. Well, Stan's daughter just within the last couple of months finished up her doctoral dissertation at Davis working on the molecular systematics of the golden trout with the DNA, and the newest DNA technologies, working there

in her Davis lab. And it's just a topflight thing. So but Molly Stephens is just a marvelous girl.

04-00:12:01

Lage: So does this contribute to the work in the field?

04-00:12:03

Pister: Oh yeah. It does exactly, because what I ought to do probably is send you the PDF of the paper, because it's all done.

04-00:12:14

Lage: I think you sent me a PDF of the paper.

04-00:12:14

Pister: Maybe I did. It won't have the later stuff, because I brought in all of the latest systematics. I asked Molly. I said, "Molly, you've got to help me with this, because I'm not a geneticist. I understand enough of it to know what you're doing, but I'm not what you might call a world-class geneticist in any sense of the word. But I think you are." So I said, "Please read through pages 15, 16, and 17 of my paper and see what you would change there or recommend." So she did this, and within the last few days I got this, and just came over, and just on Sunday afternoon I incorporated these changes into my manuscript. But what that does then, as a manager I said, "So what to do?" That's my own words on my paper. What to do until the systematists or the geneticists give us a classification system that we can really depend on? How do we manage one group of fish as opposed to the other, until we really know what they are? So that brings in the fieldwork that I do or did, still do. And so that is how the molecular biologists have been a real help to us. But they're not up there netting out the brown trout and stuff like we are, which is just—in a way it's like the Pentagon advising people in the trenches. About the same idea.

04-00:13:40

Lage: Or the research scientists advising the doctors.

04-00:13:42

Pister: Yeah, be the same idea. I've got some very good friends that teach at UCSF, and it's the same thing there. Couple of them there that I know are anesthesiologists. I've worked with a couple of them over our advisory group at the White Mountain Research Station because they do a lot of high-elevation research over there. I've got a huge amount of respect. UCSF is a darn good medical school, I confess to that.

04-00:14:07

Lage: Right. Now let's see. We talked about—let me just ask in general. Were terms like ecosystem used? Was biological diversity ever talked about?

04-00:14:15

Pister: No. That's new. Newer. But I don't—see, what got us going on this whole thing, I think of even thinking in those terms, was in 1962 when Rachel

Carson came out with *Silent Spring*. For the first time we began to think in broader concepts than just individual species.

04-00:14:37

Lage: But wasn't Starker Leopold thinking more broadly?

04-00:14:42

Pister: He was. He was. But I doubt that even he was—he talked about ecology certainly, but the term ecosystem and biodiversity, we really didn't start moving on that until the mid-seventies.

04-00:15:00

Lage: I thought so, but I just wanted you to give me a sense of the differences.

04-00:15:03

Pister: Yeah, and I'm trying to think how universities picked this up. But I do know this. When Bruce Babbitt became Secretary of the Interior under the first Clinton administration in 1992, he set up this natural history survey for the United States, built around what the state of Illinois had been doing for many years, the Illinois Natural History Survey. Oh, this is great, because I remember. I was working, that was still fifteen years ago, at Cal Fish and Game. Still had the bleeding bruises from some of the work I'd done, which in itself will be some good stories later on.

04-00:15:34

Lage: Which we're going to get into.

04-00:15:39

Pister: Yeah, we'll do that. But this was an interesting thing. Babbitt came out—I use this in a slide show PowerPoint thing I give. Trying to think of the name of it. But it essentially said that we have to start to looking at a bigger picture, and states need to do this. This was preceded—and I've got this in here too, I'll look through that and see what we need to pick up on—in 1972, I was asked to go back and give a paper at the National Academy of Sciences meeting, AAAS, back in Washington. In the summer preceding this, I had written a paper for publication in the journal called *Transactions of the American Fisheries Society*. It was the first paper ever written on a nongame species. Everything up to then had been the ones you can sell or buy or eat. It was on the Owens pupfish.

Okay, so I went up to—at that time the American Fisheries Society was holding their western regional meeting in conjunction with their national meeting in Portland. So okay, how am I going to get up there? I had no funds for something like this. So I was able to scrounge enough money to get a cheap flight from Reno up to Portland, got into the meeting okay. I tried to get a ride on the department airplane that was flying out of Sacramento. Got a big twin-engine Beechcraft that you can jam all kinds of people into. "No, sorry, it's all overcommitted, no way you're going to get on that plane." So okay, fine, I fly up there on my own. I go into this meeting, and the first evening is

always a social type thing, like many meetings. And who should come up but the director and our deputy director? "What are you doing up here?" "Well, I'm giving a paper up here." "I hope it's not on those damn pupfish."

04-00:17:39

Lage: This is what they said?

04-00:17:39

Pister: I said, "Well, I have to admit that it is." And I looked around, and the reason the airplane was full is because it was full of the wives of our brass, who were—so they didn't have any room for a flunky like me. And none of them gave papers at all.

04-00:17:58

Lage: Now we're going to get into this, but who was the department head at that time?

04-00:18:01

Pister: A guy named Ray Arnett.

04-00:18:04

Lage: Ray Arnett was the department head.

04-00:18:07

Pister: I think that was while Reagan was still governor. But it was a typical Reagan appointment. This guy didn't know anything about fish and wildlife, but he was a very well politically placed PR guy, a geologist, basically, from ARCO, and that's where he—

04-00:18:24

Lage: And he knew enough not to want the Owens pupfish anywhere.

04-00:18:28

Pister: Well, no, no, you can't catch those things, you can't eat them. And mainly they don't sell fishing licenses, and the department was largely dependent on that.

04-00:18:39

Lage: Now we'll get into that. I don't want to—

04-00:18:39

Pister: Okay, we can handle that later. But after this meeting the assistant secretary of the Interior—it was a big high-level meeting—from back in DC came out and gave the keynote speech. And he told the state directors on talking about biodiversity. I don't know if he used that term. Says, "We want you people to do this work. We want you to be concerned with all of your species. But if you don't, under the law—and it's just common sense—we're going to have to come in, the feds, and do it ourselves."

04-00:19:18

Lage: They don't like that.

04-00:19:19

Pister: Oh no.

04-00:19:22

Lage: Now who was the assistant secretary then?

04-00:19:23

Pister: That would have been Nathaniel Reed, from a wealthy family of Hobe Sound, Florida. We communicated a fair amount before email, sending letters back and forth. He loves to fish. So he wanted to come and catch golden trout. Hope he'll still do that.

04-00:19:40

Lage: Do you have those letters? These are things that should end up in the Bancroft.

04-00:19:40

Pister: Yeah, I've got them in a file. Well, they should. I'm glad you mention that, because there's stuff there that should be in the Bancroft. Yeah, like stuff I got from Horace Albright, personal letters. Guys like that that are—

04-00:19:56

Lage: Or other things, communications with your director—

04-00:20:02

Pister: Yeah, but remind me. We probably should split for lunch here pretty quick. But remind me when we get back to tell about Reed's talk and what this led to.

04-00:20:13

Lage: Okay, okay good. This is very interesting.

04-00:20:16

Pister: One of the most remarkable chewings out I've ever received in my life by these two—

04-00:20:20

Lage: Well, can you tell—we have five minutes.

04-00:20:22

Pister: We do? Okay well, I'll tell it then. Reed gave this paper, the keynote talk, where he said this. And there's always been a strong jealousy between the federal service and the states. States being states' rights advocates, strongly supporting that these are lakes and stream of California, and they should be managed by the states. And the feds taking a broader approach saying, "Well okay fine, do it, but do it." Well, so he gave this talk. And I could see these guys from the state fish and wildlife commissions and all these high-level, glowering about this. I got back home. And this was the early days of the Desert Fishes Council. And this was why we were set up in the first place, for this very thing, working on desert arid land ecosystems. Got back home, and I wrote a letter to Reed thanking him for his talk. I said, "This is what we really

needed to hear. There are some of us who believe strongly in what you said." I said, "I work for the state, work for a state agency, but makes no difference. They're not doing anything for these other species."

Well, back then it was the chairman-elect, the guy that was going to take over from me. I spent the first three terms as chairman, was a biologist with the Nevada Department of Wildlife. And just to keep him in the loop on things, I sent him a copy of the letter. He was in Las Vegas. And I guess the letter got there when he was away somewhere. And even though the letter was addressed to him, I guess secretaries open up mail. And one secretary who knew what was going on looked at this, said, "This is not good." Sent it up to Reno, which is the head office of the Nevada Department of Wildlife, a guy named Frank Groves. Frank was their director. And he was just like this [gesture of unity] with my director. And I guess he just scanned this letter and said, "Ray Arnett's got to know about this."

So maybe a couple of days later, here comes this phone call from Sacramento, the director's office, by our chief of operations, a guy I knew really well. He says, "Phil, you're going to be around Bishop next few days?" "Yeah, I'll be here, not going anywhere." This was in September 1972. And he said, "We'd like to come over and talk to you." "Okay, fine." All I could think was—this was during the early days of our Devils Hole testimony stuff, and I submitted depositions and things on behalf of the federal government. And they might have—since this was highly sensitive politically. And state of Nevada was one of the defendants, and we were suing them. And I could see that this might have been it. But it wasn't it at all.

They were in a motel, the Vagabond Motel in Bishop, up in the second floor. And I walked into the room, and they were all there. They phoned, "Hey Phil, we're here at the Vagabond, come on over, we'd like to talk to you." "Okay fine," go over there. Go up to the room. And it was almost like a grade B movie with the bare light bulb hanging down from a cord, and this straight chair underneath it where they interrogate the guys. And the chief of operations had this letter. The director and the deputy director were lying on their beds. They said, "Are you acquainted with this letter?" I looked at it, said, "Yeah, I wrote it, I should be acquainted with it." "Well, figured you did, but this letter's been just terribly embarrassing to us and to our colleagues all over the West, for a state employee to take this approach." And I said, "Well, is there something wrong? Did I say something wrong?" "No, but it's just very politically sensitive. And so this has caused us a lot of embarrassment."

Luckily I'd been in the army enough to know that you don't get off of KP by fighting with the general. So I told them, I said, "If I've done something here that's embarrassing, I'm sorry." I said, "I won't retract anything I wrote, because I believe strongly in it or I never would have signed it." And they said, "Well, just be careful from here on in what you do." Well, what this did then, this essentially pushed me underground in the work that I did. I

continued to do the same thing. But so they couldn't keep the paper trail, I would drive my own car, I would fudge my mileage records. If I had to go out of state I'd always make sure I had my own car. And so this is what that led to.

04-00:24:48

Lage: A guerrilla attack.

04-00:24:48

Pister: Yeah.

04-00:24:50

Lage: I think we should wind up now.

04-00:24:51

Pister: Okay, well let's do that. But there's a sequel to this in 1978. See if you can remember that, because it's worth—

[interruption]

04-00:24:59

Lage: Okay, now we're back on in the afternoon of January 22. We've had lunch, and we're starting up with our interview again. We thought we were finished with talking about your graduate program here. And I remembered I wanted to ask you about Joel Hedgpeth; he had come back from Texas about that time, I believe, and was pursuing a PhD here.

04-00:25:22

Pister: Yeah. Did he get a PhD here, do you know?

04-00:25:23

Lage: Yes, yes.

04-00:25:28

Pister: I thought he did. He was your typical PhD candidate while I knew him, and one of these people who's always around. You often wondered just what he did and so on and so forth. I know he was hooked up with the Berkeley Marine Lab over on the coast and worked out of there a fair amount, and had the reputation of being a curmudgeon kind of a guy. But that was about all of my association with him.

04-00:25:57

Lage: Okay, so you didn't—

04-00:26:01

Pister: No, never had any personal interaction at all with him.

04-00:26:03

Lage: He tells about writing an article, it wasn't called the perils of progress, but something about "Progress, the Flower of the Poppy" that Aldo Leopold read and wrote him an extremely admiring letter about. He was very proud of that.

- 04-00:26:29
Pister: Well, that's great. Oh, should have been, yeah.
- 04-00:26:32
Lage: It's interesting that way back then in about '48 he was talking about the perils of progress.
- 04-00:26:39
Pister: Has Ray Dasmann ever come up in your conversation on things?
- 04-00:26:44
Lage: Sure.
- 04-00:26:44
Pister: Because he was another graduate student here when I was a grad student.
- 04-00:26:46
Lage: Oh, he was. I didn't realize that.
- 04-00:26:48
Pister: Yeah, and went on to do really good things.
- 04-00:26:51
Lage: And studied with Starker Leopold.
- 04-00:26:51
Pister: Yeah, yeah, and was over at UC Santa Cruz as well.
- 04-00:26:56
Lage: And did you know him very well?
- 04-00:26:56
Pister: Only by occasional conversations is all. Starker referred to him frequently, because Ray was doing some deer studies that Starker was most interested in. Deer was one of Starker's big things. He really worked hard on that.
- 04-00:27:13
Lage: Well, any other students that you'd want to mention?
- 04-00:27:21
Pister: There were a number of them that I was associated with when I was a student, a grad student particularly. Those that were right in our lab, of course one of them was John Maciolek, and he was one of the three, four workers up there. The only one that was not at the University of California was Harry Kennedy. Harry studied at Washington and then spent his whole career with the US Fish and Wildlife Service, but in other fields. He was mainly an aquatic entomologist.
- 04-00:27:54
Lage: Well, should we talk a little bit more about the Convict Creek study? The parameters of that?

04-00:27:56

Pister:

Yeah. Yeah sure, okay, let's go back a bit on that. The Convict Creek work started before World War II in the late thirties. And one of the major players in this whole game was the US Forest Service. And my boss, I mentioned earlier, when he offered me the job, was a Forest Service employee, and had spent a lot of time on the east side. But then he shifted over to the US Fish and Wildlife Service, and set up the Convict Creek studies after World War II.

04-00:28:41

Lage:

And what was the purpose of the study?

04-00:28:43

Pister:

Well, the purpose was to study trout populations and things related to that on the east slope of the Sierra, with broader implications and applications and that. So our study was to learn what we could about ten lakes, which turned out to be representative of about the remaining one thousand lakes we have. All Pleistocene carved lakes, clear across the crest essentially from Yosemite south, although I went up farther on the east side clear up into Nevada, at least to the Nevada line, through the entire Walker system.

04-00:29:24

Lage:

So this is a broader area than just Convict Creek.

04-00:29:27

Pister:

Well, yes, but see our whole intent here was to learn what we could in the Convict Lakes by studying them very carefully and thoroughly so that what we learned there could be applied to the other lakes, not having the capability to study every lake that we have. So that's what we did. And this again was published as a bulletin of the US Fish and Wildlife Service, Bulletin 103. And it was the first study ever done to that extent on mountain lakes. And it remains probably the best study done yet of what we learned about those lakes. And also we brought in the fish populations, how did the basic biology of those lakes impact fish populations, and how did the fish populations impact the biology of the lakes?

04-00:30:11

Lage:

It sounds like an ecological study.

04-00:30:13

Pister:

Oh it was, very much so. And this is one of the reasons that I have always wondered all my life about not only the necessity but even the validity of planting trout in high mountain lakes, because we found in this one special lake up there, it was a totally barren lake. There's nothing in it at all, a small lake, about two hectares, well, actually about two and a half acres, about one hectare. And we studied this lake, everything we could learn about it. Good equipment, state-of-the-art stuff for back in that era. It's all antiquated now. But we learned an awful lot about these lakes, the total dissolved solids, which is the basis of the whole lake, what's in that lake chemically that can then support a food chain, and up through the bugs to the fish and the whole thing,

birds. So we studied this, learned all we could. Then we planted trout in the lake, and did the same thing again, followed them through to see what impact the trout would have on the lake. We found that the trout planted there immediately—gave some insight into other things we learned—immediately ate up everything that was edible in that lake, because they took every bug and ended up eating parts of pinecones, pine needles, rocks.

04-00:31:34

Lage:

They were hungry.

04-00:31:34

Pister:

Well, they were. But an interesting ramification of this. And it goes along with elephants living a long time; they grow slowly but they live forever, like the trout. We thought up until we ran the study that brook trout, eastern brook trout, they're not trout really, they're chars, but they fit in the same group as trout, live maybe ten to twelve years. In 1951 we planted these fish in the lake. It was a little lake. And they grew over that fall into the winter and the next summer. Next summer they had grown from about fingerling size, maybe two and a half, three inches, up to about five inches long. You could catch them with a fly rod. So we went up, mainly Reimers and I, with fly rods, and caught a couple hundred of these things and clipped off the left ventral fin. Homologous structure to our left leg in a fish. And so this way we could follow them through in later years. And this was in 1952. Twenty-two years later we were still catching these marked fish.

04-00:32:45

Lage:

You're kidding.

04-00:32:45

Pister:

So we learned that part of it, that this longevity in growth goes along with longevity in age and the whole thing. So that was one thing. But what that did, it showed us that historically—you may have even run into this yourself, Ann—that people that went fishing, trout fishing, in the thirties and forties, and even in the early fifties, reported these huge big fish they were catching. And they did. But that was the result of the initial fish plants that grew big because they ate up everything that was in the lake, and then the way the population behaves, there's more fish than can feed themselves, the size went down to this again. So most of—

04-00:33:32

Lage:

So it didn't have to do with their living longer because they weren't caught.

04-00:33:36

Pister:

Oh no. No, if you go up there now you'll catch, who knows how old they are, because they're not marked. But there are other ways you can age them. These otoliths, which are ear bones, they lay down like tree rings, like trout scales in a way, but better. And so we tied that in with our marine researchers down in Terminal Island in Southern California, who have done a lot of work on otolith reading. Make thin sections, examine them with a microscope. And the

whole thing worked out quite well. We could identify the different year increments by looking at the scales.

04-00:34:16

Lage: So at that time did you start wondering about this practice of planting trout?

04-00:34:22

Pister: Well, yeah, and see right after that then—I mentioned earlier I was put out of a job because of no funds. That was in early 1953. Martha and I were married in September of '52 and spent not a year but much of a year living in the same little living quarters that I did when I was a student there.

04-00:34:48

Lage: Were you still cooking on the Bunsen burner?

04-00:34:51

Pister: Well no, not then. We had a propane stove we could use. Left that in Berkeley. And she, loving the mountains too, it's just a great experience, we thoroughly enjoyed it. So early '53 then to stay alive I had to get a job somewhere because I wasn't getting paid. So I went down to Bishop and went to the Fish and Game office and said—I knew some of these people. I said, "I'd really like to work for you guys." I needed a job of some sort. And said, "Probably hire you as a summer employee." And at that time you could work nine months out of every given year, then you had to take three months off and then start in another period of time. Well, I started I think in March of '53, yeah. And I think it was within—talk about providence, it's like the limb breaking off the tree there at Bowles Hall. The day that my job was up, nine months, one of the teachers at the Bishop elementary school system showed up drunk and was fired. And my wife got her job. She was fully credentialed, an excellent teacher, went to work then for the Bishop school system. And taught there for a couple of years, until I had a chance then to get a promotion.

I went from seasonal up to the beginning grade as a permanent biologist there with the state. And then I got a promotion up to the associate level. Went from seasonal employee to an assistant biologist, and from there up to associate in a very short period of time, within a few months actually. And took a job just to get a promotion up on the North Coast, and was up there working on salmon and steelhead on a research project.

Our main focus up there was to try to get some idea of the contribution that hatchery-reared trout and salmon could make to a wild run. And we were well along on that when the great flood of 1955 at Christmastime came through, and it was a huge flood. I don't know if this figure means anything to you, but there were over 600,000 cubic feet per second going out into the ocean on the Eel River. Like you'd find in the Amazon. That's a tremendous flow. Well, it washed out all the fish out of the fish hatchery, and we rebuilt it again. But that winter, it rained 122 inches. Just before Christmas. It rained steady for

two weeks. And then we got twelve inches in a twenty-four-hour period, and there's just no place for it to go but downstream.

Luckily Garberville, where we were living, is built up high, way above the river. But Martha was expecting Anne, our baby, our first child, at that time. So luckily the hospital was there, but she was having some problems. She was in labor for thirty-six hours, had a really tough time with the first baby. She weighed nine-eleven; It made it harder anyway, big baby. So okay, maybe we can take her up to the hospital in Eureka. Well, Highway 101 was totally gone on both sides of the town. Well, we can fly her out. Well, the big trouble was the flood had washed out the bridge over to the airport over the Eel River. And so the only chance to get her out of there if we had to do that was to—right to the right of the highway as you go up 101, just before you get to Garberville is the Benbow Inn. It's a big thing, been there for a million years. They have a big golf course, and they could land small airplanes there, Cessnas, single-engine planes. But luckily the baby came naturally—

04-00:38:53

Lage:

You were thinking about this all during that thirty-six hours of labor?

04-00:38:56

Pister:

Oh yeah, plus trying to stay alive almost. I had to walk back most of that—we were about thirty miles from the hatchery. Walking. And the road was gone. Trying to get back home to my wife who obviously needed me about then. That was a very interesting experience. And even bigger one in 1964. But that 122 inches of rain for a guy who was genetically programmed to the high Sierra and to the desert, I don't want to do that anymore. So luckily, this is what happened. I got this in my notes here somewhere. My boss in Bishop was from Oregon. He and his wife both. And both went to Oregon State. Just loved the North Coast and the rain. I said, "Ralph, how about a trade." "Maybe. Don't feel really fit in here." So I said, "Come on up and visit us." So he came up, he and his wife. They looked around, fell in love, beautiful country, redwood groves and all that stuff, and they just loved it. So in June of that same year he moved up there, and I moved back to Bishop.

04-00:40:06

Lage:

And the department was fine with your making this kind of switch?

04-00:40:07

Pister:

Well, my boss, the boss to whom I was going—our office then was in LA, State Building in downtown Los Angeles. He was tickled to death with this because we got along great and we saw things the same way. Boss in Sacramento, who I left holding the sack, I didn't even consult him. I arranged for the mover and the whole thing, and I was down there before he could do anything about it. Well, I paid the price for that, one of which—although this is something of an exaggeration—I got my promotion to associate fishery biologist in 1955. Thirty-five years later in 1990 I retired at the same grade.

[laughter] But I had any number of opportunities to promote at that period of time, I just didn't do it.

04-00:40:57

Lage: But you would have had to move someplace.

04-00:41:03

Pister: Yeah I would, and that's the whole reason I didn't move up. The jobs would have been in one of the regional offices or in Sacramento, which is also a regional office; LA; Fresno, I don't want to go there; San Francisco, which is now in Yountville; Redding; or Sacramento. So those were my choices, and I didn't want to go to any of them.

04-00:41:23

Lage: So the people in the field were associates.

04-00:41:25

Pister: Yeah, but that's as high as I could go in the field. They've gone up since then. I worked my head off on that job. When I retired in 1990, they hired five people to come in and do what my assistant and I had been doing ourselves. Paid some prices for that. But we did a good job. We saved a lot of stuff, which we can get—

04-00:41:50

Lage: That's what we're going to do. I just want to see if there's anything else about the actual work you did on these North Coast streams. Was it all fishery-related?

04-00:41:55

Pister: Yes, I should expand on that. Because the flood came. But one of our main thrusts—this was a federal aid project. Congressman Dingell and another congressman named Johnson back in the fifties put together a Fish and Wildlife Restoration Act. And this was Dingell-Johnson Project F-10-R, coastal streams anadromous salmon study. The contribution of hatchery-reared fish was only part of that. Our main reason for being up there—California Water Plan hadn't gone yet. So our job was to measure the size of the spawning runs of chinook salmon or king salmon on Trinity River so that the federal government could have some idea how big to build the Trinity Fish Hatchery at Lewiston. So we had quite a research project to determine the size of those runs for a couple of years. And that set the groundwork for the big hatchery they have up there now.

04-00:43:03

Lage: I see. So they wanted to know what they were going to have to replace that would be wiped out by the California Water Project.

04-00:43:09

Pister: Yeah, exactly. Yeah, we found—and of course there hasn't been a dam built yet that's been good for fish. It doesn't work that way. So that was one of the sad things. During that period of 1955 to '57 I participated in a group called

the Pacific Fishery Biologists, which was biologists from state and federal agencies, from all of the coastal drainage states and British Columbia and Alaska. And we would meet every year and somewhere on the coast, mainly up north, be it Oregon, Washington, whatever, BC, to talk about problems with salmon. At that time they hadn't—the Bonneville Dam was on the Columbia at that time; the Dalles Dam hadn't been built yet. So I was able to get pictures of the Indians netting salmon coming up the Columbia River. But Bonneville, the Corps of Engineers built that. And I fortunately photographed this thing. They had a sign there telling about the fish ladders, almost like it was written for the fish to read.

04-00:44:17

Lage: How to.

04-00:44:17

Pister: Yeah, really. How to—okay, if you're stuck downstream, here's what you do, you take this channel and go up here, and you'll find a big lake up there, you can swim on upstream from that. Well, it didn't work that way. It showed the naiveté of the whole thing at that time. Corps of Engineers was involved in these meetings we had. So this was a real interesting time.

04-00:44:39

Lage: Well, were you telling them it doesn't work that way? How was the dynamic?

04-00:44:45

Pister: Well, we were learning this at the time. See, because the huge dams, except for Bonneville, hadn't been built yet. Shasta Dam, same thing on the Sacramento River. So we—

04-00:44:54

Lage: That's what the study that Joel Hedgepeth talks about determined. It was prior to the Shasta Dam and they were saying what had to be done for the viability of the salmon.

04-00:45:04

Pister: I imagine Joel worked with a colleague of mine who was right out of Berkeley, right out of the MVZ, guy named—oh gosh, what the heck was his name, I had it there a second ago, Elden Vestal.

04-00:45:19

Lage: I'm not sure.

04-00:45:19

Pister: Thought it might have stuck with you there. Vestal, he was in Bishop for a while. And I could tell from his notes this guy wasn't your average Fish and Game person, because he had everything by genus and species and like you'd get from something over here in the MVZ. And so he was a key figure in the Mono Lake case when this came up into the courts. I didn't have enough background on it. I didn't move here till after much of that was in place. But Elden was retired then, and he lived in Napa, and he came over to the hearings

in Bridgeport, wherever the hell the court proceedings were, and his testimony was what kept water in Mono Lake. So he along with the totally tireless good people of the Mono Lake Committee, they saved that lake.

04-00:46:16

Lage: Now what was Elden's last name?

04-00:46:16

Pister: Vestal, V-E-S-T-A-L. He died a couple of years ago.

04-00:46:23

Lage: But you say you didn't get very involved in that.

04-00:46:28

Pister: No. All I—politics entered into this very strongly. I remember all water applications had to come through me, because that's what I did, anything that involved environmental impacts I had to—and this was about the time that the California Environmental Quality Act came in, National Environmental Policy Act, NEPA, late sixties and early seventies. And so the early seventies was the key time there at Mono Lake. Now you could walk across to the black island then off the shore of Mono Lake. And the coyotes would wander over there to eat gull eggs and whatever.

So okay, so Lee Vining Creek, the City of Los Angeles took Lee Vining Creek, and they put it in with their aqueduct through the Mono Craters tunnel into the upper Owens River, and from there on down to the faucets of Los Angeles. Any time a water developer changes a point of diversion, it has to be approved by the state fish and wildlife agencies. So it came to me. City of LA wants to change the diversion point on Lee Vining Creek. And I thought, boy hey, this might give us a chance to get water back to Lee Vining Creek, which was dry, like Lower Rush Creek was dry, like all of them were. So my boss says, "You want to—should we protest this?" I said, "Yeah, you bet you. City of LA takes advantage of every break they can get, why shouldn't we?" It wasn't too long—within a day or two I got a phone call from Sacramento. It was our director. City of LA found out that we were going to protest this. Reminded our director that all of our fish hatchery installations were on [LA] Water and Power property in the Owens Valley. Hot Creek, Fish Springs, Blackrock, the only one we owned was the Mount Whitney hatchery, and they couldn't touch us there. He said, "Phil, I don't think we really have to protest this. I think it would be better politics if we didn't." Well, that wasn't my decision to make. But that's how deeply entrenched, and when I tried—

04-00:48:29

Lage: Was that the Ray Arnett period?

04-00:48:31

Pister: Yes, yes, it was indeed. Arnett was succeeded then by another fellow named Charlie Fullerton. But so what I tried to do then—they were deep in research, the Mono Lake Committee people, they had some very good people doing

their research, one of them being David Winkler, who did his doctoral dissertation here on the gull populations in Mono Lake. Dave is now an ornithologist at Cornell. We stay in touch. He's married to an ichthyologist friend of mine, very good lady. And so I would loan—and they didn't have a nickel, the Mono Lake people. Break your heart, VW buses parked in front with flat tires and dents all over, and just loaded with bumper stickers on the back, save the earth and all this stuff. So I would loan Dave things like boats and motors so he could get out to his islands and take samples, whatever he needed to do. We'd buy his gasoline for him and all that stuff, which we could do. And so that was about all I could do. Then later on, this would have been about early nineties, I joined as one of the directors of the Mono Lake Committee, was on there for several years, and I enjoyed that. But I just had this huge admiration for those people. David and Goliath.

04-00:49:59

Lage: Well, it's quite a story.

04-00:49:59

Pister: It's amazing what they did. And the lake shows it. It's coming up nice. Tough in a year like this, but it hasn't gone down any. It stays there. So that was the Mono Lake part.

04-00:50:15

Lage: Okay, now anything else we should talk about that North Coast salmon? Did anybody say why do we need these dams? Or was that not part of the thinking?

04-00:50:22

Pister: Nobody really did, because Pat Brown was governor when the water project came through. I can tell you a great story about that, too, before we get off the early years. That was his thing. He felt he owed it to California to build the California Water Project, take Feather River water and develop desert, that was his big thing. Well, in 1959, that was my first really contact with golden trout.

04-00:50:50

Lage: You were back in Bishop.

04-00:50:52

Pister: Yeah, yeah, I'd been there for a couple years. And so I thought, well—you've been to Cottonwood Lakes, Cottonwood Basin? Okay. Lake 3, the third one up the line, we have a spawning station there, metal building, I don't know if you ever saw that. But the weather up there can be pretty fierce, particularly in the early year, you can get some really nasty snowstorms. This could keep our personnel in fairly good shape up there. So we wanted a second brood stock though. We thought the ideal way to do this was go to the Laurel Lakes, and we thought, okay fine, we'll go up, we'll clean all of the trout, the rainbow trout, in the Laurel Lakes upper and lower, and use that as a brood lake or brood lakes, and we'll stock it with Golden Trout Creek trout.

04-00:51:52

Lage: Now, when you say we'll clean all the rainbow?

04-00:51:57

Pister: You have to go in with chemicals, put in a chemical called rotenone. Rotenone causes a cell reaction in the capillaries of the gills of the fish, and it suffocates them. Does it very effectively. So we went up there in—this would have been the fall of '58. Had to direct that myself—it's not easy to get in there. We had to hike down a doggone mountainside to get there, hauling pumps, weighed about a hundred pounds each. So we went and we got rid of all of the rainbow trout. Then in August of the next year—meantime my boss down at LA had me fly up to Tunnel Meadows in the Kern Plateau. There's a small airstrip there. With a commercial pilot. Fly out of Lone Pine. And so my job was to go up and make an assessment of the trout in Golden Trout Creek. These fish were originally described in 1892 by David Starr Jordan at Stanford. And they were ostensibly, and they still are, probably the best genetically pure population anywhere.

04-00:53:06

Lage: Of golden trout?

04-00:53:07

Pister: Of golden trout, yeah, of the Kern River golden trout complex. The only pure golden trout anywhere. So we arranged then to make a big collecting trip up there. And this is a real story. Had to do this in conjunction with the Forest Service, because it's all their land, and the district ranger and the forest supervisor, which I've always worked very closely with those good people. And so we had to set up a camp way up in Big Whitney Meadows, which is where Golden Trout Creek essentially starts. And the director thinks, hey, this would be a great place to bring the governor. This was before Arnett. This was a guy William Warne, W-A-R-N-E, who had come out of the Truman administration, was on the Point Four Program in Iran. He wrote a book on that called *Mission for Peace*. A very interesting guy.

04-00:54:06

Lage: And wasn't he also director of Water Resources?

04-00:54:08

Pister: Yes, he was director of both for a while, director of Water Resources and also—well, he was head of the Resources Agency and Water Resources and Fish and Game, and then pulled back, I think, and put directorships under other people, and stayed on as director of the Resources Agency. But he was a really interesting guy.

So Warne thought this would be a great thing to bring the governor up there, being a good Democrat and all that stuff. Well, we flew in, but the governor's office has a policy that the governor must fly in a twin-engine plane, just for obvious reasons. One engine gives out, you got another one. So poor Pat Brown, we flew into there, and it was even then about a six-mile ride from the

airstrip on up to where we were working. This was a really great man. So the governor had to ride a horse in from way way down. He was on the horse for over seven hours. And if you're not used to riding, this can be excruciatingly painful to do that. And so we wondered where the heck's the governor and the rest of the party. So I got on my horse, went tearing across the meadow just in time for them to come out of the trees. And here's the first guy in the line was the governor, and I had never—all I could think of to do, being rather recently out of the army, I saluted him. [laughter] And he got a kick out of that. But we got him into camp and pulled him off the horse. He couldn't stand. We had to lay him down on the ground for a while.

04-00:55:50

Lage: How was his state of mind?

04-00:55:50

Pister: Amazingly good. I really admired him. Of course he was really fatigued and in a lot of pain. That doesn't last long. Within an hour he was back to normal. So he was really interested in me, where I'd gone to school and so on. And I don't know, was he a UC person himself?

04-00:56:10

Lage: I think so.

04-00:56:10

Pister: I thought he was. Jerry was too, I know. So he was really interested in this, that a California, UC Berkeley person was up here doing the golden trout work. So we got along really fine. In fact I got on my office wall, I've got a picture of him and me up there during the collecting trip.

04-00:56:27

Lage: So the trip worked.

04-00:56:27

Pister: Oh, it did. So then—but oh another, Caryl Chessman, the Red-Light Bandit, he was on death row then. And his execution date had been set during our trip. So the ranger and I, we had to string a phone line clear from the airstrip up through the trees and the rocks up to where our camp was, for a last-minute commute if it were needed. So okay, the governor gets there, and I was running the whole thing. Had all the logistics. All the equipment had to be flown into the airstrip and put on mules and then hauled up to our camp. And I said, "All of this stuff has to be at the airstrip by a certain time. If it's not there, it's not going to get in there." The logistics were pretty tight. Like someone running D-Day in a way.

So we get there. Warne, who wanted everybody to be keenly aware that he was director, particularly the governor, says, "Where's the governor's gear?" "I don't know. If it wasn't at the airstrip at eight o'clock this morning, it wasn't going to get here." "Go get it." We had to leave—the district ranger and I had to leave after dark and go down really a lousy trail. You're going

through the rocks and the trees whacking your face as you go down there, to get the governor's stuff. Then we had to load it onto a highly uncooperative mule at two in the morning and then go back up there and unload the governor's stuff for the meeting. And he was doing his best. He said, "Bill,"—Warne—"I don't need this stuff. I can sleep on the ground. I'm used to this." "Go get his stuff."

04-00:58:09

Lage: And he's waiting up for you in the meantime.

04-00:58:11

Pister: Yeah. So we put all the governor's stuff, we set up everything he needed right next to his tent. We got up in the morning, he hadn't even touched it. He slept really well during the night. And he wrote us a note thanking us for doing this later on. Said, "I really didn't have to have it, but it was Bill's show and not mine."

04-00:58:30

Lage: Oh, that's nice.

04-00:58:31

Pister: It was a great story.

04-00:58:31

Lage: I have to stop you because our tape is almost out.

04-00:58:35

Pister: Oh, my gosh.

[End Audio File 4]

[Begin Audio File 5 Pister_e_philip5_01-22-2008]

05-00:00:00

Lage: Okay, we're back on with tape number five.

05-00:00:06

Pister: I had an interesting boss back at that time. And these guys weren't very good scientists, to be honest with you. Didn't have any graduate work or anything, any experience in research. So I thought I've got some money, got some people, got these lakes we plant fish in—there are ten lakes along the Sierra east side, beginning on the south of Lake Sabrina. Rock Creek, June, Gull and Silver Lakes up in the loop, ten lakes, what were the other ones? Rock Creek, I mentioned that. Rock Creek Lake. Well, at any rate, there are ten lakes. So we needed to know what was being caught out there. Well, the state would go up there every week and dump truckloads of fish into these things, because they knew doggone well it was being caught. Once in a while somebody'd get a big brown trout, but that was unusual.

05-00:01:00

Lage: But mostly brook?

05-00:01:03

Pister: No, these would be all rainbow trout. Raised in our fish hatcheries. They're the production fish. They're easy to raise. And they're actually good fish. They do a good job raising those things. The people love them. And did Karl talk about this at noon today? About the fish trucks coming up? Because we use Tioga Pass Resort, I guess that was before we came in here. Talked about this in the front room. About how the fish trucks would come, and the people, the guests there would know almost to the minute when the truck was going to arrive. They'd all be sitting there with their fishing rods. The truck would come up, dump the fish out, and just break their necks catching these poor things.

05-00:01:44

Lage: It's hardly a sport.

05-00:01:44

Pister: Well, hardly. No, it was very popular with the recreation industry. People came up. They stayed in motels. They bought meals at the restaurants. And bought fishing licenses. They bought salmon eggs and worms.

05-00:02:00

Lage: So your local community where you were stationed had an economic interest.

05-00:02:03

Pister: Bishop, yes. And it remains that way. Bishop's whole economy except for some governmental stuff, which also ties in, is based on recreation. Fish and Game strongly. Less so now than it was back then. Forest Service is accommodating these people. They probably—it's quite a ways down the line yet. We talk about the huge impact the people have up there. This would be during our hydroelectric, small hydro projects that came in during the eighties. We just fought tooth and nail to keep these things out. So back then Mammoth was starting to develop, very slowly. So Mono County needed a water supply for the community of Mammoth. Well, the logical place, which is still used, is Twin Lakes, the first lake in the chain as you go up to Lake Mary, Lake Mamie, and Horseshoe Lake. So this began my thinking process, how in the dickens are you going to get water for these people? In the meantime some well-meaning aquarist had dumped in a plant called elodea or anacharis, just grows like mad. And the places where people used to be able to go out and catch fish were literally huge masses of weeds.

About that time I moved up north. But this ten lakes census thing, South Lake, Sabrina, Rock Creek, June, Gull, Silver, Grant, yeah, those are the ones we surveyed—they'd go up on a rotational schedule they had somebody go up there. I did a lot of this myself. Martha might go with me later when we were married. And I'd have a boat, and you go out and come up against some guy and his wife who are fishing out there—"What have you caught?" "Well, I've

got a string of rainbow trout here." So we went and measured them, knowing full well how big and long they were and so on. So we spun our wheels a lot. And we did a lot of backcountry stuff.

05-00:04:07

Lage: Now when you say stuff what do you mean?

05-00:04:10

Pister: We would go up to—what's the drainage you're familiar with over there particularly?

05-00:04:21

Lage: I'm not that familiar to really—

05-00:04:21

Pister: Okay, well, all right. Say Bishop Creek, it's got—there's something like one hundred lakes in the upper Bishop Creek drainage. And this was part of this aerial fish planting program. It was strongly going on right after World War II.

05-00:04:46

Lage: Dropping them from the air.

05-00:04:46

Pister: Yeah. In fact, one of our pilots from the very beginning is retired now at Redding. And he's well into his eighties now, but we're in not daily contact but every few days on email. Just a great guy. He flew B-24s, liberator bombers, off of Southeast Asia during the early part of World War II. And they were attacked by a bunch of Japanese Zero fighter planes, and they flew all the way back to their base, about seven hundred miles, with three engines, one of them having a Japanese machinegun bullet in the cylinder wall.

05-00:05:27

Lage: So this is the background really. The war, the background to using these aerial fish—

05-00:05:31

Pister: Oh yeah, it comes strongly in this, because our first fish planting plane was a bomber trainer, a Beechcraft 18, the twin-engine plane that they used to train bomber pilots in.

05-00:05:41

Lage: And before that didn't they carry the fish in on mules and—

05-00:05:44

Pister: Yeah, it was all done on mules, and still some of that is done, but very little. The pilots were very good, and they could hit almost any lake with the airplane.

05-00:05:53

Lage: How many fish die as they hit?

05-00:05:54

Pister:

Well, very few. Very few, yeah. We found this out through later research that I'd say at least 95 percent make it. There's a mortality after they hit the water because you have a lot of hungry adult fish there looking for something to grab hold of. There's a researcher at Convict Creek, or SNARL now, got his doctorate at UCSB, and he's been studying this very carefully. And he has actually with SCUBA gear been out in lakes, predetermined with the pilots, and so he could watch what actually happens to these fish when they hit the water. Been very interesting to get his observation. He was really interested in frog preservation, because there's a big correlation between trout populations that love to eat polliwogs and our mountain yellow-legged frogs, which trout are one of the major contributors to the demise of these things. So, but back to the airplane.

So here comes then a couple of, you might say, entrepreneurial pilots, although they had no personal financial involvement at all. They thought, hey. There was one fellow named Al Reese, he was an instructor, an Air Corps instructor, Army Air Corps during World War II. And he said, "Jeez, I bet we could dump fish out of airplanes." So they did some tests at Elk Grove out of Sacramento, they have some fishponds there, warm-water fish hatchery. So they go roaring over this thing and dump fish out, and they came out fine, except when it hit a boat, that'd kill them. These were bigger fish. The little ones, when they're released they come down like leaves. They don't go whoosh like that, but they just go like this. So there's no physical impact. As soon as they hit that water, they're out of it. They're drugged when they're put in. As soon as they hit the water, they—

05-00:07:49

Lage:

They are drugged?

05-00:07:51

Pister:

Yeah, they use a sodium amytal type thing that's a hypnotic thing. It puts them in a stupor state where they don't take as much oxygen and so on and so forth. But as soon as they're in the fresh water, they're away, and away they go. So the Beech 18 was our plane for a long time. Then they converted that to a bigger plane. Same basic airframe. Turbine engines, and these were just Allison or radial engines before. And our most recent plane is a Beech King Air. It's just a beautiful thing. We use that. Later on I'll tell you about this transplant from the cutthroat trout thing from the Williamson Lakes. We used that plane to get the fish from here to Colorado. So but I always had reservations in the back of my mind, is this really doing any good. Because I knew those lakes well. I knew how the fish worked in those lakes. A normal allotment for say a typical high mountain lake might be 2,500 fingerling trout maybe every other year.

05-00:08:59

Lage:

The planting.

05-00:08:59

Pister:

Yeah. That would be what you would allot to the pilots and to hatchery people. It's like a production in a factory. We would be the research people, and they'd have the people producing the product and distributing it. That's how that would work. The pilots were the distributors. So I've always had this big question mark, because I knew just by studying an awful lot of trout through my life that just one spawning from a couple of trout this long would provide as many fingerling trout as we were planting out of the airplane. So why dump more into there when the lake is probably what wildlife biologists would call carrying capacity? The lake's already got all the fish it could support. So that's all been in the back of my mind. So I made major cutbacks in some of the lakes I knew were already overpopulated. But in a bureaucracy, when you get to turning a crank, it's hard to stop it.

05-00:10:00

Lage:

And they measure the numbers.

05-00:10:00

Pister:

Yeah. Well what you do, you change the philosophies, you change the personnel structure, you change the financing, and it's much easier for a bureaucracy to continue to do what they've been doing for a million years. And they don't want to hear another answer to it.

05-00:10:15

Lage:

Yeah, and you didn't really have the power it seems. Were you—

05-00:10:19

Pister:

I wasn't high enough up in echelon other than to make the allotments.

05-00:10:24

Lage:

You could decide how many.

05-00:10:27

Pister:

Yeah, I could do that.

05-00:10:27

Lage:

And you tried to cut those back.

05-00:10:27

Pister:

Yes, I did a lot of them, just totally removed them. The Park Service then in the late seventies began to ask themselves the same question. In a national park, which they should manage for a natural biota, and trout are not natural, is it really within the concept and the philosophies of the Park Service to continue to plant trout? And it seemed like I just said this, maybe I talked to Karl about this last night. So when they called the big meeting in San Francisco there on Golden Gate Avenue, where the Park Service headquarters was then, may still be, to talk about the subject. But some of our brass came from Sacramento from the Fish and Game office. They had people from Washington from the Park Service and the regional office there in San Francisco, couple of the national parks. And we talked about this. Park

Service says, "We have some really difficult problems with this." Fish and Game people say, "No, that's our"—if I repeat myself, understand, but there's always been this big rift as I mentioned earlier today. We'll get back to Ray Arnett and the rift in a little while. And so I took—

05-00:11:40

Lage: Rift between the feds and the state?

05-00:11:42

Pister: Yeah, yeah, the big rift. And so I said, "I've got to be honest, I'm only your field biologist, but I look at this exactly the same way. We should bite the bullet. We're doing something and spending money unnecessarily." Of course it didn't make many points with the pilots either because they had a lot of prestige hooked up here. They had quite an air fleet. Luckily only one fish planting plane. The others were Cessna 185s, just really great for—all the pictures I took were from the Cessna. Just marvelous airplanes. Guys doing all their own engine work. They did it all themselves. So we cut back a lot. There was a lot of static there within the department. Because it meant then they were admitting that what they'd been doing in many—with raising fingerling trout was not really accomplishing anything.

05-00:12:29

Lage: So it wasn't even accomplishing the goal of making the recreationists happier, because you didn't end up with any more fish.

05-00:12:33

Pister: No, no, no, no, it was just literally—what it was, Ann, best way to put it, it was putting another gallon of water in a full bucket. Take a five-gallon bucket, filling it up and then dumping another gallon in.

05-00:12:45

Lage: And maybe damaging the ecology of the lakes.

05-00:12:48

Pister: Yeah, exactly. Exactly. It made no biological sense at all. And since then there's been this grad student at Davis, got his doctoral dissertation on this, proving essentially that that did not do any good at all. He took lakes, and he could prove this statistically.

05-00:13:03

Lage: Now did you make any impact on the thinking of your department in that?

05-00:13:07

Pister: Oh yeah, yeah, yeah, yeah, there's only one of our five—six regions now—that still is pretty much into the old method. It's up in Redding. And those are the guys that are a little bit back in the Dark Ages anyway. They don't have the people pressures that we do down here and so on and so forth. They still have a pretty good planting program. Virtually all of the other regions have cut way back in their fingerling planting.

05-00:13:31

Lage:

What kind of pressures did you have? You were there in Bishop, and you've mentioned to me all the recreationists coming up from LA. What kind of pressures did you feel?

05-00:13:47

Pister:

Well, first off, we had a diverse group of people coming up. Huge recreational demand up there. We found out later as part of this hydro project—good time to mention it now—that the Inyo National Forest, the Inyo-Mono area of eastern California, about 10 million acres, roughly 10 percent of the state, which fortuitously is 100 million acres—so we found that just the Inyo Forest alone, which is a little over 2 million acres, but the major part of the resource, going from essentially Lone Pine up to Lee Vining over the hill and the Toiyabe Forest, just the Inyo supports more recreational demand than Yellowstone, Grand Canyon, and Glacier Parks combined. Pushing somewhere like 12 million visitor-days a year, much of it fishing, not the majority, but much of it. Maybe of that perhaps 5 million of that might go into fishing. The rest would be skiing, hunting, just people sitting around in a camp chair by a stream. Photographers in the fall, particularly.

05-00:15:01

Lage:

Backpackers.

05-00:15:01

Pister:

Oh yeah, yeah, it's all part of that.

05-00:15:03

Lage:

But fishing runs second to skiing, do you think?

05-00:15:06

Pister:

Yeah, I think it would be about the same, maybe. But right now Mammoth Mountain, if the weather is halfway decent, just be nothing but people zipping down that thing.

05-00:15:14

Lage:

But what about back in the earlier days when you were getting established there in Bishop?

05-00:15:18

Pister:

Well, Mammoth was just getting going then. But okay, as far as when I started the pupfish work, in the local business community this caused people, they had—"What that guy's doing isn't making us any money." One time—this is a great story—one of my several very good assistants up there—these guys were just great, I never called them assistants, they were co-workers. It really bothers me when someone refers to their people as my assistant or my that, you don't own these people. I've had trouble with Karl on it, he has a propensity to do that. He said "my vice chancellor." "Oh get off of this, you don't own this guy. Makes you feel like a big shot, all right, I'll understand that." So we were out working on pupfish. There's a marsh north of Bishop, place called Fish Slough, which is the last natural wetland in the Owens

Valley. The rest have been dried up by water export. So we were out there working with pupfish, and when you came in for lunch, good place to have lunch was at the golf club just south of town. So we went there.

We're sitting down at lunch, and it's crowded again, and this lady came up who runs a Ben Franklin store there. She has, oh, things like macrame stuff, knitting materials, fabrics, whatever. And she says—we were all muddy, of course. In Bishop they don't really look down if you're muddy. It's okay, a lot of people are muddy there. Backpackers still have wallets. That's how the businesspeople look at it. She said, "What have you been doing?" I said, "Well, we've been out working on pupfish." She hesitated. "Did they make any money for anybody?" And we realized then what the perception—and her husband who runs now, and did back then too, a big vet hospital—he's a UCD vet working out of Bishop there—asked me that same thing. He said, "What are you doing at Crowley Lake? I said, "Well, it's pretty well taken care of." He said, "That's our major moneymaker. You should be spending your time up there." I said, "You know, Carl," guy named Carl Lind, I said, "Carl, we have bigger obligations than to pad your pockets; it's that simple." I said, "If what we do makes you money, fine, we have no problem with that. But our main focus is not going to be worrying about, jeez, what's it going to do to your business."

05-00:17:44

Lage: How did that go over?

05-00:17:44

Pister: Well, I think with him, it's like when people ask me, "What good is the pupfish?" and I respond, "What good are you?" It is that same sort of thing. It hits them right between the eyes, they think jeez, maybe there's something to that.

05-00:18:03

Lage: Now did you join the local men's clubs and things like—

05-00:18:05

Pister: No.

05-00:18:05

Lage: I've heard a lot of stories about the Forest Service, that they get very involved in the town, and they join the Lions Club and this and that.

05-00:18:12

Pister: Yeah, they do. I've given a lot of talks. Yeah, I've given a lot of talks at those things.

05-00:18:15

Lage: But you didn't—that's one of the ways you feel pressure, I think.

05-00:18:21

Pister: Well yeah, you do. And you become too much on a one-to-one basis with these guys.

05-00:18:22

Lage: Did you deliberately not do that?

05-00:18:25

Pister: Yeah, that plus just the encumbrance on time, like Rotary, to be there every noon on Tuesdays all during the year; if you didn't do that you got penalized. I go along with Mark Twain, who said he always had reservations about a bunch of grown men who would get together at noontime and sing songs. [laughter] So that's how I viewed the—we had Rotary Club, Lions Club, very active Lions Club. Something like the Optimists, groups like that. But I never joined any of them. But I'd be asked a lot of times to give talks. One time I pulled a good one there. The Bishop Rotary Club, which is probably as conservative a group of people as you're going to find anywhere outside the administration, these guys invited me, one of them invited me to give a talk there. And I'd been—most of my talks would be about how fishing was going and all this. I decided I would talk about the value of student dissent in a democratic society. This was right after Kent State.

05-00:19:22

Lage: Oh my. That was brave.

05-00:19:22

Pister: And I went on and on there. Yeah. And I could see people, God, this guy, he's got to be a communist of some sort. Well, it made some points. One guy came afterwards—this fellow was a pastor—he said, "I really appreciate that, it gave a lot of good thought material, what you said there." Another one came up and said, "The only way to treat kids like you have at Kent State is with a machinegun or a baseball bat." And that was pretty much the predominance of thinking. These people are going up against the system in which they were comfortable, they didn't want to see a threat. And again though, most of the talks I'd give there were well received. I'd try to give some good slides and things, and they enjoyed them.

05-00:20:05

Lage: About the mountains and the fish and—

05-00:20:08

Pister: Yeah, yeah, yeah.

05-00:20:10

Lage: You didn't have any game responsibilities, did you?

05-00:20:13

Pister: No, no. Once in a while we would help out the game people. We had fish people, we had wildlife people. If they had something like a special deer hunt

or something we would chip in and help them with that, just provide personnel.

05-00:20:27

Lage: Did you get credit as a district for the licenses that you sold?

05-00:20:36

Pister: No, no.

05-00:20:36

Lage: So it wasn't done by district.

05-00:20:38

Pister: No, that goes into a pot in the state in Sacramento.

05-00:20:39

Lage: But it was the budget of the department.

05-00:20:42

Pister: Well, much of it yes. At that time particularly most of our money came out of license sales. Then came some federal funding, then some state general fund monies.

05-00:20:54

Lage: Was that in recognition of the fact you were doing other work?

05-00:20:58

Pister: This came by legislation and by politics of some of, say, the representatives in the state legislature from over there, and in similar situations in other parts of the state that were heavily involved in fish and game stuff. They began to see that there was a need for more money than they were getting. Because at one time all by myself, Ann, I was responsible for all of the waters of southeastern California from over in the west side clear out to Nevada. And one person just can't do it. There are lakes even now out of that one thousand that we managed out of Bishop I've never seen. There's no way I could physically do this.

05-00:21:43

Lage: So you say, "I was responsible for the waters."

05-00:21:48

Pister: For the biological integrity of those waters. Although that would include also some of the recreational aspects like fishing, whatever. But my main job was to make sure those lakes stayed okay. Pollution aspects. Worked with the Forest Service in setting up campground or camping restrictions, not too close to a lake and whatever. So when I talk about responsibility for those lakes, that's what I'm talking about here. It's a broad thing. So I can thank Starker for much of that, by giving me—see, when I started work with Cal Fish and Game, here I was right out of Berkeley. People viewed me as an egghead that way. Then the major people coming into the profession were either out of one

of two schools, Humboldt State or Oregon State. And one thing they did not teach at those schools was humility in any sense of the word. And they thought they knew everything there was to know. And they were highly anthropocentric in the way they managed the resources. They felt that their job was to provide fishing and hunting for people.

05-00:22:52

Lage: So the fishery people hired in Fish and Game were mainly out of those schools?

05-00:22:59

Pister: Yes, yes.

05-00:22:59

Lage: And they didn't have Starker Leopold.

05-00:23:01

Pister: No, they didn't have the broad—no, they didn't. They didn't have any of that. And I would say that back then our schools were producing missiles without guidance systems. Exactly that. But I use the same term today for those schools that fail to teach environmental ethics and philosophy. It's the same idea. So much of my teaching now is in that field alone.

05-00:23:25

Lage: Now let's think about how to go next. I'm going to stop for a minute here and—okay, now we are back on after a little pause here. And you have a story to relate.

05-00:23:41

Pister: Okay. My first encounter, this would have been probably in the early summer of 1954, maybe even '53, but one of my predecessors who was mentioned earlier, Elden Vestal, was the district biologist in Bishop. And he of course had interests all over the place. Another person out of Berkeley's MVZ here. And he realized that there was one population of cutthroat trout that's native only to upper Silver King Creek in the East Fork Carson River. And he was worried about what might happen to those things. And there was a stream in the White Mountains that did not have fish in it, and he thought we should get some of those fish from Silver King, just the eggs in more than one basket philosophy. So I think this was in 1946 right after the war. Elden arranged for a transplant from Silver King Creek into Cottonwood Creek in the White Mountains just east of Bishop, just a little way south and east of White Mountain Peak, which is the high point there. So these fish were planted. Nobody had looked at them in the seven years since they'd been planted. So my boss said, "Phil, we ought to take a run up there, be a fun thing to do." Guy named Ralph Beck, who was my first supervisor, just a marvelous guy. I'll always be grateful to him; he had a very broad attitude on things. And Ralph said, "Let's go up there."

So we found somewhere an army four-by-four, an old truck. And it's not easy to get into this place. Literally it's hanging by your—little tiny road like you find in South America. And so we went down there, and I caught one of these fish. Beautiful thing. And we prowled around there for a while. But that got me interested in the whole concept of rare species. Starker would mention this, like things like the dodo bird and the—or what is the heath hen that had gone extinct? But I'd never really pulled it in close to home like this was. This was a population right in my backyard. And it's still there. So that was what broke the ice there about me beginning to see a larger picture.

Then in the early sixties one day, and this is the—I say the enlightening. A fellow I had met but didn't know really well, Robert Rush Miller—Miller was a professor of zoology, he was an ichthyologist at the University of Michigan at Ann Arbor, where he got his PhD under Carl Hubbs, who then went to Scripps. Hubbs Hall down there is named after Carl. Miller, for his dissertation working under Hubbs—it was the systematics or the taxonomy of the cyprinodont fishes, which are the pupfishes, of the Death Valley hydrographic area, going back into the Pleistocene drainages beginning at Mono Lake and ending up in Death Valley, that whole area was part of the Ice Age drainage.

05-00:27:12

Lage:

I see. You mean it goes back to the Ice Age, or—

05-00:27:14

Pister:

Oh yeah, yeah, yeah. And so the fish originally invaded that area out of the Colorado River system many thousands of years ago, probably could be in the Pliocene even. So then that whole area is just made to order for an evolutionary biologist, because the fish being originally the same species then were separated into different springs, and they began their evolutionary change into different species and subspecies. The Owens pupfish, which is the one that I spent most of my time on, evolved in the upper Owens Valley. Probably the entire valley had these things, and the early records tell of the Indian people there seining these fish out from the margins of the river and drying them for winter food, because they are an excellent source of protein. So the area where the—the exact location where a biologist collects an organism is known as the type locality. From that they take the type specimen, which is then described, and forms the basis for the classification of that organism. This was in the northwest spring out in Fish Slough north of Bishop, collected by Miller back in I think 1947 or '48. Interestingly, when he described the fish, all of these fish were thought to be extinct. They thought there were none left at all.

05-00:28:48

Lage:

But how did he describe it?

05-00:28:50

Pister: Just by the collected material that they had. See, they put them in formalin back then.

05-00:28:54

Lage: I see. They collected it previously.

05-00:28:55

Pister: Yeah, these were collected when he was doing his dissertation work, but then after that when he was actually doing the description, this would have been later, probably in the late forties, early fifties. Then they thought the fish was extinct. So he did all of his work with preserved material back at Ann Arbor. So he phoned up one day and he said, "Phil, Carl"—being Carl Hubbs, his father-in-law. Curiously, Bob married Carl's daughter.

05-00:29:22

Lage: And did you know them personally at this point?

05-00:29:26

Pister: Not really well. But that started really a great friendship. He said, "Carl and I would like to come up and see if maybe somehow there might still be a population of those pupfish up in Fish Slough." And this shows the great evolution of thought here. So I said, "Well, I'll have to get clearance to do this." I wasn't quite as bold as I was later in my career and particularly now. I learned early on that it's much easier to ask forgiveness than permission. So I got hold of my boss. I wrote—back then in the early sixties, phone calls were frowned upon in bureaucracy because they cost a lot. You didn't have the internet, anything like that like we have now. So I wrote him a note, and I said, "Scott"—Scott was my boss's name, Scott Soule, S-O-U-L-E—I said, "I have this request from two very eminent professors who would like to come up and see if they could find any Owens pupfish." And I said, "I've offered to give them a day of my time, knowing oftentimes eminent people like this expect you to drop everything when they come up." "Okay," he says, "take your day."

05-00:30:43

Lage: Let me just ask. Was it so out of the ordinary to do that that you'd have to have permission? Because you might take a day to do something else without asking.

05-00:30:47

Pister: Yes, yes, yeah it was. It was, it was. Now if I'd been out collecting trout somewhere, it would have been okay. But a pupfish, what good are they? So up they came, with their wives, who were probably more responsible for their eminence than they were themselves. Did all the work, they took the notes, they preserved the specimen while these guys sat back and enjoyed themselves. Laura Hubbs and Fran Miller were just legendary people. Everybody that knows them knows that. So we went out in the marsh. Pupfish

like water maybe six inches deep. In the summertime it's really warm. We went out in July, July 1964. And—

05-00:31:39

Lage: They like warm water?

05-00:31:39

Pister: Yeah, they do. The water would probably be, I would guess, maybe even into the nineties. They like that. So all of a sudden Carl yelled out, "Bob, they're still here!" And almost at that moment, Ann, I not only dropped everything, but I never picked it up again. That was—it was like in the Book of Acts in the New Testament when Paul was blinded on the road to Damascus and gained his sight back when he got his act back together again. It was that way with me. This was—

05-00:32:16

Lage: Can you say why it affected you at that point, do you think?

05-00:32:16

Pister: Well, I think what it did, just through—it was almost like an inspirational—it really was. I began to realize that what I'd been doing wasn't important, and this was. Really what I'd been doing up to that point was essentially devoting my life to providing freezer boxes full of trout for people to take home and cook in Los Angeles, and it wasn't doing a thing for the basic biological resource. Since the fish these people were taking back to LA were not natives, they were all introduced from other locations.

05-00:32:49

Lage: And dropped by an airplane into the lake.

05-00:32:51

Pister: Some yeah, yeah, very artificial, this whole thing. So that wasn't my first touch with the pupfish though. A year before that—when was it? I've got that down in my notes. Yeah, that was a year before that. I received another phone call from a PhD student at UCLA, guy named Bob Liu, L-I-U. And Bob says, "I'm doing something down here at UCLA with Boyd Walker," who was their ichthyologist down at UCLA. "And I'm doing it on these fish. And I wonder if you could go out with me, you know the areas better than I do. There's certain things I'd like to check on these things." So we went out. We couldn't find any, obviously, because we thought they were gone back—we didn't find any fish. And Bob then stayed on with this. He went ahead, finished up his doctorate. Saw him here a couple weeks ago. What he's doing now, he's got totally out of the pupfish business or any fish. And he's now producing a jewelry catalog. It comes down to this thing, you want your education to make your life more than your living.

05-00:34:07

Lage: That's right.

05-00:34:07

Pister: So Bob stays strongly interested in fishes. So then, okay, we got these fish identified. What are you going to do about it? Because—

05-00:34:19

Lage: You know they're there but—

05-00:34:19

Pister: How many? Just one population or what? So this began our work toward setting up refuges.

05-00:34:28

Lage: But what kind of conversation did you have with Miller and Hubbs on that trip?

05-00:34:31

Pister: Oh, this was almost—it was just almost an unbelievable thing, we found an extinct species, it's not extinct, the thing's still alive. And to them—

05-00:34:44

Lage: Were they thrilled?

05-00:34:44

Pister: Oh, they were just thrilled to death. You could hear cheers. It's almost like Michigan scored against Ohio State. [laughter] Just yelling their heads off. "Bob, they're still here!" He went over, started looking, that was when I saw my first pupfish. And they were amazing critters.

05-00:35:03

Lage: Now what are they like?

05-00:35:03

Pister: Well, jeez, darn, I should have brought one. I'm going to send you a pin, a little pupfish pin, because they're really neat. They're great conversation pieces. They'd go beautifully with the yellow one on your red sweater there. Yeah, I'll send you that. So they're about—depends on the species.

05-00:35:26

Lage: Well, let's look at the Owens pupfish.

05-00:35:26

Pister: Owens, okay, they get to be maybe fifty millimeters long, which is about two inches. The females and subadults are smaller. The pins are about an inch. But they recreate the general morphology of the fish. They are made by J. D. Wang in Taipei, and they're beautiful little pins. They do a marvelous job on them. And in fact they're hugely popular. In fact I'm clear out of them, but a friend of mine who is editor of the journal *Conservation Biology*, lives up in Vermont, he phoned me the other day. Said, "Phil, my wife and I, we found six of your pins, can you use them?" I said, "Yeah, send them out, there's always somebody who needs a pupfish pin." So I just got them in the mail couple days ago.

- 05-00:36:31
Lage: Oh, wonderful.
- 05-00:36:31
Pister: So okay. So we got the fish.
- 05-00:36:34
Lage: You got the fish. You got the excitement. And where do you go from there?
- 05-00:36:39
Pister: Point B. Okay.
- 05-00:36:43
Lage: How does Rachel Carson fit in here? You mentioned Rachel Carson.
- 05-00:36:48
Pister: Just in the broad philosophy of public enlightenment.
- 05-00:36:52
Lage: What about your own enlightenment? Did you read her? Was this something that influenced you?
- 05-00:36:52
Pister: Well, yeah, that was all part of it too. By reading her book, that along with *Sand County Almanac*. I read *Sand County Almanac* before I read Rachel Carson.
- 05-00:37:02
Lage: Yeah, well before, but it did have an impact, the Rachel Carson?
- 05-00:37:06
Pister: Oh yes, yes. Because it made me think about things I hadn't thought of before.
- 05-00:37:10
Lage: Anything else that was influencing you? For instance you mentioned you'd been a Sierra Club member since 1948. Were you reading the *Sierra Club Bulletin* that David Brower was—
- 05-00:37:20
Pister: Oh sure, sure, yeah. Read all of that. Had deep interest in the Sierra generally, and climbing.
- 05-00:37:28
Lage: Because he was introducing some of these themes into the—
- 05-00:37:30
Pister: Yes, he was. He was a real prophet.
- 05-00:37:33
Lage: Well, did any of this influence you? I'm just trying—I'm grasping at straws here.

05-00:37:36

Pister:

Oh sure. Oh, yeah. Yeah, yeah, and I'm glad you're doing this, because it's making me think again too. Certainly Dave, and reading the Muries' writings [Margaret and Olaus Murie], and some of—well, Ralph Waldo Emerson, Henry David Thoreau, they all gave insight into this. Wordsworth's works up in northern England.

05-00:37:55

Lage:

But at this time were you—I can't imagine you having time to read Wordsworth.

05-00:38:01

Pister:

Well, they were forming you might say a resource in my mind that hadn't been opened yet. I would say I'd been inoculated, but it hadn't taken.

05-00:38:10

Lage:

Did your wife read in these areas?

05-00:38:11

Pister:

Oh yes, yes. Probably more than I. She read all of—oh gosh, *Pilgrim at Tinker Creek*, Annie Dillard. In fact when I wrote my paper called "Species in a Bucket," when I wrote this, Ann, it was really funny. Dealing with the editors back in New York there at the American Museum, and I think I told you how that started. When I gave a paper back there at a meeting at the museum, and I just happened to mention this episode where I had all of the species in these two buckets. It was right before lunch, I gave the last paper, 11:30. And I was walking out toward the cafeteria. Heard these very rapid steps behind me. And a fellow named Richard Milner was their senior editor for the journal. And he introduced himself, and he says, "I wish you would write that up, we'd love to publish this in the *Natural History* magazine." Said, "Here's my card." So I thought okay fine, I didn't think much about it. I went home and I totally forgot about it. He didn't. Like any good editor, he knew a good story when he heard one. So phone rings. Maybe this was in June. Probably in August, said, "Phil, where's my paper?" He said, "You were going to send that to me." Okay, he's got me trapped.

So I sat down then, and I started with my diaries. I said, "On my desk right now are forty diaries, and looking through them I would think that probably the most important entry of almost 10,000 daily entries I made during that period of time was on August 18 of 1969 when this happened." And I went on to say how we nearly lost this species. I also alluded to the '64 thing. And I told about how the fellows working with me, who they were, we went out in the marsh. And this was great. Milner says, "No, we're going to strike that part because nobody really cares who these guys are." Well, the next thing I know here comes people who responded to the article. The article came out. Annie Dillard. Annie says, "I'd like to know who these people were." And I called up Milner, I said, "Shows who"—been anybody else, they probably would have—but she's a pretty well-known writer, a good one.

05-00:40:30

Lage: Yeah, now you haven't told us the story. So let's not get too ahead of the game, because we're back in '64 and we don't have the story of the buckets recorded.

05-00:40:40

Pister: Where should I put that in?

05-00:40:43

Lage: Well, let's go from '64. The bucket story is later in the same sequence.

05-00:40:45

Pister: Okay, okay, okay, okay, yeah, that's a good place to start with. Yeah, okay that's later, yeah. So in '64, all right. So then we had the fish in one pond, our eggs in one basket. And you just can't take that chance. Started thinking about refuges. Where can we build a refuge for these fish to maybe have five or six populations? Which we have now.

05-00:41:11

Lage: Don't the ponds dry up periodically?

05-00:41:11

Pister: Well, they do. So you have to put them near springheads that don't dry up. You can't just depend on a pool out in the middle of the desert, because it will dry up. So we did some planting there. And this got me going really with Roger Samuelsen, because I met there at Fish Slough with Roger and the members of the Natural Reserve Committee.

05-00:41:36

Lage: How did they get involved?

05-00:41:37

Pister: Through Roger, who was director then. And he headed up—

05-00:41:41

Lage: But I mean, did you call on Roger?

05-00:41:44

Pister: Yeah, yeah. And also through—Mildred Mathias was a famous botanist at UCLA, and she was deeply involved in all of this.

05-00:41:51

Lage: How did she get involved?

05-00:41:54

Pister: Well, because of the plants in Fish Slough. Because there's several—in fact there's a milk vetch out there that's very very rare, and even threatened.

05-00:42:05

Lage: And was Fish Slough BLM land?

05-00:42:08

Pister:

Consortium of landowners. Two, mainly City of Los Angeles Department of Water and Power and BLM. Plus a very, very key 200-acre segment right in the middle of it private land, which is scary, owned by a couple of very wealthy orthopedic surgeons who saw a way to add to their already significant wealth. They're hay farmers out north of us. They're up Highway 6 out toward Montgomery Pass. So they said, "Hey boy, this is great. Housing is really tough. Private land is very rare in the Owens Valley. This'd be a neat place for us to make a pile of dough by subdividing this land." So I found this out. You just can't let this happen. So that got me in touch with Mildred and Roger. Who in the heck else was on it? But the botanists have always been a big picture out there, because it had all these neat plants. *Astragalus lentiginosus piscinensis*, which is the Fish Slough milk vetch. But that was just one. We had the pupfish, we had some hydrobiid snails that are equally rare, out there. We didn't know it at the time. It showed up later. And so we started what we got to do to keep these things extant until they're out of danger. They're still not out of danger, but at least they're better off than they were. So this would have been '65, '66, '67. We're doing all of this.

05-00:43:43

Lage:

Trying to get a refuge.

05-00:43:45

Pister:

Yeah, and we got started going toward building refuges there. We made some artificial ones. We took one of the springs on the east side and built in a barrier dam with gravel. The water flowed to the gravel and disappeared in the gravel. This would be to keep invasions of predatory fishes out of there, brown trout, mainly largemouth bass. They'll eat anything, and they just cannot coexist with these little fellows. See, the pupfish evolved without predators. So they don't have any natural mechanisms to avoid them. So bringing in something—it's like taking a kid from an Iowa farm throwing them into Harlem, be about the same idea. Getting mugged immediately. That's what these poor little pupfish would put up with. So then we started the project going for the Owens Valley Native Fish Sanctuary, which we dammed the type locality quite a ways down the stream, the spring outflow. It's a big spring there. And this was great because we had marvelous interagency cooperation here. The City of Los Angeles was just loaded with good civil engineers up there in the valley. Designed the whole thing for us and supervised the construction. The construction was done by an inmate labor group there just north of Bishop.

05-00:45:09

Lage:

How did you get the Department of Water and Power? How did you get them interested in this project?

05-00:45:15

Pister:

Well, by some gentle persuasion, I guess would be the best term to use. Reluctantly they had—the DWP operations in the Owens Valley are headed

up by a Northern District engineer. And these guys, they're basically there to provide water and power for the City of Los Angeles, but they look at a bigger picture because they realize the same people they provide water to, also this is their major recreation area. They comprise the great majority of the 12 million visitor-days that are spent up there now. So okay, so this one fellow particularly, Paul Lane—Paul is a Berkeley engineering graduate, so I built on this. He knew my brother and so on. Karl was writing books about then. And then he was replaced by another fellow, who was a UCLA engineering graduate, Duane Georgeson, who's still quite active with the Metropolitan Water District. And they viewed this as a matter of interest. "Hey, we can get some public relations out of this too. We got all the equipment, we got all the people, we got all the knowledge, yeah, we'll fix this up for you."

05-00:46:33

Lage:

And were they caught up in the excitement of it too?

05-00:46:36

Pister:

Yeah, they were. And I really commend them for that. I've got this paper. I gave it to Karl. He had it copied. Came out in *American Scholar* in the eighties sometime, called "The Education of an Engineer." Written by a guy named Samuel Florman, who's a civil engineer in New York. Almost identical background to Karl, although he went to engineering school at Dartmouth. But he was in the navy during the war, became a Seabee officer and so on. And they've become very good friends. They work on national engineering committees now together.

But he talked about his education. It gets back to my talk with Dean Davis. What his broader education had meant to him as an engineer—it's getting off of our subject, but it's worth telling. He—at Dartmouth, it's a five-year program, and you have to get almost a degree in humanities before they let you become a full-fledged engineer. He told what that had meant to him in his life. Appreciation of art, appreciation of music. From his commission as a Seabee officer, he was sent to an island in the South Pacific. The only other people on that island were a bunch of Seabees, mainly officers and construction people, and a chaplain. So the chaplain, he would try to break out of the usual discussion of athletics and jokes and women and stuff and say, "What do you think would be the position of atomic energy in the postwar world?" They would say, "Oh, shut up." Finally the chaplain got so frustrated, he just dropped to his knees, "Father, I know I've sinned and have not been a good person, but have I ever done anything so terrible as to be stuck on this South Pacific island, with nothing but a bunch of engineers?" [laughter] I talk to Karl about that a lot. Also Kris. You haven't met Kris, his son.

05-00:48:34

Lage:

No.

05-00:48:34

Pister: He's over at Cory Hall up on the seventh floor. So that all pulls together. But so these guys then—

05-00:48:41

Lage: These guys were well educated.

05-00:48:43

Pister: Being Berkeley, yeah. They had enough background here. And I would give much of the credit of this to the University of California, at mainly Berkeley but also UCLA, because they have some very good people down there too. I guess they would qualify as a junior partner in the whole thing. So yeah, they had this interest.

05-00:49:04

Lage: So they committed resources. You were committing resources. Did you have to get permission again? You must have.

05-00:49:09

Pister: Well, yeah. But again this was done under the table, a lot of this. I'd make out my monthly report, say, "Work on pupfish at Fish Slough," period. Not that we're building a big dam out there, nothing of the sort. And I was lucky, too, because my next boss coming along in the mid-sixties was really a remarkable guy. I don't think he'd ever—he might have gone to junior college for a year, but he had a deep interest in natural history. So I mentioned when we had found those [pupfish] in 1964, I got ahold of my boss, Bill Richardson, down in LA, and I said, "Bill, we've been finding these"—[And he said,] "Yeah, I was out there in 1956"—and he's one of these really encyclopedic minds—"and here's where we found them," and they were the exact spot where Hubbs and Miller and I had found them. So he had this personal interest. They're really neat little fish, tearing around, doing this. So that provided a lot of help for me at that time.

05-00:50:14

Lage: You didn't have to explain so much to him.

05-00:50:14

Pister: No, because Bill was just—he's just a great guy. So on from there. So we began to design the Owens Valley Native Fish Sanctuary, and started to build it. Well, about that time it started to get hot relative to the subdivision out there.

05-00:50:30

Lage: This private land.

05-00:50:32

Pister: Yeah, and what you have to do—and the thought was that we can take this private land and exchange it to the Bureau of Land Management for other land nearby. Maybe this will be our ace in the hole to do this. So I mentioned

Brock Evans. He fits into this. To get that land release, we needed to get an act of Congress to do it.

05-00:50:56

Lage: Now who is we at this point? Is there an organization?

05-00:51:00

Pister: Well yeah, I'm glad you keep mentioning that. Because we, it's almost in the editorial sense. I was the guy doing this. With some help from others. Mainly from other agencies, but very few in my department were doing this at all.

05-00:51:13

Lage: But did you have the community? Or did you have groups like the Sierra Club involved?

05-00:51:18

Pister: Yeah, the Sierra Club busted us loose on the Supreme Court case east of Death Valley at Devils Hole, but not in this present thing. Only, maybe I think they may have come in as a friend of the court.

05-00:51:34

Lage: How did you get Brock Evans involved on this particular one?

05-00:51:34

Pister: Well, because he was back in DC, and I'd known Brock for a number of years. "Brock, maybe you can help us back there lobbying or whatever."

05-00:51:45

Lage: How did you know Brock?

05-00:51:45

Pister: I think through a meeting or something. He and I hit it off right away, good guy. So here—but to do this we had to get an act of Congress. Well, you don't get an act of Congress without a bill being submitted to Congress. So the City of LA again had their attorneys draft this bill to allow a land exchange. And this went into the hopper back there, went quite a ways, and then a couple of self-serving Montana congressmen saw this. Also one of their senators. They said, "Jeez, if they can do this there in California, we can do it with some BLM land around"—I think it was—"Miles City, Montana, that some of our supporters would like to develop." So we had to fight that one down. Who in the heck—not Lieberman, it was before him. Ohio senator. But he was a very environmentally aware kind of a guy. So we kept this thing going, a lot of lobbying, the university's lobbyists, I think Pete Goldschmidt was back there then.

05-00:52:52

Lage: Now the university was interested in—

05-00:52:54

Pister: Yeah, in the land exchange.

05-00:52:57

Lage: Because you were having—

05-00:52:57

Pister: Because of the Natural Reserve System, yeah, and so on and so forth.

05-00:53:01

Lage: And would this entail giving the owners of the private property right at Fish Slough land somewhere else?

05-00:53:07

Pister: Yes. So that we were able to run an exchange with them with land off of Highway 6. When you get to Bishop, 395 goes this way, 6 goes north into Tonopah, Nevada, up in there. Just north of the Mono County line, there are, I think, something like—this was all done with careful appraisals and things. They got equal value land, actually much more desirable land. Nothing's ever been done to it, but I'm sure the family will see something done. Both of these guys are dead now. So, but Roger was working his head off on this whole thing.

05-00:53:48

Lage: So Roger was lobbying and Brock was lobbying. Did you go back and testify?

05-00:53:55

Pister: To some extent. I was back there earlier working on the Endangered Species Act with the Interior people. Not during the Fish Slough stuff. That was later. This was during the early eighties.

05-00:54:08

Lage: I'm just writing it down so we'll talk about it later.

05-00:54:09

Pister: Yeah, late seventies, early eighties. And so we finally got—the bill was finally signed. We thought we were going to lose it, we really did, and so did Brock. And I think it was within an hour or two before the legislative session adjourned, congressional group adjourned for the year, they passed it and Reagan signed it—that may have been the only good thing Reagan did.

05-00:54:38

Lage: Now would it have been that late? Under Reagan?

05-00:54:42

Pister: Yeah, when he was president.

05-00:54:44

Lage: So this was later. I thought it was an earlier thing.

05-00:54:47

Pister: Yeah, because he was the California governor, and they compounded things by making him governor of fifty states instead of just one.

05-00:54:51

Lage:

Now, we haven't heard about the buckets.

05-00:54:53

Pister:

Okay, all right. So okay, here we go. So we built the Owens Valley Native Fish Sanctuary with a temporary dam. Dam wasn't completed yet. And we didn't do much between then and when the fish were first discovered. But they finally all ended up in a pool beneath the dam of our new fish sanctuary—the fish weren't in the sanctuary yet. And I had a guy working with me, who was a PhD student at UCLA and working on those very fish. And he came into the office on a hot afternoon, think it was August 18 of 1969. And he said, "Phil, we've got to get out to Fish Slough right now. Our pond's drying up. We're going to lose that population." To him it was a population. To me it was a species. Because I could see that that was all there was left. He, Bob, knew it too. So we dropped everything literally at that time and went tearing out there to Fish Slough with a pickup truck, couple of five-gallon buckets, with battery-powered aerators and some little hardware cloth cages that we could keep the fish in. And we netted all these fish up, working late into the evening, into the dark, and finally had them all in these little metal cages.

Well, it was dinnertime. These guys were really hungry, and I was too. But I said, "You guys go back in. I've got my own truck. You guys go back in and have dinner, and I'll meet you in town." Well, I went back one more time. Shows you what an edge you can work on here, right on the ragged edge. Was it Nature Conservancy put out a book with that name? I think *Species on the Edge*, something like that. And I saw that the fish in the cages were starting to belly up, which in fishes means a bad scene. They're all going to die if that happens. Because the weaker ones will die, then the whole bunch of them go, just through lack of oxygen. We had them in a part of the spring channel, on a hot, hot August afternoon. Warm water does not hold oxygen like cold water does. It was just down to the basic tolerance.

So I thought, I've got to do something about this. I can't leave them in the cages. And across the slough, maybe several miles away, we had this one good spring there that I could take them to, and they would be okay. Because that was a cool spring, about seventy [degrees], and they would make out fine there. So I then picked up these two buckets. I got the battery-powered aerators going. I put all the fish in these two buckets. I think six or seven hundred of them at that time. And they're little fellows. They haul well in a bucket. And headed out then over maybe 200 yards of desert holding these buckets.

05-00:57:46

Lage:

Walking?

05-00:57:46

Pister:

Yeah. And hoping I wouldn't—and it's all cow country there. All kinds of downed barbed wire fences and things, and all I could do in the pitch dark was say, "Please don't let me stumble," because if I did, that would be the species, it'd be gone. Brings up again a good question. "Well, if I had lost, big deal, what good are they?" That's one of those terrible questions. If you ask the question, you won't understand the answer, as hard as you try.

05-00:58:14

Lage:

But you made it.

05-00:58:14

Pister:

I made it. I made it and got the fish over to where they were safe. And in the paper, you may remember this, I quoted Teilhard de Chardin, the French philosopher, where he talked about the infinitely large and infinitely small and the infinitely complex. And I used that as an example of these fish. Infinitely small, these little guys, the infinitely complex with the habitat things that they needed, and built on that. So that was that episode of August of 1969 with the "Species in a Bucket." That was a very interesting thing to go through.

05-00:59:00

Lage:

We're at the end of tape.

[End Audio File 5]

[End of Interview]

Interview #3: 01-23-2008

Begin Audio File 6 Pister_e_philip6_01-23-2008

06-00:00:00

Lage: Okay, Phil, here we are on Tape 6, and this is January 23, 2008. This is really officially our third session with the oral history. And we're going to start today by recapping a couple of things that you forgot yesterday, going back to Garberville. So do you want to tell me what—

06-00:00:26

Pister: Okay, yeah. There are some interesting things. When I moved from Bishop the first time—well, first time ever, it was the first and last time—I spent three months in Sacramento learning the bureaucracy of the Department of Fish and Game, which I had never learned because I was over on the east side of the Sierra.

06-00:00:44

Lage: Would you want to elaborate on the bureaucracy, what you learned?

06-00:00:49

Pister: Okay, sure. Here's the way it worked. I was working. The Department of Fish and Game is set up in a regional-staff situation where the staff people, these would be the directors and the chiefs of fisheries and whatever, were in the Sacramento office. Then we had at that time five inland regions, be Redding up north, Region 2 in Sacramento, 3 on the coast, headquartered at that time in San Francisco, 4 in Fresno, and 5 in Los Angeles. And we were a sub-office in Bishop of the LA regional office of the Department of Fish and Game. But we were a field office up in Bishop, 300 miles from down south. This in itself was a significant thing because it allowed me to do all kinds of things I couldn't have done with supervisors looking over my shoulder all the time. But okay, so I got a promotion. This was in January of 1955. Up to the associate fishery biologist level. This involved me spending three months in Sacramento learning the workings of the department, because this was all quite new. I came out of Berkeley, and I was with the US Fish and Wildlife Service. And then almost, boom, I was in the Department of Fish and Game, a state agency. So they felt I should come over there and learn to see how things worked, and the mechanics of departmental administration. Which was probably a good thing, because I met a lot of people there. Contacts I used later on in my work.

Then this would have been probably late spring, around April or May, moved from Sacramento on up to the little town of Garberville off of Highway 101 on the North Coast, which was right in the south fork of the Eel River drainage. Fortunately up above the drainage. I think I mentioned yesterday my daughter being born at the height of the floods we had there in Christmas of '55.

I've always had a deep interest in the interrelationship of academia and the real world of conservation. You have the research scientists there, and people out in the trenches, which I've always used that term, probably pretty accurate, in the field doing the actual work. But the strong interrelationship and codependency of these two groups. I retained a strong affiliation at that time and had contacts with UC Berkeley, because I had so many obvious contacts here that remained after I left, but the nearest university was up at Humboldt State up in Arcata just north of Eureka. And that was about seventy-five miles north of Garberville where I was and where our whole project was headquartered. Just to recap there, we had two parts of this. We had the Cedar Creek Experimental Hatchery that I worked in to determine the impact of hatchery-reared salmon, coho salmon for those listening who might understand, *Oncorhynchus kisutch*, which is the coho salmon. And then we had the northern part working on the impact of—first of all to see what impact these things [hatchery-reared salmon] would have on wild runs of salmon, and secondly doing the research on the California Water Project, how big a hatchery we would need on the Trinity River at Lewiston to reconstruct the salmon runs that would have been impeded by the Lewiston Dam. So those were the two parts of it.

So okay, back to Humboldt State. They had some very good fish people there at Humboldt State that I learned to work with really quickly, and they were excellent people. One fellow named Ernie Salo who got his doctorate at the University of Washington, which has one of the really topflight fish schools, you can well imagine up there. And there was George Allen. And George made a name for himself on wetland restoration, things of this kind. And they're all at Humboldt. And other people as well. I've maintained a strong relationship with Humboldt State through the years. Well, yes.

06-00:05:01

Lage:

If I remember correctly, yesterday you, I thought, indicated the Humboldt program didn't have a very broad—

06-00:05:12

Pister:

Well, they were then in you might say the state of broadening their perspective. They were bringing in some very good new professors.

06-00:05:22

Lage:

So these new people had a broader perspective.

06-00:05:24

Pister:

Yes, and their influence broadened the curriculum generally, and I think equally important broadened the philosophical viewpoint of that department of fish and wildlife there at Humboldt State. And the same basic thing at Oregon State, and they were both very good schools for the anthropocentric perspective on fish and wildlife. In other words, what's the best way they could get steelhead fishermen with a great big steelhead to crow about, and how they could perhaps do the same thing with salmon. But also going into

the ocean salmon catching, more the economic thing. So that was all part of this transitional period.

So back to Humboldt State then. I would go up to meetings there, and I'd just go up at any excuse I could find, just go up and talk to these people. And they were interested in what I was doing too, for obvious reasons. They had a definite academic interest in the research that we were doing, because my project was a research project funded by the federal government under I think I mentioned yesterday the Dingell-Johnson Fish and Wildlife Restoration Act, is what it was. And so while I was up there we got to talking about things of mutual interest, one of which was the Society of Sigma Xi. Sigma Xi is a spin-off of a group called the Research Society of America. I'm not sure where it was headquartered then. Now it's in Research Triangle back in Raleigh, North Carolina. And it's well-placed there. So we decided—and when I was at Berkeley, I became a member of Sigma Xi on the basis of my research. It's usually research people at all of the major research universities, Berkeley being a classic example of that, would have Sigma Xi chapters. And we thought it'd be a neat thing to start one up at Humboldt State.

Well, what I'm getting at here is not that big a thing. But I mentioned the people that I worked with there. They had some real interesting contacts. So when we held our initial meeting, formative meeting, there, it was in February of 1956, the roads were open then, and the airport was open. They could fly in. And the fellow who came up to dedicate our little chapter up there was the Nobel Prize Laureate Linus Pauling. And so that's the reason I want to mention this, because it was such almost an anomalous thing. But he was interested in coming up there and doing this, and we found him to be just a marvelous guy. He was there for a couple of days, he and his wife. And so he dedicated the chapter, told some interesting stories. Then he was doing his basic research that got him the Nobel Prize eventually on the alpha-helix structure of protein. And this was the cutting-edge stuff at that time. And here we were, this little bunch of people up there in the rainforest in Northern California. So that was something I wanted to get into the record here. Because it was such an interesting to do that. And I retain my membership in Sigma Xi. I've done that, well, for the last fifty years.

06-00:08:24

Lage: Yeah, that's very interesting. So Sigma Xi is much broader than fisheries or even biology.

06-00:08:33

Pister: Oh yes, yes, it's all of biology, all of research, any—

06-00:08:38

Lage: All of scientific—

06-00:08:38

Pister:

Yes, all of scientific research is encompassed by Sigma Xi. Goes along in a way with another group I affiliate with, with Phi Beta Kappa. They put out a journal, *American Scholar*. You're probably acquainted with that. Most of the articles are sophisticated things I scan over. But they do have some very good things.

06-00:08:59

Lage:

And were you Phi Beta Kappa?

06-00:09:00

Pister:

No, no. They somehow overlooked me. Probably the minute they looked at my transcript they saw that, hey, this guy will never make it. [laughter]

06-00:09:13

Lage:

I don't know if we really grappled with this yesterday about Garberville, about the studies you were doing. Did anyone talk about, as they do now, the balancing the needs of agriculture and population centers for water with the needs of the fish?

06-00:09:37

Pister:

This was just being thought of at that time. No. Not like we would do now. A good example of this is what we're seeing up in the Columbia system all through the North Coast on salmon restoration, because all of these things are coming in now. The dams were built really thoughtlessly in terms of the huge environmental impacts they had. But they also allowed major agricultural development, say off the Columbia system there. They allowed the development of fisheries. Somehow hatcheries, whatever, somehow they kept the fisheries going despite this. I just wrote a chapter in a book called *Salmon 2100*. And it was edited by a guy up at EPA, Environmental Protection Agency, up at Oregon State, guy named Bob Lackey, very good at this. And I wrote, along with a colleague up at Southern Oregon University, a chapter on the ethical perspective, man's footprint, whatever. And there, of course, well the minute the word came out that maybe it'd be a good thing to get rid of some of those dams, then all of these other forces started to make their weight heard politically. One of the big ones being the aluminum industry, because to make aluminum, aluminum smelters run on huge amounts of electricity. And it's a lot cheaper up there because it's generated right there.

06-00:11:02

Lage:

So there's all these competing interests. But it seems to me, from the way you were describing your project, they thought they could ameliorate everything by growing fish in the hatcheries.

06-00:11:10

Pister:

Yes. We found later—even then we had questions about this—we found—see, I left the project then just two years into it. I wanted to go back to the mountains. My heart was not in the North Coast. I didn't have enough duck or salmon genes, I guess, in me. I wanted to get back to the desert. But the

people who came in after me were running their studies there. We did come up with some very good answers while I was there on, particularly, the size of the salmon runs in the Trinity. What we would do, the way you do something like that, salmon come into the lower river and you seine them up and put tags on them, what we call Peterson disk tags. They're little disks about the size of a dime that go through the bone structures underneath the dorsal fin. And so then you let them go up and spawn, do whatever they're going to do. Then you go into where the spawning area is, where they actually spawn and die. Of course salmon do that. And then you see how many you recover. And there are mathematical ways that you can take the initial group, equate it with those that are found up there, and come up with the overall size of the population on a basic ratio. So that's what we did there, and that worked out well.

The other end of it, the hatchery end of it, they had to rebuild the hatchery twice. We had to rebuild it after the great flood of '55. And again after the floods of '64. But I think about then—this is really funny—when I first went up there to look at the hatchery site with my boss at that time, one of the really greats in salmon research, a fellow named Leo Shapovalov out of Sacramento—so where they were building, the bulldozers were going there. This would have been early in '55. Digging out the fishpond so we could raise these fish. And even then in my naiveté of coming in out of the desert up to the north, I looked up, and here's these big trash accumulations up on the trees. Way above the ponds. And I said to Leo, I said, "Leo, how about this?" Very obvious thing. "If a flood's going to come along and wipe out the hatchery, why build it here?" He said, "Well, those happen very rarely."

06-00:13:25

Lage:

One hundred-year flood.

06-00:13:25

Pister:

Exactly. And within six months that exact same thing happened. The floods came up, and fortunately we had a fair number of fish marked. We were marking fish when the floods hit. And the Eel River came right up over the fishponds, and out they went right downstream into the ocean.

06-00:13:43

Lage:

Now were the same kind of fish in the hatchery as the natural population of salmon? The same kind of salmon?

06-00:13:47

Pister:

Yes, yes, yeah, they were the same ones, and we didn't have chinook salmon, the big ones, but we did have the silver salmon and the steelhead.

06-00:13:57

Lage:

But you mentioned coho.

06-00:13:58

Pister: Silver salmon and coho are the same. Yeah, just depends on who uses the term and where. You find most of the people in science will be using coho salmon. Fishermen will be talking about silver salmon.

06-00:14:12

Lage: Because you see coho in the meat market.

06-00:14:14

Pister: You do, yeah, but those are silver salmon. Probably pen-raised now.

06-00:14:19

Lage: I'm sure.

06-00:14:19

Pister: I think that was the flood of '55, yeah. One of the other things I did up there, and this is something I do want to mention: there's always been a conflict between the logging industry and stream quality up there. Up until that point the logging people pretty much did what they wanted to do. We began to gather data showing that logging operations were not healthy for streams, particularly when they would log right down to the streamside and a big storm comes along, which happens every few days up there. Much of those debris from the logging go right into the stream, and the worst part of that, it would silt up the spawning gravels, which are basically essential to maintaining an anadromous fish. Anadromous being fish that spend their lives in the ocean and they come back into freshwater to spawn.

So we began to look at this, and the wardens up at that time had been doing their best to keep this from happening. And so they wanted some scientific data to help them in their court cases, because you go up there and say, "The logging industry is wrecking the streams." Well, a judge in a place like Garberville, where the whole economy essentially revolved around logging, he wasn't too happy about hauling these people into court and fining them, shutting down their operations. But if we could show scientifically this was not a good thing, then he would have some basis for making judgments that might mitigate the impacts of these people. So I worked closely with the wardens. There were about seven or eight of them up there, headquartered both in Santa Rosa—the captain up there, an old captain named Lee Shea, had been around forever. And the same—another guy up in Eureka named Walt Gray. And here I was in my twenties right out of school.

06-00:16:32

Lage: Yeah, you were a young kid.

06-00:16:34

Pister: Yeah, literally still wet behind the ears, and they knew this. So they asked me if I'd come and talk to their—they'd have what they called squad meetings, patrol meetings. The squad would be the captain and then the wardens working under his direction.

06-00:16:49

Lage:

So these were the law enforcement side of Fish and Game.

06-00:16:52

Pister:

Very much, yes, yes, they're peace officers. They're trained as law enforcement officers. And you'll find that now even when there's some big case going on, they'll bring in a Fish and Game warden. Because they're good at what they do. They really are. They're well trained, and they're good people. And so I'd go down—the meeting that sticks in my mind was one in Santa Rosa. Went down to Lee Shea and his group. And so this said it all. Lee introduced me. Said, "Okay sonny boy, tell us what you want to tell us." And these grizzled old guys glaring at me. "What business have you got, telling us what we're doing." I said, "Hey, I won't tell you what you're doing. I just want to be here to help you to maybe gather—help you gather data to make your cases and things." Part of our project then going up north—this was down in the—well the Garcia, Gualala area, southern North Coast. The other part was from Eureka basically on northward from there. Smith River, Mad River and Eel.

06-00:17:54

Lage:

All become iconic rivers.

06-00:17:58

Pister:

Oh yeah, yeah indeed. The Smith being about the only still free-flowing river up there. But at any rate, so we wanted to find out some of the data to go along with our fish counts at the ladders. We had ladders both at Cedar Creek and at the Benbow Dam, which is just south of Garberville. Big resort there, and there's a dam there basically for recreation use during the summertime, because people go up there to Benbow. They love to water-ski, swim, whatever. But also there's a fish barrier. So we ran a counting station there. But we wanted to get additional data by tagging in the lower river. And to show some of the antagonism that some of the old law enforcement people had, we were working with Fish and Wildlife Service, a federal agency, out of their Portland office. Fellow named George Black and I were working here. We put up big nets across the river so we could take some of the fish coming upstream and tag them again, like we were doing on the Trinity farther to the north. And we were out there—and this is a great story. We were having breakfast with one of the wardens there, guy named Herb Christie, who was interested in what we were doing. And from there we went down to our nets. And Herb says, "You guys are going to think I'm the world's biggest jerk, but I've been ordered to arrest you for putting these nets in the river without authorization from Captain Gray." Well, we didn't need authorization from anybody. This was covered by our duties as outlined in the California Fish and Game Code, which is—

06-00:19:41

Lage:

And you're both in the same agency.

06-00:19:42

Pister: Oh yeah. And we had just had breakfast with the warden who arrested us. Well, that was really interesting.

06-00:19:50

Lage: And did he actually arrest you?

06-00:19:53

Pister: Well, at least figuratively. We weren't put in handcuffs and hauled to jail. But we had to sign things, like arrest citations and things. But my friend George Black from Portland was just obsessed with this whole thing. Immediately went back to the nearest phone he could get—way before cell phones of course, and the radios wouldn't reach that far—and called his boss up in Portland, the regional director of the US Fish and Wildlife Service, said, "You're not going to believe this, but here's what happened." John Findlay was the regional director up there, good old Scot. And so right away he then called our director in Sacramento of Fish and Game, guy named Walt Shannon, who himself was a game warden, went up through the ranks as a warden. But he could see the political ramifications. The way the whole thing ended up, Walt I think got a rather severe reprimand for doing this, and we were unarrested and went on with our tagging project. But since then things have gotten much better. Back then there were some real strong conflicts between the law enforcement people and the biologists. We were viewed as something they just didn't think was necessary at all.

06-00:21:06

Lage: That's interesting, because you say that wardens were interested in protecting, working against the logging.

06-00:21:15

Pister: Oh yeah, yeah, really. And so I think until they finally found out—when I lived in Garberville, I rented a house from the local warden there, Bob Perkins, a most interesting guy, and a great guy, Bob and Marge. Marge was in the post office there, and Bob was right out of England. Here's this game warden with this really strong cockney accent, talking about the bloody loggers and all this stuff. It was just really—

06-00:21:40

Lage: But they didn't see you as part of the same mission.

06-00:21:40

Pister: Bob did. But I think as a general rule, no.

06-00:21:44

Lage: They thought you were a college upstart, maybe.

06-00:21:46

Pister: Yeah, but until—I made a special point never to let something like that go on. So I'd make a special point to ask if I could go out with them on some of their patrols. Because driving all through the woods—and I could learn a lot too by

talking to them. And so I was able to bridge these gaps just by what I would call common sense of viewing these people as allies that had to find out for themselves that they were indeed allies. Those were interesting times up there.

06-00:22:17

Lage: Very much so. All the stuff that came later with the National Park and the Redwood Summer and all that, much later.

06-00:22:25

Pister: Yeah, so this gets us, as I look at my list of things here, which I took off—

06-00:22:29

Lage: Let me ask one other question. Were you aware at all at your level of interactions between, like, the Department of Forestry and the Department of Fish and Game, over these issues that combined forestry and fish?

06-00:22:42

Pister: Yes, yes, at that time—it's even to some extent even now—the California Department of Forestry and Conservation I think it is now, but I think it was Department of—maybe even Division of Forestry back then. They were very much in the pocket of the logging industry. You see this even now with parts of the US Forest Service, the same thing. They were trained at universities, a good example being Humboldt State. Humboldt State Loggers, that's the name of their teams. And so they would view us something as a threat to the board feet that they felt was the major use of the forests up there.

06-00:23:23

Lage: So that was something you observed yourself.

06-00:23:25

Pister: Oh yeah, and that was in the early days of talking about the Redwood National Park, which was right next to where we are, Richardson Grove and all through there, south of Garberville. And so we didn't do a lot with them. But there was another guy who worked for CDF or Division of Forestry up there in Garberville, who perhaps became, just as families, our best friends. And they were really good people. He was trained—training and education are similar but very different things. He somehow in his background had enough background in things other than just raising trees to cut down and to saw up. And so he could see what I was doing. We spent a lot of time together up there. His name escapes me right now. But he was a good guy. We had kids about the same age and so on. So but later on, I think that probably when the Park Service came in there to try to set up Redwood National Park, they had some strong opposition. Because the logging industry and I think probably even the Division of Forestry people saw this as a threat to what they felt was the primary use of the northwestern forest.

06-00:24:44

Lage: They weren't as into protecting the biota, as you describe was evolving in fish.

06-00:24:49

Pister:

That's right. And see, later on of course came the spotted owl. And this cemented all of this together, when the Endangered Species Act, which was brought about later, about twenty years after that, '73. We had to start—we, speaking of the biological scientists, had to start thinking about much broader pictures than—we could be concerned about salmon particularly because some of the strains of them were being listed as endangered, because they weren't returning, with good reason, because there was no place to return to if they could even get over the dam. So these were—I mentioned the signs there at Bonneville Dam yesterday, literally saying, okay salmon, read this sign before you head upstream, because here's what you're supposed to do. You can't do this with a fish, for heaven's sakes. Hard enough with people to get them—so those were all interesting parts of that experience on the North Coast. I'm awfully glad I had it, because it gave me some real insight.

And this is why I was called to write my chapter in the *Salmon 2100* book. This book is great. It was just published about a year ago. And it brought in the best science that's available. What it was done for was to make available all of the best thinking of North Coast and anadromous fish scientists on what has to be done if we're going to have salmon in the year 2100, wild salmon. And right away it was grabbed by some people as a real threat to the salmon people and everybody else. But no, it was just the opposite from that. These are scientists from California, Oregon, Washington, Idaho—part of the Columbia system goes up into Idaho, the Snake River, and into BC and Alaska, Canadians were hooked up with this as were the Alaskans. So this is an excellent book.

06-00:26:42

Lage:

Why was it seen as a threat?

06-00:26:46

Pister:

Well, because so many of the people that first saw this book thought that their interests were—well, like the aluminum people we talked about earlier. The fish people, no, they could—you don't have to be a rocket scientist, so to speak, to understand that we're trying to help the salmon, that's what it was all about. But what we wanted to do was put under one cover something easily understood by politicians, particularly about what has to be done if you're going to have wild salmon in the year 2100. Alaska now has no problems. They have lots of wild salmon. Parts of BC, same thing. Then you get down into the States. It's a very different thing because there we have the major water development projects. Once in a while you hear about somebody wanting to dam the Yukon. Well, I just hope that never happens, because they have these huge salmon runs up there.

06-00:27:37

Lage:

Now you started to say you were glad you were in Garberville because—

06-00:27:42

Pister:

Well, I learned so much about—because see, at that point when I came out of Berkeley with my graduate degree, then it was all essentially built around the Sierra Nevada and the aquatic systems up there. So this gave me a chance to see the whole different world of the politics of preservation, is what I would call it there, which entered into later on. We had some really strong political aspects down with the desert fishes as well. But this was a whole different thing here. So to me that was a great learning experience, to work with the patrol—we call patrol wildlife protection, which are the wardens. With those folks and other federal agencies. I work down here with the Park Service, but up north was with the Fish and Wildlife Service, which both agencies under the Department of the Interior, but with very different things. We'll talk about that as we get down into the desert, because there's some very interesting interagency conflicts at that point.

06-00:28:44

Lage:

Very good. So let's go back to the desert and the mountain—first, I don't think you really described for us what was the expanse of your territory.

06-00:28:57

Pister:

Yeah, this is a good time to do this. My job in Bishop—I may have mentioned this earlier—Bishop is a logical location for all of this. My areas of my responsibility were all of Mono County, which is just north of Bishop a few miles, clear on up to the Nevada state line at Topaz Lake. I didn't go to Lake Tahoe, because that was handled by our people out of Sacramento.

06-00:29:20

Lage:

But all the way up to the Nevada state line on the east side.

06-00:29:26

Pister:

Yeah. And then south clear down to the Kern County line and east to Nevada. Probably well summed up by this. The lakes and streams and marshes and aquatic systems that were my responsibility went essentially from the top of Mount Whitney at 14,496 feet or whatever that is down to Badwater at the floor of Death Valley below sea level. And everything in between, biologically and politically, and everything else. So that was an amazing thing really, to go from these Pleistocene carved lakes—the fish in which were all artificially put there during the last century—clear to the native fishes there in the floor of Death Valley and even—and did I mention the hydrographic system of Death Valley, where starting in Mono Lake back in the Pliocene, which is defined maybe 2 million years ago and earlier than that, to the Pleistocene, which ended the Ice Age about 10,000 years ago, and the warming trends that we have now exacerbated greatly by current global warming things. The lakes that were initially huge things, like Lake Bonneville is a good example of this, it went way into Utah, Nevada—of course it started in Utah at Salt Lake, but then into Nevada, even other parts of that part of the area. It's probably the most dramatic lake. But we had other ones, like Lake Lahontan, which is now Pyramid Lake out of Reno.

06-00:31:06

Lage: So you're talking about lakes that don't exist anymore, Lake Bonneville—

06-00:31:08

Pister: Well, they do in a way. There's still, Salt Lake is still there. You still have Pyramid Lake out of Reno. We still have Mono Lake, which is part of that. And Owens Lake south of Bishop is dry pretty much, although in a heavy year it'll have water in it. Death Valley is pretty much all dry, as is Panamint Valley.

06-00:31:31

Lage: Was Death Valley once a lake?

06-00:31:33

Pister: Yes, Death Valley once harbored a lake over 100 miles long. It was over 600 feet deep. And as you drive in and out of there, if you know what you're looking for, you can still see the old beachlines, which was then called Lake Manly. I learned all that from the two people who did so much work on the hydrography as it relates to the fish populations, Carl Hubbs at Scripps and Bob Miller at Michigan. And in our field, mention Hubbs and Miller, and they literally wrote the books, and they did all of the early research.

06-00:32:07

Lage: On?

06-00:32:07

Pister: On fishes. Fishes, not just pupfish, but all of the native fishes.

06-00:32:14

Lage: Of that area?

06-00:32:18

Pister: Yes. And Hubbs and Miller also wrote a thing on the northern part of Nevada, relict fishes, relict being those that remain after major geologic changes, of the northern part of Nevada as well.

06-00:32:29

Lage: Was Fish Slough a remnant of Owens Lake?

06-00:32:32

Pister: No. Fish Slough is located well north of Owens Lake. There were streams coming down through there from Mono Lake that ultimately reached Owens Lake. Not for a long time. Most of the water out of Mono Lake, which is the northern drainage there, came down just east of Fish Slough in a place we call the north fork of the Owens River, which has been dry now for a long, long time. What's a long long time? Thousands of years.

06-00:32:56

Lage: Way before LA got into—

06-00:32:57

Pister:

Oh yeah, yeah, yeah. In fact, probably some of the Native Americans may have seen this, the early invaders into that area. But certainly no white people, no. This would have been—the first invasions of Anglos in that area, white people, would have been the early 1800s when Joe Walker came through there and went over Walker Pass, came down the Owens Valley with Lieutenant Owen—that's why it's Owens Valley—and went over Walker Pass into the upper Kern, now defined by Kernville and that part of the world, then down into the Central Valley. But that was literally yesterday in geologic terms.

I now have a good geologist friend there at White Mountain Research Station, and a good UC person—Angela got her PhD at Santa Cruz working with the USGS around Bishop—and we sit around and we drink beer on Friday afternoons off at one of the local watering holes there, and we talk about—she comes in from the outside. Most of us are fish people like I am. She says, "When you people talk about endangered fishes, I can surely understand. But for someone who talks about lakes that were there millions of years ago, this is a whole new way of looking at geology. So terribly recent." And her research is on the high stands, which would be the highest these lakes got during the Pleistocene. Just fascinating work. Working with a geologist at the University of Colorado at Denver. Well, actually for USGS now in Boulder, but she got her PhD there. Working under a fellow named Giff Miller, Bob Miller's son out of Michigan. So Giff got his doctorate there at Colorado working on the Pleistocene geology particularly, maintaining this huge interest in fishes, which was almost genetic with him through his dad. Well, then Marith Reheis, who's one of his current graduate students working there with USGS now, she carried with her then through her major prof, Giff Miller, her interest in fishes. So when she puts out a paper, she has major parts of that relating to the early fish populations.

06-00:35:17

Lage:

Way back.

06-00:35:20

Pister:

Way back, oh yeah, yeah.

06-00:35:20

Lage:

Would she trace this through fossils?

06-00:35:22

Pister:

Yeah, mainly. There's some great fossil records in the Mono Basin, what was there at that time. It needs a lot more research by paleoichthyologists. The best researcher on that is a guy down at Cal State Bakersfield, Ken Gobalet, who's a Davis PhD. And Ken does a lot of that type of thing. So there's an interesting fraternity you might say of the people interested in this field. To me it's very exciting.

06-00:35:53

Lage: And it's place-oriented in many ways, this particular place. You get many different disciplines looking at this place.

06-00:36:04

Pister: Oh yes, it's a highly multidisciplinary thing. So when we set up our Desert Fishes Council in 1969, brought in people from everything: Chemists, hydrologists, fish people of all sorts, limnologists, everybody under the sun who would have an interest in those ecosystems from their particular disciplinary philosophies and interests. And it remains that way. People that come to our meetings now, you find them—one of our major components now is from US Geological Survey in Denver, and he comes out and he dives in Devils Hole, which we'll talk more about, but his interest is in the deposition of calcium deposits, as a geologist, in these systems like we have there. And so it's just fascinating. He does some excellent writing too.

06-00:37:01

Lage: This keeps you young, doesn't it?

06-00:37:02

Pister: Well, it does, it does. Carl Hubbs and I have often talked about that. Of course Hubbs has been dead now for about thirty years, close to it. But we've talked about that. And another fellow who was a professor, head of the department of zoology at UCLA, George Bartholomew, we've all communicated on this. The way to retain your youth is to never stop working with graduate students. And I believe strongly in that. Because they come in with the enthusiasm of youth, and they can take advantage of the historical perspective that we can provide. So one of the things I really enjoy doing in my career all the way through and even until today is work on graduate committees for students doing graduate research, even down into Mexico working with counterparts down there with graduate students.

06-00:38:09

Lage: Okay, now let's—you described your territory, and we're halfway through the story of the Owens pupfish from yesterday where we followed it—

06-00:38:21

Pister: We haven't gone into Devils Hole yet, have we?

06-00:38:23

Lage: No. We followed the pupfish up to '69 when you were carrying the buckets.

06-00:38:30

Pister: Yeah okay, but before that—I don't know if I talked about my colleague at the Death Valley National Park, Dwight Warren.

06-00:38:40

Lage: We didn't get into the Death Valley story.

06-00:38:40

Pister: This fits in chronologically with the Owens pupfish as well.

06-00:38:42

Lage: Could I ask you though, is this a time to go back? Remember I said I had a feeling you'd left out a bit of personal revelation?

06-00:38:54

Pister: Well, only to the extent that this thing that happened in 1964, I was acquainted with pupfish by graduate students again. Both at UCLA. Who were working there as PhD students on fish problems.

06-00:39:09

Lage: This is Bob Liu?

06-00:39:11

Pister: Bob Liu is one, another named Bob Brown. And they both had a lot of interest from different perspectives. One from the behavioral aspect, and the other one from the—pupfish are great sources of energy. So my friend Bob Brown worked on behavioral energetics of the genus *Cyprinodon*, which is the genus of pupfish, in a broad perspective, but a great place to start working for me. And I funded these guys, was there at Fish Slough just north of Bishop. So inoculated by my friend Dwight Warren at Death Valley National Park in 1967, where I got this phone call saying, "Phil, there's some things going on down here just east of the park"—back then the monument, it's now Death Valley National Park—"that you should know about. Because," he said, "these are water problems, hydrographic problems that sooner or later are going to affect California." Well, you don't have to be any genius to figure this out. So the next day I went down there and met Dwight there at the park, or the monument. They had park headquarters at Furnace Creek. And got in his truck. We drove out there to Highway 127, which is the main drag between Baker and the California state line, which wasn't far from there. See, Death Valley National Park is right on the eastern edge of California. And Devils Hole, one thing we'll be talking about later, is within Nevada. But it's a disjunct part of Death Valley National Park.

So we went there. And you can imagine this. Here were these huge billboards showing water-skiers there in probably the most arid part of the deserts anywhere, including over in the Mideast. Where in the heck are they going to get this water? Well, their plans were, the developers, was to pump water from around Devils Hole. We get into that in greater detail when we talk about the court cases. And fill up artificial reservoirs they were going to build, and this would be along with their housing developments. This would attract people there. They were also going to have golf courses. Attract people, retirees, whatever.

06-00:41:36

Lage: And so Devils Hole was part of the monument, but they were going to pump the groundwater that fed into—

06-00:41:41

Pister:

Yeah, exactly, exactly, that underlay Devils Hole. Which Devils Hole being an interesting place, not having a surface outlet, but you could look right down in the aquifer, it's just limestone caverns, you can do this now and then. You can look right down into this, maybe a ten-by-fifty-foot opening that you can look right down into the aquifer.

In these oral histories, are you ever able to incorporate photographs into something like this?

06-00:42:15

Lage:

Yes, we can, or we can link to a good website:

http://www.fws.gov/nevada/protected_species/fish/species/dhp/dhp.html.

06-00:42:30

Pister:

Sure. So, okay, we saw this and said, "This is not a good thing. This is only the start of it." So we went up then to Devils Hole, this forty-acre parcel there. And on the corners of each of those survey points encompassing that forty acres of the Park Service land were huge pumps. The big things like you find in California's Central Valley over here. Twelve- and sixteen-inch casings that go [imitation of suction] and it sucks all the water out of these things. And they were doing this with a couple of the pumps. And what was happening then, the water within Devils Hole that would keep these little fish alive, we'll go talk about the history of this, was going down perceptibly.

06-00:43:26

Lage:

This is '67.

06-00:43:27

Pister:

Sixty-seven, yeah.

06-00:43:29

Lage:

It's absolutely amazing.

06-00:43:29

Pister:

Oh, it is. So we can come up then into the Owens Valley, and Bob Liu and Bob Brown again, working on the Owens pupfish, which is the same genus but different species. Both full species. And—

06-00:43:44

Lage:

When you say full species, you mean distinct?

06-00:43:46

Pister:

Well yeah, what you have is a genus, a larger group of fishes. Then a species, which—yeah they're all pupfish. Then the species, which is to a specific area, and then if you have other locations within that area, like you have just outside of Devils Hole, you have subspecies that are beginning to change, and it's literally a textbook example of Darwinism right there to see this geographic isolation mechanism working on these subspecific groups. There in the upper Owens Valley north of where I am, which is probably airline

miles 125 miles north of Devils Hole, we did not have these other locations. These were all Owens pupfish, and furthermore, the big floods that would come down the Owens River would continually mix these fish and preclude any subspecific differentiation that you would get say in a more complex system like Ash Meadows, which is where these things are.

06-00:44:47

Lage:

Ash Meadows is where the Devils—

06-00:44:47

Pister:

Yes, Ash Meadows is a broader area there in which Devils Hole exists. [<http://www.fws.gov/desertcomplex/ashmeadows/>] And when the Pleistocene lakes dried up over a period of thousands of years, the fishes that were at one time homogeneous then were placed in the final water—permanent water holes there, like Devils Hole and other locations, and then began their evolutionary journeys into the subspecies we have there today. But then up north again, one thing we can have in our maps later is perhaps a good map that I have, a very graphic map, be great for something like this. Showing the Death Valley hydrographic system and the different watercourses like the Mojave River coming out of the San Bernardino Mountains from the south, the Amargosa River coming in from the east of Death Valley and hooking around and coming into Death Valley. The Amargosa River starting up around the Beatty area just out of Death Valley again. And the Owens of course being a big one. And how all of these interrelate. They all hook up fishwise in one way or another.

So we go back up then into the Bishop area, and that brings us into the “Species in a Bucket” thing which we talked about briefly yesterday, when Miller and Hubbs and I found these fish in the Owens Valley about ten miles north of the town of Bishop where I live. (It’s the only incorporated city I think other than maybe Mammoth Lakes in the entirety of those two counties.) So we recognized that these fish were in trouble because we could only find them in that day in July of 1964 in one place. But we worked hard. We tried to spread them out then. There’s a place just north of where they were found, which we call in our publications the rediscovery area. Bob Miller and I in the early seventies wrote a paper on the management of the Owens pupfish, and we published this in the journal of the American Fisheries Society, called *Transactions of the American Fisheries Society*, which was very strongly, in fact totally, oriented there to the economic value of fishes.

06-00:47:16

Lage:

The journal.

06-00:47:19

Pister:

Yeah, yeah. And so when we published our paper on the Owens pupfish, the management of this, it was the first time a paper had ever been published in this journal, which was nearly one hundred years old, starting in I think 1872, on a fish that had no commercial—obvious commercial—value.

06-00:47:42

Lage:

Did the editors comment on that when they accepted the paper?

06-00:47:42

Pister:

Well yes, they did. Because these were fish people basically. And even though—the reason they published nothing but game-oriented species is because that’s what was given to them in manuscripts. No one had really done this yet. And about that same time, the American Fisheries Society came out with another journal called *Fisheries* to broaden—the *Transactions* mainly very narrow scientific papers. This was before the invasion of DNA studies. It wasn’t really going yet. It was, but not to the point where it is now. So I wrote this paper in the journal called *Fisheries*, in Volume 1, first issue, I called it “A Rationale for the Management of Nongame Fish and Wildlife.” Talking about what costs are involved here and the benefits of doing this. It ended up being a rather philosophical thing, had to be. But the editor, fellow named Bob Kendall back in Bethesda, Maryland, which is the headquarters of AFS, was just tickled to death to get this, because he said we really need to be bringing in papers like that.

06-00:48:55

Lage:

So they were ready. Times were ready to change it seems.

06-00:48:59

Pister:

They were indeed. And we were, I was, we were, the few of us, at the cutting edge of this. We saw these things. And I would say the reason that we, and I particularly, saw them was because of what I’d learned at Berkeley. The infusion of information and mainly from Aldo Leopold’s writings that I—

06-00:49:18

Lage:

Tell me about rereading Leopold. You’ve referred to that.

06-00:49:21

Pister:

Okay, we’ll do this. We’ll do this, okay. So this was—

06-00:49:25

Lage:

That was before you rediscovered the—

06-00:49:26

Pister:

Well, about that time. Let me see what I say here [in diary entries] for 1964, because that was when the whole thing came together here. Sixty-four, yeah, Friday, July 10, drop everything, right. So then that same summer would have been almost the same time. I was in the right mood for this. And I was worn out. My wife told me, wives knowing their husbands better than the husbands themselves do, she said, "Phil, you ought to get away for a while, why don’t you take some things to read and go up to our cabin at Twin Lakes." And we have a summer home up at Twin Lakes, Caples Lake on Highway 88, south of Lake Tahoe, that my dad and my brother and I had built right after World War II. Much of the framework for that being built of surplus from the lumber that was cut for beds of military trucks, the big four-by-fours. But it worked out great for floor joists and whatever.

So I did. I went up there. Found out that nobody else was going to be there. It was a family operation. And all by myself for a couple of weeks just read things I wanted to read, one of which, the most significant one, being *A Sand County Almanac*, which is Aldo Leopold's seminal work. And it fit right in with this whole concept of my reawakening, because I read parts of that, of *Sand County*, and you've heard people doing this. Parts of paragraphs of that would almost light up when I would read them, because I could see—I asked myself, Phil, what have you been missing here? I had read this several times earlier, but I could not really equate them into a field operation like I had now both in the North Coast and with the desert fishes and the desert ecosystem going well beyond fishes.

At one of our first meetings of the Desert Fishes Council, a guy named Jim Collins, who is a professor at Arizona State, a herpetologist working on at that time salamanders, he came into one of our early meetings and gave a paper on salamanders. And I thought this was great. Fit in the same line of thought here. And I had a couple of people come, "Why you got a salamander [paper]? These are desert fishes we're concerned about." And I told them, I said, "If you have to ask that question, you better go back and study ecology for at least another year to see the relationship of all of these organisms to their habitat." He had never learned this, fish—water comes down, fish and salamanders, what are they, little things that fish might eat perhaps, but that's it. So even in the academic field—

06-00:52:13

Lage: This idea of habitat was a new idea.

06-00:52:18

Pister: Yeah, sure, it was relatively new. Leopold of course was deep into that. But in the professions, not so much. In fact practically not at all. Or this fellow would never have asked that question, it's so obvious. These habitats supported all forms of life, beginning with bacterial organisms up through the protozoans, up to the invertebrates, up to the vertebrates and on up to the top, which ultimately is us. So this was—to me, looking at all in retrospect now, all this in retrospect, I can see these interrelationships, it's fascinating.

So that time up there at Twin Lakes or Caples Lake with *A Sand County Almanac* was part of this overall revelation. And I came back just rejuvenated. I just wanted to take on the world after that. And essentially in many ways did just that. But luckily, at that time, most of my colleagues that saw the same picture I did were with the federal service. Not too much at California Fish and Game or other state agencies.

06-00:53:27

Lage: Why do you think the federal service had a more—

06-00:53:29

Pister:

Well, because they're probably less afflicted by political pressures than you find in the local communities that exerted political pressures on the Department of Fish and Game. So it would be the responsibilities of Fish and Game viewed by the electorate of California, which would be much more utilitarian than you'd find through the feds. But it made a good combination, because they could really support much of what we were doing. Comes back to this meeting up in Oregon with the director being there, did I mention that?

06-00:54:08

Lage:

Oh yes, yes, you told that yesterday. With Nat Reed's talk.

06-00:54:11

Pister:

With Nat Reed, sure. But then the pupfish stayed in my work activities. To a certain extent, reading through my forty years of diaries the other day in preparation for the oral history, it was there to the very end. Year by year it never got out. And up until today even in when I say emeritus status I still work very closely with my colleagues there in Cal Fish and Game on these very same issues.

06-00:54:47

Lage:

Should we tell more about the Devils Hole story?

06-00:54:50

Pister:

Do you want to finish up the Owens thing before I go to Devils Hole?

06-00:54:55

Lage:

Sure, whatever makes sense in your understanding.

06-00:54:55

Pister:

Well no, let's go to Devils Hole. Let's go to Devils Hole, because the timeframe, still talking about pupfish. So the timeframe, this would fit in better that way. Because the two were together. Okay, so then what did we do? We're talking the same thing as with the Owens pupfish, what do we do to keep these guys alive? We're setting up these little refuge areas that really didn't help too much, because they would dry up, and that's what caused me to go out—we talked about the bucket, I think.

06-00:55:25

Lage:

We did. That's where we left off.

06-00:55:27

Pister:

Okay, so about that same time, Devils Hole was getting down to a point where we were really concerned. I think my superiors were quite concerned, because here's old Phil working for California Fish and Game getting involved in a very sensitive political issue in Nevada. That's something you just didn't do. We have to draw a map for you, Phil, to show where the line is.

06-00:55:52

Lage:

Did they say this to you? Your supervisor in LA?

06-00:55:55

Pister: Pretty much, yeah. Yeah, well, not so much there but out of Sacramento. My boss in LA, I mentioned yesterday, was interested in these fish. So he gave me free rein luckily, but—

06-00:56:06

Lage: So who were the folks in Sacramento?

06-00:56:09

Pister: Back then Inland Fisheries Branch people, which is now the Inland Fisheries Division of Fish and Game. That's how it's evolved through the years. The Department now essentially a group of divisions, but with the same regional perspective we had back then. Except now the Bishop area is now Region 6, branching off of Southern California and the desert areas, which is Region 5. I worked for Region 5 back thirty years ago, but—

06-00:56:36

Lage: So you had two bosses, one in LA and one—

06-00:56:40

Pister: Well, yeah, yeah, yeah, you did, and that's one of the reasons I think that my boss wanted me to go to Sacramento, to see that phase during the three months there, before I went up to Garberville, to see how that whole thing worked, because all my job experience then would have been in the regions. So okay, so we're back to Devils Hole then. But the two fish that got the Desert Fishes Council going were the Owens pupfish in my area, which has been listed as endangered ever since the first Red Book came out, which preceded the listing of endangered species federally. There was that one, and then the Devils Hole pupfish. These two critters. Both of which Bob Miller, being the father of the pupfish studies, was deeply concerned about also.

Curiously—and this is an anomalous thing, glad it popped into my mind; the fellow who described the Devils Hole pupfish back in 1931 was a student at Stanford under George Myers. I think we mentioned him in terms of academic genealogies. But his master's thesis was the scientific description of the Devils Hole pupfish. So we had him with that type of thinking back as early as 1931 when I was two years old. So it was there. And a couple people in Fish and Game retained that. But Joe, Joe Wales was his name. *Cyprinodon diabolis* Wales, that's the way it was published originally in the species description, part of that nomenclature being the name of the guy who described it. Journal *Copeia*, which is the scientific journal of the American Society of Ichthyologists and Herpetologists, was the journal in which this was published. And so there was that interest, but Joe left and went up, he's a professor at Oregon State, because that was more where his interests were.

So what are we going to do? We were building refuges at Fish Slough north of Bishop for the Owens pupfish. What were we going to do at Devils Hole? Well, we tried other means there. First off, we realized we got to stop this

pumping, because we could literally almost day by day watch this water drop maybe a millimeter per day. But in a month you're down an inch, twenty-five millimeters essentially being an inch. So we thought, what can we do in the courts?

[End Audio File 6]

[Begin Audio File 7 Pister_e_philip7_01-23-2008]

07-00:00:00

Lage: Okay, we're on Tape 7 now, continuing the interview with Phil Pister.

07-00:00:10

Pister: Well, okay. We're saving pupfish. We're doing our best up at Fish Slough. We're building these little ponds, one of which we talked about yesterday, when it disappeared before our very eyes, and I hauled the entire remaining world population of a full species in two buckets to a temporary refuge in that same basic area. That same time, this is a dramatic period in terms of desert fish, particularly pupfish, we saw Devils Hole, which was within Death Valley National Park as a disjunct portion, but right next to it, starting to dry up. And this was being done by water development interests who wanted to use the water. They wanted to gain land actually, we found out later. And their ways of doing this were the motherhood type concept of agriculture, but they wanted to level land, get hold of the water, and then bring in what they were there for. And I mentioned this last night to my nephew, who was just on the edge of his seat on this whole thing, that the developer was headquartered in Vicksburg, Mississippi, which is a weird thing anyway, but we found later on the reason that they wanted to get this land and water is that the major corporate thrust of this group was mobile home manufacture. So they saw this as sewing up this whole thing. It'd be all their areas so they could sell mobile homes.

07-00:01:51

Lage: You mean they could set up mobile home—

07-00:01:54

Pister: All around Devils Hole, yeah. And supply with water pumped from that aquifer right underneath Devils Hole.

07-00:01:58

Lage: And build a golf course.

07-00:02:00

Pister: Yeah, golf courses and water ski things. One of the water ski reservoirs is still there. We're trying to dynamite the thing. But so that was what was going on. So we thought hey, the only way we're going to get on top of this is through the courts. So did I mention my friend Chuck Meacham?

07-00:02:19

Lage: No.

07-00:02:20

Pister: Okay, well, at that time—talk about fortuitous things. I'm sure that the great force in the sky looked favorably upon us. We needed an in somehow with Department of the Interior. Somebody who back in Washington could push buttons. Well, a good friend of mine—if you believe the incredible coincidence here—left Cal Fish and Game as a native of Bishop. He was really interested in salmon. So he went from Inland Fisheries stuff over to the marine end of things in Cal Fish and Game. And he kept his interest in salmon, and he then went up to work at that time—he left Fish and Game to work with the territory of Alaska. Alaska wasn't a state yet. And became the salmon expert for the state of Alaska. About the time of Nixon's election as President, this was Walter Hickel was governor of Alaska at that time. So he goes down as Nixon's Secretary of the Interior and says, "I need somebody to be my assistant secretary over fish and wildlife and parks." What finer guy than Chuck Meacham, my old friend from Bishop? I thought wow, what a break. So I—

07-00:03:47

Lage: Where did he fit in with Nat Reed?

07-00:03:51

Pister: Well, Meacham was a commissioner of Fish and Wildlife. And Nat Reed was assistant secretary at that time. They were different positions. But actually Reed was subordinate to Meacham at that point.

07-00:04:01

Lage: Oh, he was subordinate.

07-00:04:07

Pister: Yeah. Meacham was commissioner of the Fish and Wildlife Service and I think the Park Service. And Reed was just a deputy assistant secretary. Meacham would have the assistant secretary designation. Reed was—I'm not sure of the exact structure of the whole thing. So okay, so we needed somebody to help us. So I phoned up Meacham back in his office in DC, the Interior Building. His office was right next to the secretary. Big mahogany thing, which I got well acquainted with later on. And I said, "I'd like to speak with Secretary Meacham, please." "Well, I'm sorry, he's out in California, he's dedicating something, I think Dana Point Research Station. But I'll have him call you." I said, "This is important. I'm an old colleague of his, and I know that the secretary would want to know about this."

So about a day later the phone rings. His secretary says it's Mr. Meacham calling you from somewhere. And he says, "Phil, it's Chuck. Good to hear from you, how are things home?" And I said, "Well, it's one of the reason I'm calling, Chuck." He lived just across town and his parents were good friends of ours and so on. I said, "Well, we got a problem with water." And he said,

"Where?" I said, "Out in Fish Slough, which is just north of—" He said, "Oh, I know Fish Slough really well. When I was a kid I used to go out there and hunt ducks and go fishing." Said, "Well, what we've got out there, Chuck, and this is important for you, where you are in government, we've got a fish out there that's very, very endangered at this point, little pupfish." "Hm, don't think I know about them." So I told him what the pupfish was all about, and he said, "Well, we better do something about that, hadn't we." I said, "Yeah, because"—

07-00:05:55

Lage: Stop this. Okay now we're back on. Go right ahead.

07-00:06:05

Pister: I'm really glad that we set up as many things as we have, because I'm on a roll now. It's all coming really clear. So I said, "Also, we've got a situation down in Death Valley National Park, which is part of your jurisdiction, that's about equally, perhaps even more critical. And furthermore, the Sierra Club has a writ of mandamus lawsuit that they're all ready to file. And it would be extremely embarrassing for the secretary, for you, and for all of us to let species become extinct with your full knowledge of what's going on." He said, "Boy, you're right. We better set up a task force to handle this." So within minutes he had set up what they called the Pupfish Task Force.

07-00:07:01

Lage: He got right on it.

07-00:07:01

Pister: He did immediately. What it did, it really reaffirmed my faith in bureaucracy. If something is really critical, they can jump. But they can drag their feet terribly if they don't feel compelled to do it.

07-00:07:14

Lage: Do you think it was the personal contact? The embarrassment factor you mentioned?

07-00:07:17

Pister: Both. But I think mainly, I don't think it ever would have gotten through to them without my personal contact with him. I wrote this up and put it into my chapter in *Battle Against Extinction*, the history of the pupfish, the same story. That'd be a good reference for this whole thing because there's so much in there. But so okay, so he said, "Who should I appoint?" I said, "Well, we need all the principals here, we need Cal Fish and Game, we need Nevada Department of Wildlife, we need the related groups within Interior, we need the Bureau of Land Management, the Bureau of Reclamation, we need the US Geological Survey, we need the Park Service, we need the Fish and Wildlife Service." Five agencies all within the Department of the Interior, all with different mandates and interests. And this is an interesting thing. So Meacham says, "I've assigned already probably the best person I can think of to head this thing up. We call him old Iron Ass McBroom." [laughter]

07-00:08:29

Lage: Say that again.

07-00:08:29

Pister: Iron Ass McBroom. And boy, he was just—this guy was a geologist. But he was working in some capacity within the Fish and Wildlife Service, intermediate between them and the Secretary's office, as a hit man kind of a guy. If something came up that needed somebody to pursue it ruthlessly, McBroom was the guy. And boy, he did a fine job. Oh, the sixth member of our task force was a representative of the Interior Department Solicitor's Office, the attorneys. Because we saw this as probably where we were going to have to go.

07-00:09:03

Lage: Now what was the Sierra Club doing, this writ of mandamus?

07-00:09:05

Pister: Okay, this writ of mandamus, the Sierra Club knew about this. We made sure they knew about it, we being a couple of us who were Sierra Clubbers as well as biologists out in the boondocks.

07-00:09:16

Lage: What part of the Sierra Club did you go to?

07-00:09:18

Pister: Well, the predecessor of the Legal Defense Fund.

07-00:09:21

Lage: The Legal Committee.

07-00:09:23

Pister: Yeah, a guy named, I think Phil Silver was his name.

07-00:09:27

Lage: Would it be Fred Fisher?

07-00:09:29

Pister: No.

07-00:09:29

Lage: Don Harris?

07-00:09:29

Pister: Don Harris. Don Harris is the guy. And I've still got him. And I looked the other day in my key phone numbers I keep in my little diaries—and I don't have it here, I left it in Karl's place. I've got his phone number in there. Don, no, he was great. And he said, "Keep me up to date on this. We don't want to jump the gun and do something we don't need to do." But he said, "If they really start balking on this, this thing is going into court right away." Well Meacham knew this, and furthermore, the solicitors knew this. We didn't make a big thing of it, but I made a point, said, "The Sierra Club, they're right

on top of this, and they're about ready, and if they file a writ of mandamus you are the guys that are going to get this, because that's essentially a failure of a public employee to fulfill their duty under the law."

07-00:10:20

Lage: Now there was an Endangered Species Act, but not—

07-00:10:26

Pister: Yeah, but it was really a gutless one. It started, I think, in '66, and there were no teeth in it at all. But we could use this as a way to manipulate within that period of time. In the meantime the act was being rewritten, and I got into this within a year or so as a member of this task force.

So, and this was the most interesting interaction to see these different groups within Interior. We met both at Death Valley and then back at DC. First off, we had, which I would call this time the bad guys, we had the Bureau of Reclamation. They were actually funding groundwater research out there to, quote, "make better use of public lands." They were funding these guys to go out and drill wells. Along with them were the BLM people that thought this was the best thing BLM could do for the public interest, was to let some bunch of rip-off artists from Vicksburg, Mississippi, to come in and build the type of thing they planned to build there.

07-00:11:36

Lage: The mobile home park.

07-00:11:39

Pister: Yeah, exactly. So that was that group of people. On the other side of the fence were the Park Service and Fish and Wildlife Service. Park Service being concerned because this was part of Death Valley National Monument at that time. And the Fish and Wildlife Service having the obligation to preserve the species that were—and of course both the Owens pupfish and Devils Hole pupfish were listed in the early Red Book edition under the '66 act. So and then another interested group in this whole thing were the hydrologists, the groundwater, from the USGS, also an Interior group, saying, "Yeah, if you keep pumping those pumps, you're not going to have any springs anywhere out here," because see Nevada has a water law saying that it's okay to run pumps as long as there's only a reasonable discharge. Well, that of course is politically devastating, because who defines what a reasonable discharge is? To us, watching any spring go down is an unreasonable discharge.

07-00:12:42

Lage: Luna Leopold was with the USGS. Was he at that time?

07-00:12:45

Pister: Yeah, he was. I don't think he—yeah, I'm sure he was. But I don't think he got involved with this.

07-00:12:52

Lage: Because Hydrology was his unit.

07-00:12:54

Pister: Yeah, would have been. But the guy we worked with, and this came in—I'll mention him now, a fellow named Bill Dudley. Dudley was a PhD student at the University of Illinois, and his dissertation research was the aquifers right underneath where we were working. He'd been doing this for several years. Getting data and feeding it into his computer program, even back then.

07-00:13:19

Lage: So there was this scientific information available.

07-00:13:19

Pister: Oh, yes. And of course the attorney knew this—or the guy from the solicitor, guy named John Germeraad. So he then said, "I think that looking at all this, we've got a case." He says, "I'll go back, I'll talk to my bosses on this thing and see what we can put into the courts to at least stop this until we know what's going on." I gained a huge amount of respect for federal attorneys back then. Not all good attorneys are in the private sector. They have some very good ones. And they're there because their heart's in it. Because they think they can help the nation. And these two guys that helped us were just exactly that.

07-00:14:01

Lage: This is all the Nixon administration, we need to point out.

07-00:14:03

Pister: Yes. Yes, it was.

07-00:14:06

Lage: And Walter Hickel was not a favorite of the Sierra Club and others when he became secretary of the interior.

07-00:14:14

Pister: Oh no. I can interject this, because I think in my position—I was asked one time to give a talk at the Rotary Club there in Bishop, which is about as redneck a bunch as you're going to find. All businesspeople, and strongly conservative group. And so the president asked me to come and give a talk to them. And I think that was the time that I didn't talk—I think I may have mentioned this yesterday, where I didn't talk about golden trout, but I talked about the value of academic dissent within a free society.

07-00:14:49

Lage: Oh yes, you did.

07-00:14:51

Pister: During the Kent State years. Well, there's another part of this. I said to the president, I said, "Should I wear a coat and tie?" And he said, "Well, that's really not necessary, particularly in Bishop." I said, "Well, that's good,

because it's been my observation around here the only people around Bishop that wear coats and ties are physicians, lawyers, Republicans, and other people you can't trust."

07-00:15:19

Lage: You said to him?

07-00:15:22

Pister: I said it in a meeting. And another guy was on my side, who said, "Well, you did a fine job of alienating everybody in the audience." [laughter] So it fit in with this whole thing. So we're back then to Devils Hole. The attorney goes back to Washington and starts talking to his bosses. They file for a preliminary injunction to stop pumping until we could get a better handle on what's going on there. See, entering into this, when President Truman set aside Devils Hole as part of Death Valley National Monument, the fish was used as one of the main reasons to do this. And also—

07-00:16:00

Lage: Oh, even back then.

07-00:16:02

Pister: Yeah, oh yeah. And also the biological uniqueness of that whole ecosystem.

07-00:16:05

Lage: But too bad they didn't make it bigger.

07-00:16:08

Pister: Well yeah, but to do that they would have had to encompass a huge amount of western Nevada, because these aquifers are tremendous, and it's very hard—you have aquifers and subaquifers. You have the big things and you have the ones the feed the bigger ones. See, another thing that's entering into this whole thing, and it's a scary thing, the groundwater from the Nevada Test Site where they have all the underground nuclear explosions is very slowly moving down into those aquifers. Highly radioactive. Maybe a couple of inches a year, but just extrapolate that out, sooner or later this highly radioactive water is going to go not only underneath Devils Hole but underneath all of Ash Meadows and into Furnace Creek in California and the park. And this has been brought up even as part of the Yucca Mountain Nuclear Repository, the interconnectedness of all this stuff.

So okay, so the attorney goes back there, and we start getting all the data we can find. All the stuff we had, all the things Nevada had, all the things the federal agencies had. And feeding it to the lawyers so they could come up and make a pretty good case. Because lawyers are very careful in this sort of thing. They never want to bring a case into a court that they think they're going to lose, because of the problems of precedents that'll be set. So finally—this was in July of 1972. This went to the Nevada Federal Courthouse there in a preliminary injunction to discuss the Devils Hole situation, and could we get the court to say stop pumping until we know what's going on here. We were

up against—we being the federal groups and so on, or we were the plaintiffs. The defendants were the State of Nevada, curiously, because they were deeply involved politically with the land developer out there. They thought this would create more taxes, development, this huge state that's got very little development in it other than Reno and Las Vegas. And so we were up against the two of them. We had the Department of Justice, of course. But these poor people were just so overburdened with stuff that when the attorney came out to run the Devils Hole case, most of his preparation was done during the four-hour flight between National Airport in DC and Las Vegas.

07-00:18:44

Lage: Your attorney?

07-00:18:47

Pister: Yeah.

07-00:18:46

Lage: Even though the solicitors had been so good?

07-00:18:49

Pister: Yeah, well, look, but to refresh his mind on all this stuff, to prepare for the meeting the next day, they gave him one day's per diem. This enters into it also. This is July 3 of 1972. July 4 obviously being the next day. The defendants, their legal representation was Lionel Sawyer and Associates, the largest law firm in the state of Nevada, with Grant Sawyer being governor of Nevada. All of their attorneys, a whole bunch of them, were staying at Caesars Palace there in Las Vegas where they have the gold-plated bathroom fixtures and stuff. We were all in one room in the Motel 6 at the Las Vegas Airport. There was me, Bob Miller from Michigan—he came out as an expert witness, as I was. And then the attorney that came out to try this thing from the Justice Department. So okay.

07-00:19:52

Lage: Did the attorney stay with you?

07-00:19:54

Pister: Yeah, but that enters into this too. So we have all this testimony. And this was a great part for me. The whole thing—what we did, we found out that attorneys, first thing they want to find out is how the enemy works and also what the judge thinks. And they do their work very thoroughly. They found out that Judge Roger Foley down there, a guy I'll love for the rest of my life, was a very strong Catholic, and he never missed mass. His kids were—ladies were all named Maria whatever. And so knowing that, we began to then structure questions that the attorneys could ask me and the others on our team, one of which was "What do you feel are some of the ethical perspectives on this?"

So they asked me this when I first got on the stand, "What do you feel as a biologist here?" I said, "Well, really this goes out of the realm of biology here.

We're talking about the first chapter of the Book of Genesis and how man's dominion over the earth is granted to him. So this dominion can either be a righteous one or an unrighteous one. Here we have this choice to make." I said, "I think what we have here is an unrighteous dominion." The head attorney from them, which was this guy Sam Lionel, leaped to his feet. Said, "Your Honor, I object, this has no relevance to the Devils Hole case at all." And the lawyer—or the judge—an older guy, probably about my age now, looked over his half glasses, swung around his swivel chair, said, "Mr. Lionel, objection overruled. This is probably the most significant part of this whole proceedings." Well—

07-00:21:39

Lage: You were glad to hear that.

07-00:21:41

Pister: Oh, yeah. When you're in a football game, you want to make sure that the referee doesn't dislike you. So it went on from there. Had all this testimony. Our main thing—I mentioned Bill Dudley, the PhD student. He was there, and beautiful graphics he had. You pump here, the spring's going to drop here. It's going to drop. So you pump over here, Devils Hole is going to drop. Continue to drop, but it won't be quite as much as this pump over here. And this is just what the court needed to know. This was about 4:30 in the afternoon on July 3. Judge says, "Well, think it's about time we wound this up, we're surely not going to hold court on July 4." Bang. "Court's adjourned until nine o'clock in the morning on July 5." The attorney turned and says, "My God, what am I going to do? They just gave me one day's per diem." So we tore apart our Motel 6 room, and Miller being the senior citizen there, we allowed him to keep his bed. I slept on the floor on my mattress. And the federal attorney slept on my bedsprings in this really seedy motel room. Probably nothing seedier than a Motel 6 right outside the Las Vegas Airport. But all night long you could hear slot machines clanking away. [laughter] Gosh. So okay, we got the preliminary injunction. It took Judge Foley about six months, and it was a highly unpopular decision, to come up with the final legal decision. But he stopped the pumps.

07-00:23:18

Lage: He stopped the pumps immediately, but six months later—

07-00:23:20

Pister: Within a day or two, yeah. So at least the water level remained steady that point.

07-00:23:26

Lage: And was the decision appealed?

07-00:23:29

Pister: Yeah, getting into that. Do you want to do that now, or do you want to wait a bit this afternoon?

07-00:23:33

Lage: Well, shall we stop here?

07-00:23:47

Pister: Yeah. [break in recording]

07-00:23:49

Lage: Okay, we're back on after lunch, and we're continuing with Tape 7, I believe it is, yes.

07-00:23:56

Pister: A moment ago we were talking about the court cases involving the pupfish in Devils Hole, this was a real interesting thing. I think it reflects on personalities and feelings of obligation, whatever. This was in the early part of July. So—

07-00:24:24

Lage: Seventy-two.

07-00:24:24

Pister: Yeah, so we won this, and at least the judge granted our injunction. So then this was immediately appealed to the Ninth Circuit Court in San Francisco, which right away upheld the lower court decision. Then because of the politics involved, particularly the relationship of water rights in the West, I think there are senators from eleven western states petitioned the Supreme Court to hear this, to try to get it reversed.

07-00:25:00

Lage: Eleven different states.

07-00:25:02

Pister: Because they saw this as a real threat to states' water rights, the states they represented. So after a number of manipulations, the Supreme Court heard this in January of 1976. And I think it's rather typical of court hearings, Supreme Court hearings. This was during the Burger Court, Warren Burger was chief justice then. They took an entire afternoon for the Devils Hole case, where they would normally take maybe twenty to thirty minutes on most other cases. Because of the political and just natural impact of this judgment.

07-00:25:57

Lage: Can I ask you was the main feature of your side of the case the endangered species aspect?

07-00:26:04

Pister: It was several things. It was mainly the Winters Doctrine, the reserve water rights. The fish came into it to some extent. But it was a well-known case in water law. The Winters Doctrine of reserve water rights.

07-00:26:18

Lage: Winter?

07-00:26:19

Pister: Winters, like summers and winters. And that was the basis of the government's case. But of course they brought in the other things as well.

07-00:26:30

Lage: Was anything about it preserving the national monument?

07-00:26:33

Pister: Oh yes, yes, that certainly entered into it as well. But I think the attorneys felt they had a better case to build around this Winters Doctrine. And so okay, they heard this, took them an entire afternoon to listen. And as I mentioned later, Chief Justice Rehnquist picked up on all this. And he asked a lot of good questions during this, Rehnquist.

07-00:27:00

Lage: So you were there?

07-00:27:00

Pister: No, but I read the transcripts of it. So okay. So January, takes them about six months to come up with a final decision. And I guess they analyzed all the stuff, their clerks but themselves being very good attorneys, putting those together. And probably my best friend, or certainly one of the best couple two, is a professor at UNLV, Jim Deacon. And Jim and I were working in this together for well over a decade or more. And so again one of these famous phone calls in the outer office. "Phil, it's Jim Deacon calling from UNLV." And we've all been through this, where you have—there's news coming, and you're almost afraid to hear it for fear it might be what you don't want to hear, whether it's a biopsy or what. And so I said, "Okay," so I picked up the phone, "Hi, Jim, what's up?" He says, "Guess what, Phil, we won." And you know what I did then, I said, "Jim, I'll call you right back. I'm right in the middle of something I can't drop right now. I'll call you back within five minutes." I went, I closed the door to my office, and I bawled for about five minutes. I had no idea of the feeling of relief, to know that over the Supreme Court Building in Washington is a little sign that says, "Equal justice under the law." And I thought by implication anyway it's good to know that some little fish this long could get some measure of that equal justice.

07-00:28:40

Lage: That's lovely.

07-00:28:40

Pister: And so I tell you, this was a real—and we all felt the same way, those of us who were so deeply involved in it. Martha often says that I'm the kind of person that breaks into tears at the opening of a supermarket, but—

07-00:28:56

Lage: She keeps you in line.

07-00:28:57

Pister: Yeah, oh, she does, she's good at that. She used this as an example of that. Itzhak Perlman's wife, who even if a little tiny aberration in his playing his cello, she'll say it just—"Stop it right there. You've got to go back and do this again." [laughter]

07-00:29:16

Lage: That's good. And was the court decision based on this Winters doctrine?

07-00:29:22

Pister: Yeah, based on the whole thing, but the Winters Doctrine was—my nephew, he's retired now. He puts on marvelous musical productions out in Contra Costa County. But in any event, he asked me last night to give him the court reference on this, because he wanted to look it up and read through parts of it, because he had the same basic interests. He's the only member of the family that never went through college. He's probably the sharpest of the whole bunch.

07-00:29:53

Lage: This is one of Karl's sons.

07-00:29:55

Pister: Yeah, his oldest son. And I think he was—I've seen this happen in families, where I think he figured, I'm not going to compete with the rest of them, I'll just do my own thing, which I've always admired for him that way. He's a great kid. Call someone that's fifty-five years old a great kid. So okay. So we won that. But what this did—and this was an interesting part of this—in order to really preserve the water rights out there, we needed to acquire the land—we being the preservationist groups, federal government, state government. And so unfortunately people in the regional—this was all handled from the Fish and Wildlife standpoint. From the Portland Regional Office of the US Fish and Wildlife Service, they handle all the western United States, including Hawaii. And so they had the attitude that hey, we got the Supreme Court decision, hey great, nothing to worry about. Yet the land was still in private ownership.

07-00:31:00

Lage: And does that give them rights to the water under there?

07-00:31:05

Pister: Yes, at least in some respects, it does. But what they had planned to do, these bad guys back in Mississippi then, they were going to then go ahead with their development, make it basically a retirement home, and use the political muscle involved with such—you can't tell a bunch of old retired people that they can't have a drink of water. And I could see their logic there. So what happened—and this goes back to Ike Livermore. Dave, Ike's son, was in Nevada at that time handling Nevada's Nature Conservancy stuff. So thank God for those people. They came in, and they bought the land. And just as they often do, they held it in abeyance until the federal government could

budget for it and buy the land. But we nearly lost it on that basis. If the Nature Conservancy hadn't come in, these people were just going to go right ahead and develop that, and then we would have been stuck with the bad guy perspective of telling old people that they couldn't pump water to wash their clothes and drink. So that was an interesting offshoot of that.

07-00:32:18

Lage: And then what kind of land is it now?

07-00:32:20

Pister: Okay, what it is now, BLM took the exchange. They then worked with the Fish and Wildlife Service. It is now the Ash Meadows National Wildlife Refuge. And interestingly, and somewhat gratifyingly, it's the first National Wildlife Refuge ever established for the protection of things like endangered plants, fish, and things like that. Most of them have a strong hunting and agricultural aspect where they lease out land for wheat farmers and things and duck hunters and stuff of this kind. It's the first one that ever looked at it from the basic life-support systems. It's Leopold's land pyramid really, what it comes down to, in *A Sand County Almanac*.

07-00:33:11

Lage: I'm going to stop this for one second here. Okay, we've got the court case, and we've got the land saved around Devils Hole—and how about the fish? How are the fish faring in Devils Hole?

07-00:33:21

Pister: Well, they're not doing well, and I'm glad you ask that question, because I might have overlooked it. What's happened—for a long time the water level came up in Devils Hole without the pumping, covered the shelf, the fish had plenty to eat, and the counts, which are run I think semiannually, spring and fall count, were good. The normal number of Devils Hole pupfish, say in the spring after the little guys have come out, would be about seven hundred. For some reason that we don't understand yet, the number started to drop till I think two years ago we had something like thirty-seven fish.

07-00:34:07

Lage: Oh, that's minuscule.

07-00:34:09

Pister: It is. We were worried just from the genetic standpoint, whether there's enough genetic material there to allow them to continue. Well, what this caused was another very high-level task force put together mainly by the National Park Service. But I spent a lot of time on the phone with them just suggesting people that they might bring in as geneticists, ecologists of all stripes, to say what can we—and aquarists. We had tried from the start to get aquarium populations going. And you just don't tell nature what to do. It's like trying to emulate—or to synthesize seawater, spectrophotometers will say, "This is exactly the same as seawater," and you put fish in there and they die. It's the same idea here. And so we did our best to get the best aquarists

anywhere. We went over to Steinhart, had a topflight aquarist there named Al Castro. And Al said, "You get me some fish, I think I can probably get them to spawn okay." So I got a fish hatchery truck from our Mount Whitney Fish Hatchery, and we sterilized the thing, make sure it was okay, went down to Devils Hole, hauled a pump down to the bottom, and pumped 150 gallons of Devils Hole water up into this thing. And then got a bunch of Devils Hole pupfish to send along with it.

07-00:35:34

Lage: Did you have to get permission or anything to do that? Because here they are pretty endangered.

07-00:35:37

Pister: Oh yeah, yeah, we had to do—well, yeah, and even back then there was a deep concern over this. Yeah, they felt that you take a risk—if you don't take the risk we may lose it. So we did though. And okay, so we send these fish over there to Steinhart. Al could get them to spawn, but he could never get the eggs to develop properly, and they'd die.

07-00:36:00

Lage: And nobody knows why.

07-00:36:00

Pister: Nobody knows why. We're still wondering that. In last November, we had our thirty-ninth annual meeting of the Desert Fishes Council, first one being held in 1969, down at Cal State Channel Islands. And we had a number of good aquarists come to that asking how they might be able to help. What we've done, we haven't had enough really to—we feel our best bet is still there at home. Basically you have your bases covered there. So we were able then to set up some refuges right outside—well not right outside, but within the Ash Meadows area.

07-00:36:46

Lage: By constructing them as you did it at Owens?

07-00:36:48

Pister: Yes, we have some in troughs. We took some. There's a place right below Hoover Dam called the Hoover Dam Refuge where we just built tanks there. There's a spring coming off the side of the canyon right below Hoover Dam that had water that would work okay. So we filled these things up, put water in them, and put in some pupfish. So this brings us up to a great term called phenotypic plasticity, where you take fish from a natural habitat, put them somewhere else, and the phenotypes, the way they look particularly, very slowly change.

07-00:37:33

Lage: Now tell me what a phenotype is.

07-00:37:35

Pister: Oh, a phenotype, that's as opposed to a—genotype is a strict genetic structure. Phenotype is how the fish look.

07-00:37:41

Lage: The individual.

07-00:37:42

Pister: Yeah, yeah, yeah, and so we were doing a lot of that now with our golden trout.

07-00:37:47

Lage: So they change in this new environment.

07-00:37:49

Pister: Yes. Annie Dillard in one of her books, can't remember which one it was, made the statement that habitat shapes species like a bowl shapes water. And I thought that was beautifully done. Because that's true. The habitat is everything. You can take a bowl and put some dents in it, and the water shapes differently. It's the same thing with species. And I wrote a note following when she wanted to find out who had helped out on the Devils—or the "Species in a Bucket" thing. And I sent her a couple of pupfish pins for her and her daughter. And so I congratulated her on that. Said, "That was a great analogy. I've used it any number of times. It's in my golden trout paper. It brings evolution down to a level that most people can maybe begin to comprehend it."

07-00:38:42

Lage: Well, speaking about habitat, have you or your colleagues been able to discover what has changed at Devils Hole that's affecting the pupfish?

07-00:38:56

Pister: Well, this is our big question now. That's why they have all these people studying it. We're wondering what is the little thing that might be. Shows how—maybe there's a little dent in that bowl we haven't found yet, what it comes down to. We've done everything we know how to do, everything, and we talk about it, we have big meetings, we have symposia, we have subcommittees of the different disciplines talking about these things. The better news is that the population now has gone up to about eighty-five. So it looks like the trend may be upwards again. The real test will be this coming spring. January now. Probably the population is probably hanging around eighty now. And this is maybe a key to it, Ann; this is amazing. For a while, when the population was at its best, there were a pair of owls that would nest in the upper part of Devils Hole, in the cavern. Their droppings apparently benefited those fish, and the fish did much better. Then somebody shot the owls. Don't know who it was. And the population started to fall again. So all these high-powered scientists are trying to figure just what that might be. Probably analyzing all the owl excrement they can find to see what might be there. People do that. Our profession.

07-00:40:23

Lage:

Sure, they have to. Now how are the Owens pupfish doing?

07-00:40:29

Pister:

Well, okay, right now they're much better off than the Devils Hole pupfish is. We now—and when I retired, happily, a really great guy came in to take over that part of the work I was doing. Mentioned they hired five people. But he took over this part of the native fishes. And—

07-00:40:50

Lage:

He took over the endangered—

07-00:40:54

Pister:

Yeah, like the pupfish. We have a couple of others there too that are nearly that endangered. And he was a banana slug right out of [UC] Santa Cruz. [Editor's note: the banana slug, a shellless mollusk native to Northern California's damp redwood forests, is the UC Santa Cruz campus mascot.] And this was so neat. He's one of these people that when you tell him to do something, in his mind, "Why?" And I've watched him on this a couple of times. Had another guy there from one of the more traditional fish and wildlife schools. Santa Cruz has probably never heard of a fish and wildlife curriculum, but they teach good basic science. And so just to test these two guys out—I hired them both—I had them go up to this big reservoir and sample. Bring me back what we call a species composition list. What's there, how many of them, whatever. So the kid from the traditional school did a beautiful job. He went up there, did the sampling, and came back, and he had his graphics all beautifully done and so on and so forth. Just a model. But the guy from Santa Cruz said, "Why do you want to do that in the first place?" And I thought, good, I found the guy I'm looking for. [laughter]

07-00:42:11

Lage:

Did you have an answer for him? "I'm testing you out?"

07-00:42:15

Pister:

Well, I told him that. I said—and he knew this all along. Just really a neat person. He and I are probably the closest friends there now in that whole complex. Steve put together, Parmenter, put together a series of ponds, working strictly with the landowners, because Fish and Game owns very little land there. We lease it. The landowners are the City of LA and the Bureau of Land Management. They're the ones that own the land. But they fortunately—I mentioned earlier that City of LA people are smart enough to see that this is good business, because they've had enough black eyes in the past that they don't need to add to them unnecessarily. Or it doesn't hurt them to do it. So they built the first big sanctuary there, and it's still doing well. We have fish now in I think five different locations, all the way down to about fifty miles south around Independence. So if we have a natural—see, what happened, in July of 1986 we had a 6.8 earthquake, curiously epicentered right underneath our fish refuge. And this was apparently a fault line that the spring was coming up through. And when that earthquake hit, whoomp like that, so for a

long time the water there in the sanctuary still came out of the springs happily, but was all colloidal like you find below a glacier, and it took quite a while for that to settle out.

07-00:43:59

Lage: That means a lot of particulate matter?

07-00:44:02

Pister: Yeah, yeah, if you look at a glacier lake, you look down and you can't see anything but the colloidal material that's there. Just very dispersed, probably measured in very small terms there. So that was an interesting phenomenon there. But that shows what can happen, because that same earthquake dissolved the dam that was built to hold the water behind it. The soil there is very fragile, and 6.8, that's a pretty good quake. We didn't have any major buildings there. It knocked some mobile homes off their foundations several miles away. We felt it in Bishop pretty strongly. I was in my office when that hit, trying to hold up my books on the bookshelves because they were going like this.

07-00:44:53

Lage: Did it endanger the fish?

07-00:44:55

Pister: Well, no, the fish did okay. But so that made us realize we better start moving these things out. So then we started building these other refuges. But this is an interesting point. Probably it's worth recording. First we called these things refugia, the plural of refugium. And it sounds good. Now I guess we thought at the early days that the term refugia might sound more cool, if we're going to try to get money to build refuges. And a friend of mine, the same guy that lives back in Vermont now, the editor of *Conversation Biology* that's sending me the pins that I'm going to send on to you, phoned me up one day, says, "Phil, you're really misusing that term. It should be"—a refugium is a natural thing. A refugium when you look it up in Webster is what—it's a sanctuary for creatures after a major geologic change. It would be a location where, say after the Ice Age, where creatures still could exist, but then when climate comes back again and we get a new ice age, then they redisperse into the former habitats. Put it this way. The good lord builds refugia. Men, human beings, build refuges. And people still use the term refugium. It just drives me nuts now.

07-00:46:21

Lage: So did you change your terminology?

07-00:46:22

Pister: Oh yes, immediately, because I could see it was wrong. I really knew what I was doing.

07-00:46:28

Lage: You mentioned the good lord. Does some of your feeling about endangered species come out of a religious impulse or what can you say about that?

07-00:46:37

Pister: Well, only to the extent, it'd be over stewardship is granted. And I don't think it goes beyond that.

07-00:46:45

Lage: But do you see it as some—does it come out of your religious belief in particular?

07-00:46:54

Pister: Of course, it's hard to even define, religion being such a personal thing. I'd say yeah, I would view this as certainly a perversion of what you read, at least in the Old Testament in Book of Genesis, yeah.

07-00:47:15

Lage: But is your first commitment to the religion of saving the species? Or is it to a Judeo-Christian belief that you think dictates—

07-00:47:23

Pister: Well, I think it's both. I think it's both. But the Judeo-Christian ethics, that can come back and hit you right between the eyes, because that's not always been a good one.

07-00:47:33

Lage: Yeah, I know. It's been interpreted, dominion over the earth.

07-00:47:36

Pister: Oh sure, yeah. But I have a friend, a philosopher friend, he's dead now, but he's one of these guys that has a huge understanding of language. I think he's fluent in something like six or seven languages, some of the really old ones, like Coptic and whatever. And he went through and he got some of the early manuscripts, I think some of the even Dead Sea Scrolls stuff, and analyzed all this. He said it was very obvious as he read through this that the dominion defined in Genesis is a righteous one. It's not to kill something off for your own benefit. But it's to be a steward and to bring these creatures along and so allow their continued existence, that would be the best way to define it. So it's hard to separate that out. So it would be both—and also the practical aspect of it. The canary in a mine shaft type thing: these creatures, if they die, well, when's our time coming. I've had—talk about religion, we have a fair community of religious fundamentalists there in Bishop and that part of the world.

07-00:48:47

Lage: Oh, you do.

07-00:48:48

Pister:

Oh yeah. And there they take the Bible totally literally. They say the Grand Canyon was part of the great flood. And they'll even come back with this, say, "Hey, we're not against endangered—Noah had the first endangered species program." And I guess you look at it that way, indeed he did. Dinosaurs and all.

07-00:49:08

Lage:

But do those people as a group sign on to the endangered species? Do you know? Do you ever try to develop their—

07-00:49:15

Pister:

There was a guy who was a biologist with the Bureau of Land Management. Ended up as a biologist with the City of LA Department of Water and Power, one of these creationist people. And he would publish a weekly news release on some of these creationist-oriented subjects. And you could tell right away that what he was saying was not scientifically credible, let's put it that way. Like dinosaurs on the ark. Dinosaurs were way before Noah, millions of years.

07-00:49:51

Lage:

They were gone—

07-00:49:52

Pister:

Yeah, they were gone. So you bring these things up. But it comes down again to one of the great axioms that I live with every day. If people have a strong ideology, facts make no difference, they just bounce right off. You're telling me something I don't want to hear, my mind's made up, don't confuse me. It works both ways.

07-00:50:12

Lage:

In terms of religion, James Watt, I don't know if it was correct or not, but—

07-00:50:16

Pister:

I'm glad you mentioned him, but go ahead.

07-00:50:19

Lage:

I was just going to say he was famous for saying the apocalypse is coming, so why do we have to save anything?

07-00:50:26

Pister:

Well, yeah. And hasn't there been somebody since then? Was it George Bush? Somebody picked up on that same thing. But okay, back to James Watt. This was during when we were first starting to get the legislation that I mentioned yesterday, I think, to get the land exchange that allowed us to protect the Devils Hole—or the Owens pupfish.

07-00:50:48

Lage:

Yes you did, and Reagan signed it.

07-00:50:50

Pister:

Yeah. But we had to get a bill first that Interior would support. So I had a good friend working in the Endangered Species Office in DC with Fish and Wildlife, Jim Williams. Very good scientist, PhD in ichthyology. I said, "Jim, have you got any hints what we can do to maybe get Interior to support this?" Because my friends were gone by then. It was a whole new administration. That was Nixon we were talking about. But now Reagan's back there. And he picks James Watt, who was just a total disaster. Had others who were nearly as bad. But Watt with his attitude that hey, look, the world's coming to an end anyway, so why should we mess with this stuff? Jim said, "Yeah, there's a guy, he's an adviser to Watt, that I'll give you his phone number, and maybe you can get through to him." So I phoned, went through about twenty secretaries, tried to explain my concerns. Finally got him on the phone, told him what our problem was, said, "We've got an endangered fish that will probably go extinct unless we can acquire the land and the water rights that go with them." He says, "I don't listen to anybody but Jim Watt." That was his response to me.

07-00:52:15

Lage:

He didn't listen from below, only from above.

07-00:52:17

Pister:

Well, yeah. So I said, "Okay, I understand that. But just keep this in mind. I'm not trying to push anything other than what I feel is right." I said, "We have a species here. It's totally dependent on me and also you, as a representative of the United States government, and by laws," by then we had an Endangered Species Act. Says, "This thing is listed." And I said, "Do you want this to come out in the newspaper that you would not support a bill that would allow public agencies to protect this thing?" He muttered a bit. "I'll see what I can do." Never heard back, but apparently he was at least enabled then—when the bill came through from people like I mentioned, City of LA wrote the bill, it was their land. Apparently when the bill finally got to them and into the hopper and went to Interior for review like all bills do, they at least did not oppose it. And Reagan then in '82 felt that he could sign it okay. But we went through some really tough hoops there, because these guys really did not believe in what we were doing. Reagan just didn't understand. I think that guy was out of touch totally during most of his presidency.

07-00:53:37

Lage:

One might think so.

07-00:53:37

Pister:

Yeah, I think we have every reason to believe that. We hold these facts to be self-evident.

07-00:53:47

Lage:

Let's see. I think we should—

07-00:53:47

Pister: Mentioned Bob Murphy, got to talk about him too.

07-00:53:51

Lage: Okay, now where does he fit in?

07-00:53:51

Pister: Murphy, when we first started the desert fish thing, was superintendent of Death Valley National Monument. And just typified a good, I'd say short-tempered Irishman. There was a guy who headed up, a guy named Denny Hess, that headed up the Las Vegas District Office of the Bureau of Land Management. They didn't like what we were doing because they wanted the development to go in. They felt it'd be feathers in their caps to, quote, "put that land in productive use," even though it would fall apart eventually. So BLM opposed it, at first. So Murphy apparently got hold of Hess and just gave him hell. Says, "Hess, you stay out of my national monument. Do what you want outside of it, that's your business. But," he said, "you're not going to tell an Irishman like me how to run his business, and that's what you're trying to do." Well, I guess it scared Hess half to death, because he backed off and actually ended up supporting our land transaction with the Nature Conservancy and all.

So we had the bill up in the Owens Valley that allowed the land exchange. We protected the land that way. Down in Death Valley, we had the acquisition of the land by the Nature Conservancy. Eventually became the Ash Meadows National Wildlife Refuge. So what it goes to show, and I'm proving this again with my golden trout work, in the conservation biology of an organism, there are no quick fixes or easy fixes.

07-00:55:32

Lage: This is a long-term thing.

07-00:55:36

Pister: Oh, yeah. The pupfish thing is almost the same timeframe as the golden trout project.

07-00:55:42

Lage: Before we get into golden trout—maybe you wanted to finish that up.

07-00:55:47

Pister: Well, I can take a quick look here and see if—

07-00:55:50

Lage: Because I thought—is this the time to discuss the Desert Fishes Council?

07-00:55:50

Pister: Yeah, oh perfect, yeah, we don't want—we need to do that before we go into golden trout, certainly.

07-00:55:57

Lage: Yeah, I think so. I'm going to just put it on pause for a second.

07-00:56:03

Pister: Yeah, do that.

[End Audio File 7]

[Begin Audio File 8 Pister_e_philip8_01-23-2008]

08-00:00:00

Lage: All right. We're on Tape 8 now, continuing with our third interview. And while I was changing the tape, you brought up something you omitted from your student days. And it had to do with Bowles Hall.

08-00:00:20

Pister: Both a guilt and an admission of some sort here. But probably there's probably nothing more aberrant, if you want to use that term, than a whole bunch of undergraduates at UC Berkeley; you'd just expect this. Well, Bowles Hall was not off to the side from this, very much right in the mainstream. There are two things that went on there. Because of the rather misbehavior—like one time, oh, this is good too. Before the Big Game [between Cal and Stanford]—of course we watched, the Big C [concrete capital C, painted gold, on hill above Bowles Hall and Memorial stadium] was right above us there, so we had to guard that zealously.

08-00:01:05

Lage: Were you the main guarders of the Big C?

08-00:01:06

Pister: One of them, yeah. And so we had shifts of going up there for about a week before the big game to keep the Stanfordites from painting it red. And I started up there one time with my ice axe they use in climbing. And my friends there at Bowles were horrified, they were thinking I was going to kill some poor Stanford kid by chopping on the head with this ice axe. I didn't do that. So then other things came up. And we had water bag contests. Water bags, to define for people who might not know what water bags are, you take paper bags, not these new things made out of plastic, but these were paper bags, what do you call it, craft paper, I guess.

08-00:01:51

Lage: Like a lunch bag.

08-00:01:51

Pister: Yeah, in the supermarkets. And you'd double these up, because water would go right away through one of them. Fill them with water. Then you would

throw them at any object that was deserving of a water bag. And one of our big things was on the Big Game day—well, any game, we would pipe water—I engineered all this. Getting water—Bowles Hall has a high tower up there, looks like something you use in the Dark Ages to fire arrows out of.

08-00:02:24

Lage: Like a castle.

08-00:02:24

Pister: Yeah. Yeah, they call Bowles the castle on the hill. There are a lot of reasons for that.

08-00:02:28

Lage: And what was up there?

08-00:02:28

Pister: Well, nothing except the flagpole, as I remember. But there was enough room to take up big garbage containers that we could fill with water. And we'd use these to fill water bags with, and then had propelling mechanism like big slingshots for the far out ones. And when people would start coming up the road in front of—is that Gayley Road?

08-00:02:57

Lage: I don't know. I don't think it's called Gayley there. The one that goes up towards Strawberry Canyon.

08-00:03:02

Pister: Yeah, exactly, yeah. Right in front of the stadium. So this was a major thoroughfare for people going to the games there at Memorial Stadium. So they made perfect targets for those of us up there in the tower at Bowles Hall. Well, all these things began to add together. So they decided we should probably have by majority vote of the 206 male residents there at Bowles some sort of a commemorative document or some commemoration for this type of thing. And this was given to the Bowles undergraduate who was probably the leader of this type of thing and pushed these aberrant issues more than the others. And I think in my sophomore, which would have been right, I was given this award.

08-00:03:55

Lage: And what was the award called?

08-00:03:57

Pister: It was called the Fred P. Lumbard Memorial Trophy. Lumbard was an art major, he was a Bowles Hall resident, that made—I'm not sure what it was. We called it the thing because nobody could tell what it was. But this was the commemorative trophy. And it was our job then, the recipients of this, I received it, to hide it somewhere where it couldn't be found, because that was another thing you did immediately; it was like the axe, you tried to steal it. Okay, so it came time for the next year. That would have been I think around in the wintertime sometime, to give it again, and they couldn't think of

anybody but me that really deserved it. So I got this award twice. And when I finally passed it on, it was to a guy who's now a very successful orthodontist in Santa Rosa, who at that time was an entomology major. And he realized there's far much more money in orthodontics than there was in thrips, little bugs about that long. So that was—

08-00:04:54

Lage: Were there other hijinks aside from the water balloons, water bags?

08-00:05:00

Pister: The water balloons, and quantities of water balloons, accuracy of those water bags.

08-00:05:05

Lage: I see, so it was skill.

08-00:05:06

Pister: And then other things generally.

08-00:05:13

Lage: Were you mainly hitting at the opposing team?

08-00:05:13

Pister: Well no, anybody. Because most of the people going up in front of the stadium were Cal supporters. So we didn't look for red hats or anything like that, which would have made ideal targets. They would have received the focus of our activities. Anybody, any movement out there deserving a water bag.

08-00:05:29

Lage: Probably not all the fans appreciated it.

08-00:05:30

Pister: No, they didn't, because we hit a couple of them, and just with, I'd say, at least two quarts of water. That can wreck your day. Another one, okay, before a big game, this was always a specially hilarious time there. And it was common activity to build a big bonfire at the corner of Bancroft and Telegraph, the intersection, right near the Sather Gate there. I don't think Sproul Hall was there yet. And so we built this huge bonfire. And of course the Berkeley Police Department comes up there. So a couple of us were able, while this was going on, and they were trying to put out the fire, we stole the fire chief's hat. And that was another—we kept it there at Bowles in a special container area there. So those things you do. And if there's any time left in between, you study.

08-00:06:38

Lage: Now how did you mesh or not with the fraternity boys?

08-00:06:41

Pister:

Well, that was the neat—some Bowles people left in their first year to join fraternities. But for those of us who weren't—I don't necessarily like fraternities. So we felt at Bowles we could have all of the advantages of fraternities without all the other crummy stuff, like the hazings and major dues and all this other stuff. We had a Bowles Association there, which I think we paid five dollars a year to maybe finance a beer bust here and there, something like that. But we didn't feel any compulsion at all to join fraternities, so we didn't.

08-00:07:16

Lage:

Was there animosity at all?

08-00:07:18

Pister:

Oh, maybe some superficial stuff, nothing really bad. I think the fraternity people said, "Oh, let them live their life," we said, "Okay, let them live theirs." It's a mutual acceptance.

08-00:07:32

Lage:

Did you do exchanges with—I guess it was just Stern Hall at that time.

08-00:07:36

Pister:

Yeah, we did. And also we had dorms then. And as I mentioned I think, I never had a date either in high school or at Cal.

08-00:07:51

Lage:

But weren't the dorms—I thought those were the only two dorms at that time, Bowles and Stern.

08-00:07:54

Pister:

Maybe they were, maybe they were. This would have been—

08-00:07:58

Lage:

They may have started up [the Dwight Way dorms] up the hill.

08-00:07:59

Pister:

Could be this formed all dorms. This would be probably '48 or '49. But my family spent a lot of time down in Orange County, because that's where my grandfather settled in the 1800s. So virtually all of our relatives, even now, still live down south. And I got to know some of the other people there as well. And one of them was this absolutely delightful blonde lady, a freshman. On Sundays we would have our major special meal. We'd wear coats and ties and stuff. And they'd have—Bowles used to serve meals. We had a commissary then. And so I thought, hey, it'd be nice. I'll invite whatever the heck her name was. I can't remember now. Darlene, I think. Maybe she'd like to come. Because guys brought their girlfriends and things. So she was absolutely outstanding. And here I brought this gal in here. All my friends just, ugh. [laughter] "How did you ever get somebody like that?" Jeez, I'm not totally useless.

08-00:09:18

Lage: But you really didn't date.

08-00:09:20

Pister: No. And she had this absolutely—I can see it right now, this absolutely beautiful knit blue dress. She just looked like a doll.

08-00:09:28

Lage: Well, did you invite her back?

08-00:09:32

Pister: Yeah, couple times. The only vehicle I had to haul her around in was my military jeep, which of course back then in that era cars weren't yet really coming in. The war had totally destroyed the automotive industry. So it took several years to get cars back onto the market. So we were glad to get our jeep.

08-00:09:51

Lage: Your jeep was a big thing.

08-00:09:52

Pister: Well, yeah.

08-00:09:52

Lage: And you were still going home. I don't think we got this on the tape. You were still going home to milk the cows on the weekend.

08-00:09:57

Pister: Yeah, I'd go home and help my dad, because basically, yeah, I basically milked my way through school. Dad did most of it. And parents are such good people, or they can be. I remember time after time, there'd just be one of these miserable pouring rains, and say about this time of year in February there in the valley, cold, Dad would get up at three in the morning, go out and milk those darn cows, and he'd come in wet and muddy and so on. And he never once complained in any way. He could see the value of Karl and my education. And of course my mom was right along with that. She thought it was great. So we would sell milk. We sold milk—of course back then we didn't have the environmental restrictions. We could sell milk as Grade A. Then it went to Grade B because a lot of the health requirements, we couldn't meet—and now you couldn't even think of doing something like that.

08-00:10:56

Lage: Because you didn't have the sanitary facilities?

08-00:10:59

Pister: That's right, yeah. But we could put this into cans provided by the Carnation milk people, and our jeep had a platform in the front bumper where you put these heavy cans on. We'd haul them down to the corner. Our place there in Stockton was right on the highway. It was maybe a quarter mile from the

highway. So we'd have to take the cans out and put them out for the milk people to pick up.

08-00:11:21

Lage: And then they would pasteurize?

08-00:11:23

Pister: Yeah, they would do the processing. Our job just to get the milk to them, and then they took it from there. So this was just a postwar economic thing. Even though the war was over, the economy didn't explode right away.

08-00:11:39

Lage: Well, it's an interesting juxtaposition, throwing the water bags out of Bowles, but going home and milking the cows on weekends.

08-00:11:45

Pister: Yeah, I should have started throwing milk bags. But that was then when there was a home game, when Cal was playing at Memorial Stadium, I would only—I'd go home, say, late after the game, and come back either early Monday morning or late Sunday. I'd take the Marsh Creek Road, out through Byron and that way, and then through Marsh Creek and coming through Walnut Creek and Concord and Lafayette, came in that way.

08-00:12:14

Lage: You'd never dream of doing that now, would you?

08-00:12:16

Pister: Probably not. Ygnacio Valley Road would be as close as you could come to that. But those were good days. And that laid the groundwork for my later existence.

08-00:12:28

Lage: Okay, now, that was an interruption, because we were—

08-00:12:33

Pister: Where are we now? So rudely interrupted by Bowles Hall.

08-00:12:35

Lage: We were going to talk about—to finish up or connect with the pupfish—about the Desert Fishes Council, how that came about, and who was involved.

08-00:12:44

Pister: Okay. Well, this is all covered in my chapter on the formation of the Desert Fishes Council in the book *Battle against Extinction*. But that's not recorded here. So this was in April of 1969 when we knew that Devils Hole was in trouble. We had these big problems with the Owens pupfish north of Bishop. This again, just to repeat again, all of this is part of the same hydrographic area. And all these different species of fish fit together in a pattern of biology and evolutionary biology.

08-00:13:17

Lage:

And there were more than pupfish, according to what I read.

08-00:13:17

Pister:

Oh yeah, yeah, oh, there are all kinds of things and we only—you take the things that are the most obvious first. Found out there were—in the same basic distribution were snails of a special group, this work was done mainly by one—trying to think of the right term—malacologist here in California. Another one back at the Smithsonian in Washington. And we found these—and really the snails are even a better indicator of distribution than the fish are, because they're less subject to being preyed upon and so on. They're little tiny guys, put them on a dime and they look like they take up maybe 1 percent of the dime. Little tiny things, less than a millimeter across. So we saw these habitats being threatened. I guess we knew intuitively that these were more than just fish as well. But then we got together, this was five or six of us, at Death Valley in April of '69, to think what can we do together without the Endangered Species Act, without strong agency support and even antagonism, like at my agency. They didn't want me to do this. What can we do.

08-00:14:35

Lage:

And were you thinking mainly about the pupfish, or were you more—

08-00:14:40

Pister:

At that point we were. But we realized if there's a body of water out there, there's a lot more in it than just fish. We used the term fish in Desert Fishes Council because it'd be politically understandable. People could understand the fish. Back then ecosystem, the term ecosystem, was not even in our vocabulary. Biodiversity was not in our vocabulary, although we knew it as professional biologists. But we had to have something that, say you go to a congressman or a senator, say, "We need you to endorse a bill." Well, they could get some idea of a desert fish. But that would about stop it right there. So we met together and said, "What can we do?" We decided then in April we should hold a meeting of people of similar interests to talk about what we should do to get this going. So we—

08-00:15:30

Lage:

Do you want to mention names of the five core people? Do you remember?

08-00:15:37

Pister:

Yeah, I should probably look that up and let you know that. But yeah, there were a couple of people from BLM. There was Bob Borovicka, B-O-R-O-V-I-C-K-A. He's passed away now. Biologist out of Portland. Another one from—I think another one from Portland, Art Oakley. [Added in editing: "Clint Lostetter from USFWS."] There was Jim Deacon, from the University of Nevada at Las Vegas. Dale Lockard, L-O-C-K-A-R-D, from the Nevada Department of Wildlife. Park Service people: there was Pete Sanchez, who was a resource manager from the Death Valley National Park. The superintendent of the Death Valley National Park, Bob Murphy. And myself.

And I think that was all at that time. Others came in later. But that was the formative group.

So we decided we needed to hold a more formal meeting. We didn't have the name "council" yet. But it was just the Death Valley pupfish group, if you want to call it that. So we set up this meeting for November of 1969. And I volunteered to head this thing up and get the meeting put together. And I think everybody else was quite relieved that I was willing to do that. I wanted to do it. See if this could do some good. Well, this was interesting. We held our first meeting there. And the Death Valley Auditorium is set up with a center aisle and two groups of chairs at either side in the auditorium, which they use all the time for public information stuff down there. They gave us the auditorium for the entire day, or couple days really. But what was apparent to me, and I've told this story many times, and it may be in the book as well, I looked down—I was running the meeting from the podium up on the stage—I looked down, and we were all brought together by our common concern, we being something I'll define in a bit here, over these desert or arid land ecosystems. I looked out and here were the agency biologists on one side of the auditorium and the academic people on the other, and they weren't talking even. Yet we were all brought together by this common goal. And I thought, well, one of my jobs has to be to break this dichotomy that you see there and bring these folks together, and if we've accomplished, or I've accomplished, anything through the years, been very successful in doing this.

Another thing that helped a lot, about that time government agencies, my own and federal, began hiring and putting PhDs on their staffs. And that helped a lot to break down this wall, because these guys were all right out of graduate programs with major professors that might have been leery of us, but all of a sudden their graduate students were right with us in the agencies. So this was a big step in the right direction.

08-00:18:41

Lage:

Did your department, for instance, begin to require the PhD?

08-00:18:45

Pister:

No, no. There's never been a requirement, per se. But it's been my observation, and even though the PhD is no guarantee of competence, it certainly indicates ability to do good research, or at least it should. Certainly I've never known a good person that wasn't better for having gotten the PhD, because it broadens their perspective and they see a bigger picture. So we began to hire them at Cal Fish and Game. I think one of the first was Larry Eng, who's an invertebrate zoologist. And Larry was a big help there. And all of the others. It's rare now to find a new hire in, say, the Park Service or at one of the upper levels that does not have a PhD. And this has been a big help.

08-00:19:36

Lage:

And were there changes going on in the academy as well, at the universities? Were they getting a different type of biology?

08-00:19:39

Pister:

Yes. Yes. Yes, they were. They were beginning to see—I've written on this too—about the obligations, professional obligations. A paper I wrote for a British journal: Professional obligations in biological conservation. In other words, hey, university professor, you have a bigger obligation than just to turn out students. This of course goes into another awkward thing of advocacy in academia. A lot of university professors feel that they're compromising their objectivity if they take a position on something.

08-00:20:20

Lage:

Have you had conversations where this came into play?

08-00:20:22

Pister:

Oh yeah, yeah. And you hear it argued very strongly both ways from equally competent people on both sides of the fence. I feel that you can be an advocate without compromising your objectivity, if you get good data. This is pure stuff that should not enter into it, except as you might help to create your strong feelings about something. But here's the data. If you guys don't like it, here it is. You can do whatever you want with it. But these are the data that we've acquired. So it still exists. But now I think—like okay, say Davis, UCD, that handles most of the University of California's stuff of this nature.

08-00:21:06

Lage:

Most of the people would come out of—people who go to Fish and Game would come out of Davis rather than Berkeley?

08-00:21:06

Pister:

Conservation stuff. Most of them would, yeah. Of course, we have exceptions to that. We've had them out of Irvine, and San Diego has been a great place. But Davis has more of the specific curricula. They have wildlife people. They have fish people. One of their top people is Peter Moyle. I don't know if you've ever heard of Peter. Peter is one of the major motivating forces on the delta smelt in the Bay Area. And so most of the professional people coming into Fish and Game work now in California come from Davis, or some out of Humboldt State. Usually the PhD level out of Davis. Master's, bachelor's degrees out of Humboldt State. Because the state universities don't give PhDs yet. So that was the beginning of this Desert Fishes Council thing. We then—

08-00:22:07

Lage:

Did you actually say, "Hey, let's mix?"

08-00:22:10

Pister:

I mentioned this, yeah. I didn't do it immediately. But I began to say, "Joe, from Arizona State University, you should be talking to Bill over here from Cal Fish and Game, because you're working on the same species." And so doing that kind of a mechanism, we began to get them. Now you look out from that same podium, and you can't tell, because they're all sitting together. Now this was no panacea, this didn't solve all of our problems. It certainly

made a major step toward it. Yeah, it was a bit of politics, if you want to use that term.

08-00:22:49

Lage: And who else made up this Desert Fishes Council? You had some environmentalists in it too, didn't you?

08-00:22:58

Pister: Oh yeah. Yeah, like if someone were to ask me, like you right now, "Who are the people in the Desert Fishes Council?" I'd say well, it's an international and interagency group of professors and their graduate students, agency biologists, members of the public conservation sector. Because we've always had Sierra Club people there. And—

08-00:23:22

Lage: Anyone in particular who's been a strong—

08-00:23:26

Pister: From the Club? Starting at the very start, yes, there was Martin Litton.

08-00:23:32

Lage: Tell me about Martin Litton's role.

08-00:23:32

Pister: Well, Martin was right in the middle of this thing. In the early days of Devils Hole, Nevada being what it is, located right in the middle of Ash Meadows was a brothel. [laughter] And to increase business, they had a lighted airstrip there. Well, Martin was with *Sunset* magazine then. And he had an airplane, and he'd fly in, usually in the evening, with the lights on he could land there. And from there he could walk right over to the brothel. We were all camped out in Ash—we'd eat there, because they had pretty good food.

08-00:24:12

Lage: At the brothel?

08-00:24:12

Pister: Yeah.

08-00:24:15

Lage: Well, this is a new insight into the Desert Fishes Council.

08-00:24:19

Pister: There was a publication put out for a while called *Cry California*.

08-00:24:24

Lage: I remember that.

08-00:24:27

Pister: Does the name Sterling Bunnell ring a bell?

08-00:24:34

Lage: It does.

08-00:24:44

Pister: Sterling Bunnell, I think, was a psychologist or psychiatrist in Marin with a deep interest in conservation issues. So he was instrumental in putting out an issue of *Cry California*. I still have several copies of this. Showing a couple of guys strolling through the brothel. The Ash Meadows Resort, which was a synonym for brothel, was utilized as a relaxation area for harassed businessmen. [laughter]

08-00:25:28

Lage: And this was in *Cry California*?

08-00:25:28

Pister: Yeah. Sure. And then it went into some of the deeper philosophical issue. But Sterling was great. Then he just vaporized. I don't know what ever happened. But Martin, Martin has always been a real zealot. Whether it's the Grand Canyon or what.

08-00:25:45

Lage: He has a feel for that country.

08-00:25:45

Pister: Oh, yeah. He's a desert person. And he came to all of our early meetings, and then got branched off in other stuff. But he's always maintained an interest and a contact. And when I see him now, first thing he asks about are the fish.

08-00:26:00

Lage: Was he helpful on the publicity angle?

08-00:26:02

Pister: Oh yeah, yeah he was. Very much. He had ties with the press and so on. And I should add this, too, while we're still talking about that area. The media, and their role. Again, during the Nixon administration we arranged through Channel 4 in LA, which was KNBC. In fact, I think they bought KNBC, the call letters, from KNBC in San Francisco. Became KNBR. Yeah, that's how that worked. Okay, so we arranged to fly into Ash Meadows Airstrip their environmental reporter, a guy who was on every night on environmental issues. Guy named Bob Simmons. And he came there in August, probably in 1970, '71, with a camera crew. These guys were back then, with huge camera two-reel things, photographing this whole thing, and Simmons conducting interviews of me and Deacon and everybody else. He went back and put this on the air. And right away—he put a real good philosophical end to it—this is our obligation as human beings to be concerned about this poor defenseless little fish being attacked by these vicious people in Mississippi, and he did a real good job. He didn't fake anything. He just put it out there the right way. So we remained good friends after that. He ended up at KING up in Seattle, the big TV station up there.

Spiro Agnew was vice president at that time with Nixon. And how in the heck he entered into this, but he had an interest himself.

08-00:28:04

Lage: Interested in the pupfish?

08-00:28:04

Pister: Yeah, I'm not sure from what angle or what degree, but we did hear from him.

08-00:28:10

Lage: I would think he'd be interested in making fun of the pupfish, given what I—

08-00:28:14

Pister: Well, he probably would. Because see, that same time, and this is good too, we had a California assemblyman from—I think in the Placer area, somewhere like that, up in this part of the world, and he had a bumper sticker printed up, "Save the pupfish." Tongue-in-cheek kind of thing. About that same time a Nevada realtor in Pahrump, Nevada, right next to Devils Hole, "Kill the pupfish." So this made a great sequence of slides for me in lectures. We had two attitudes out there. You had this one bumper, show the car with the "Save the pupfish," another one, "Kill the pupfish." Both equally devoted to their cause.

08-00:29:00

Lage: Well, I remember at the time a lot of snickering about the pupfish. Here's this little two-inch thing, it's holding up big-time development.

08-00:29:11

Pister: Oh yeah, we ran into that.

08-00:29:11

Lage: And it became a making fun of the Endangered Species Act sort of thing. How did you counter that?

08-00:29:18

Pister: Well, the law of course, when December '73 came along, it became easier to do this. This is federal law. Somebody complains, say, "Listen, this was put into place by Congress, if you don't like it, talk to your congressman about it. Don't blame us, we're just implementing federal law is what we're doing here." So this was a good place to start, what good are they, all this other stuff we've talked about.

So again, back then to the council, we put on quite a PR campaign. And we had some real hate directed toward us. The editor of the Elko paper, who was a real states' rights person, put out a major editorial stating if you want to be a good patriotic Nevadan, you go down to a feed store, and you buy a compound sold as an insecticide that's called rotenone. And you can mix this up and throw it over the fence at Devils Hole, kill these blankety-blank fish, and get the feds out of here so we can go on with our business in Nevada. Well, I checked with attorneys, who said, "Unless the act has been performed,

you can't call somebody into court for suggesting a breach of the law." But I'm sure he received just all kinds of letters from both sides of the fence on that article.

08-00:30:45

Lage: Did you ever have any kind of assault on the area?

08-00:30:49

Pister: No, we haven't, Ann. I think the reason is that people don't realize, the bad guys, how simple it would be to kill them off. Wouldn't have to be rotenone, you could take a jug of Clorox and throw it into there.

08-00:31:03

Lage: Maybe we shouldn't have this recorded.

08-00:31:05

Pister: Probably. Well, yeah. I'm sure if it was going to happen, it would have happened long ago, because people have had a chance to do this now for the last forty years, and they haven't done it yet. That doesn't mean that they won't try. All it takes is one person. We have cameras out there, video—

08-00:31:21

Lage: You do.

08-00:31:24

Pister: Yeah. Security cameras. And we have that. But still person can disguise themselves, can still get away with that.

08-00:31:34

Lage: Is it an area that is open to the public to go and view?

08-00:31:41

Pister: No. Well, yes and no. It's all encircled by a Cyclone fence with concertina wire on top. But we do have a viewing platform where you can look down through the fence. But with binoculars you can do this, and you can look down with binoculars and look right into the water and see the fish, if you want to do that. Quite a ways—

08-00:32:02

Lage: There's no interpretive thing that the Park Service—

08-00:32:04

Pister: There's only a sign there. Yeah, there's a sign right at Devils Hole saying, "In this cavern in the desert lives what is probably the most restricted habitat of any animal in the world. And particularly a vertebrate animal. All of the Devils Hole pupfish in the world live right here." And it tells a little bit about that. It says, "Part of Death Valley National Park. Please help protect it," and so on and so forth. But then to help assure it, we do have the fence around it. I think it would be wise until we work our way out of this to have another fence built out maybe another thirty, forty feet outside of the current fence.

08-00:32:48

Lage: I was just thinking of the value of it as an interpretive site for people to come to understand.

08-00:32:52

Pister: Well, this helps. But they have a good start on this. If they go through Death Valley National Park the Park Service has some very good interpretive stuff there, [as does Ash Meadows National Wildlife Refuge—added during editing].

08-00:33:01

Lage: And they include pupfish.

08-00:33:03

Pister: Yeah, yeah, they include that. They even have a little pupfish swimming around a little aquarium from another location. Southern part of the valley, Saratoga Springs has its own endemic species.

08-00:33:14

Lage: Yeah, there are other species besides the two we've talked about, right?

08-00:33:17

Pister: Oh yes, yes. There are perhaps five or six right in the area that we're talking about. The ones—

08-00:33:24

Lage: But are they all as endangered or not?

08-00:33:25

Pister: Well, yeah. But not to where they're listed. There's not a fish in the American Southwest that's not endangered, they just don't know it yet. But when you see the water development plans of the major cities in the Southwest, things do not bode well for the future of aquatic systems in the American Southwest. Unless we somehow—and we see this, it's one good thing about global warming. You see us creating an environmental awareness among people that they haven't had before. Even now Prius sales, for instance, going way up. Talk now about—our lawsuit against the feds for better mileage percentage, and all of these things show that people are beginning to start to understand these things. But unless we can make a major change in—what I do in my lectures, I'll talk about—I say, "Much of what we're going to be talking about here today involves values, which is an ambiguous term. Say there's 100 students out there. If I were to pass out 100 pieces of paper to you and say, 'Please define values,' we'd get back probably 100 fairly similar responses, but they would all be different." Say, "Let's try to level the playing field here."

I said, "Let's assume that there is a family living in the Mississippi Floodplain during one of the big floods like 1993, when it just really raised heck down there. And the father and mother looking out there, and they say, 'Boy, that water's coming up, it's going to get our house, we better get the heck out of here.' So water's not rising so fast that they can't haul, get the major things

out. So they back up their pickup truck or station wagon, whatever, and throw in everything that they think they need to take with them. And when they're all done, they have room for one more box, but there are two boxes that they'd like to take. One is the old family Bible that has the recorded births and deaths in that family back into the 1600s, all written in the handwriting of the mothers and fathers of those generations. That's one thing they can take. The other one is a box of video games that the kids have recorded. And that's of course what they want to take. So they hold a family council. Water's still not rising that fast. Say, 'What should we take?'

"Little kids say, 'We want our video games. We mowed lawns and we babysat to buy these things. We don't care about that old box, that old book. There's nothing in there for us.' Teenage son said, 'Well look, the pawnshop's still open. Let's take the two boxes up there and see what we can get the most money for.' The parents say, 'No, we're going to invoke our authority as parents, we're going to take the old family Bible. We're doing this for two reasons. One, we know the value of it, and we know also that in a very short time you'll see why we made that decision.'" Well, that metaphor can be applied beautifully to natural situations. There are those fishes that are like the ones at Crowley Lake. They would be the video game type creatures. They're artificial and easily replaced. Then you have the things like the pupfishes that would be the family Bible with enduring value to them.

08-00:36:58

Lage: And irreplaceable.

08-00:36:58

Pister: Yeah. So yeah, exactly. So this is how I try to define the term values to people interested in what we're talking about here. And it seems to have worked pretty well. I pirated that from an environmental philosopher at—where is he? I think he—he's at Georgia Tech, guy named Bryan Norton. And he wrote this in one of his books. I think he used TV sets or something. But he gave me the idea, yeah.

I might add, too, at this point—talk about environmental ethics perhaps another session, but this has had a lot to do with what I do. Because it was in the latter part of 1979. I read somewhere about a new journal called *Environmental Ethics*. And it was edited and published by a guy at the University of New Mexico, Albuquerque. And I got to thinking, most of the problems we face are value issues. They're ethical problems more than they are biological problems. We can figure out the science and technology, but it's adapting people to do these things and accept them. So I then got ahold—wrote this fellow. Told him who I was. And he was thrilled to death, because he thought the only people that might be interested in this would be professional philosophers. And I said, "No, I can clearly see from what I'm doing." He said, "Could you write a paper for the journal?" I said, "Yeah." And so that's what got me going on the "Endangered Species: Costs and

Benefits” concept. Brought up some religious issues in that paper. So I’ve retained a strong friendship with him. The next—this is interesting too. Philosophy departments, like at Berkeley, Stanford, wherever, they don’t like philosophers to deal with real tangible issues. They would rather—

08-00:39:02

Lage: So environmental ethics is not part of their—

08-00:39:06

Pister: No. So poor Hargrove, Eugene Hargrove was the guy that started this up, was literally forced out of the University of New Mexico. But he got a fair reception at the University of Georgia at Athens. And so he put together a symposium in 1984 on environmental ethics. The year before that, I gave a Sigma Xi lecture at Colorado State at Fort Collins. And after that, one of their environmental philosophers came up, fellow named Holmes Rolston, who was the father of the whole thing along with Eugene Hargrove. And I gave this lecture, and he came up, he says, "I really liked what you had to say there. I’d like to stay in touch with you." I said, "Fine, love to." So he arranged for me to give their keynote talk at this thing in Athens, Georgia. There I met a number of the founders of the whole thing of environmental ethics. Another one being a fellow named Baird Callicott, who was at University of Wisconsin at Stevens Point then. So I went up there for their first Earth Day. You ever hear of a fellow named Hugh—

08-00:40:16

Lage: The first Earth Day?

08-00:40:18

Pister: For their first celebration of Earth Day.

08-00:40:22

Lage: It wasn’t in 1979.

08-00:40:24

Pister: Oh no, no, this was ’85. And Hugh Iltis. Iltis is a botanist. He was the one that found and described the *Zea diploperennis*, the perennial corn in the Mexican Highlands. It was then brought down and hybridized with our corns and made a much better, more hardy strain. So he presented one of the talks. I gave the other one. And so the next year then we went down to Athens and brought all these other people together. And I maintained a strong correspondence with all of them. I have a complete set of the journal *Environmental Ethics*.

08-00:41:03

Lage: And you’ve written a lot along those lines, I guess.

08-00:41:03

Pister: Yeah. I didn’t publish anything more in the journal. But I published a lot of stuff all over the place in ethical perspectives on what we do. So that’s an interesting part of it, too. But this came in after, though, I had my revelation there with the Owens pupfish. This is twenty years after.

08-00:41:29

Lage: Is there more to say about the Desert Fishes Council? I'm just looking to see the notes I have.

08-00:41:38

Pister: Well, okay. So then the Desert Fishes Council, I served as the president of this for three years, '69, '70, '71. In '72 the presidency went over to one of my colleagues in Cal Fish and Game by the name of Jim St. Amant. And then in '73 we held our first meeting out of Death Valley. This was at Arizona State University in Tempe. And from that point on we set up a rotational thing. We meet every year, usually the weekend before Thanksgiving. We rotate the meetings. Once in Death Valley to bring us back to our roots, once in Mexico, and the third meeting somewhere else in the Southwest.

08-00:42:27

Lage: What do you define as your area?

08-00:42:27

Pister: Essentially the Great Basin. This would be from the Rockies in Colorado out to the crest of the Sierra, and adjoining deserts.

08-00:42:37

Lage: And does Mexico fall into that also? Is that part of the same system?

08-00:42:46

Pister: Pretty much the Chihuahuan Deserts tie into our deserts, the Sonoran, whatever.

08-00:42:55

Lage: How did you happen to extend it to Mexico? Did that happen right away?

08-00:42:58

Pister: Well, pretty quickly. One of the—this fellow, a professor of biology or zoology, he's emeritus now, at the University of Nuevo Leon in Monterrey on the east coast of Mexico, and he did his PhD work at Tulane—Salvador Contreras [Balderas]. He, because of his just general interest in fishes, wasn't a charter member, but he came in either the second or third year. And we could see then—this talks about fences and stuff. The border between Mexico and Texas, Arizona, New Mexico, and California, that's simply a line drawn by politicians. The creatures were there long before we showed up and drew these lines.

08-00:43:47

Lage: And the water systems, the Colorado River.

08-00:43:48

Pister: Sure, oh yes, very definitely. Yeah, all of that. And so it was natural that the Mexicans should jump aboard. And Salvador was the first. Then some of his faculty people at Nuevo Leon. One of his graduate students on whose doctoral committee I served, he's a professor now at what they call Ciencias Marinas,

Marine Sciences at Ensenada, at Baja Norte. Another one in the southern end of Baja, Paco Garcia. All these guys are great guys. And of course the University of Mexico, that's one of the big ones. They have big facilities there. So it's been fun to work with these people. Particularly the environmental philosophers. I found out right away that they know a heck of a lot more about biology than biologists know about philosophy. That's what brings them into their field. Hargrove, for instance, is a speleologist. He works on caves.

08-00:44:55

Lage: Do these environmental philosophers get involved with the Desert Fishes Council?

08-00:45:01

Pister: Yeah, they do on occasion. We had Holmes Rolston come to our meeting that led to the publication of *Battle Against Extinction*. He wrote a chapter in there on values of desert fishes.

08-00:45:16

Lage: What are your meetings like? Are there scientific papers?

08-00:45:19

Pister: Yeah, they are. They're fun meetings.

08-00:45:22

Lage: Is there advocacy involved?

08-00:45:25

Pister: Yes, there is. But we present pure science at our—at the usual meeting we'll have sixty or seventy papers presented over a three-day period.

08-00:45:35

Lage: It's a big deal.

08-00:45:35

Pister: Oh, it is. And we put out a proceedings. We had a hard copy proceedings until a couple years ago. It's all online now. Available to anybody free of charge, desertfishes.org, and you can go right into it and take any of the proceedings you want to read. So we do that. And I had this in the very start, first meeting. We held a number of technical papers, but we also went into some of the more practical aspects of the early formulations of what we now call recovery teams. Like you have—there's an Owens pupfish recovery team, a Devils Hole recovery team. Virtually all these endangered listed species have recovery teams that bring together people to try to bring them back from extinction. Battle against extinction. So—

08-00:46:27

Lage: So that's really a focus.

08-00:46:29

Pister:

Yeah. But it was particularly so the first meeting. Because we had species that were in big trouble. Not that they're not now. Back then it was bad enough to have a problem. But if you don't understand the problem, it gets to be really scary. Now we understand the problem, and are able to—we had money, too, made available under the Endangered Species Act to take agencies like my agency and all the agencies and give them money to do the things they need to do. So that has been a real help, this financial aspect.

08-00:47:04

Lage:

Now how do you fund the council?

08-00:47:08

Pister:

Well, okay, the council itself, we are in the middle of that right now—we have built up through the years a trust fund of about \$80,000.

08-00:47:19

Lage:

Member donors?

08-00:47:21

Pister:

Member dues, we have life memberships where people can become a life member I think for \$600. We give them credit for past memberships if they want to extend to be a life member. We get some small grants from federal agencies. \$1,000 to \$2,000 from the Forest Service. Similar from the Fish and Wildlife Service.

08-00:47:44

Lage:

And do you perform a service for them? Or it's just a—

08-00:47:47

Pister:

Well, only to this extent. Sometimes they'll have, say, an environmental document will come across, a project on federal land. If they need some help in the analysis of this, if we have the expertise within the council, yes, we make this available to them free of charge. So they have an interest in helping us do what we do. Like the Park Service right now is the pusher behind the Devils Hole work. I think I mentioned that earlier.

We had our meeting last year in Death Valley. We brought up a couple of aquarists there at the University of Nuevo Leon, because these guys are really great in being able to rear fish in aquaria. Well, the Mexicans don't have a nickel. So we were able through the Park Service to fund their travel to come up to the meeting, get them across the border, invite them so they have documentation and all. And most of them speak English quite well. And so we do that. Say there's a graduate student that wants to come up. We always have a fund every year. We send out our notices for the meeting, our call for papers. People can donate to the travel fund, and they know this is to help students, both up here and down there, to fund their travels. We waive their registration. We usually are able to provide housing for them. Just to get them there, realizing that they're the key to the future, obviously.

08-00:49:32

Lage: Now I noticed you had a site also, a research center?

08-00:49:36

Pister: Yes, we do. This is in Mexico. We'll be meeting there later this year. It's in northern Coahuila, which borders on the States.

08-00:49:45

Lage: How did you happen to get that?

08-00:49:48

Pister: Well, this is just like Ash Meadows, but it's in Mexico. In fact, it's probably even more scientifically valuable than Ash Meadows is. So many of our people were already doing research there long time ago, long before the Desert Fishes Council showed up. So the way things work, one of our key people in the Desert Fishes Council is a professor at the University of Texas at Austin, Dean Hendrickson, who got his doctoral degree at Arizona State. The guy at Arizona State was a real advocate for the Cuatro Cienegas, Four Marshes in English, area.

08-00:50:29

Lage: Say that again.

08-00:50:32

Pister: Cuatro Cienegas, Four Marshes. Yeah, cienega is a marsh, cuatro four. And so when Dean got a faculty position at University of Texas, which is quite—well, relatively near to this site, about an eight-hour drive from Austin down to Cuatro Cienegas. And so we decided what a great place to have a research consortium there available for anybody that wants to use it. We have facilities there. With NSF now, people, students have money now. Not a lot maybe, but we can still charge them some rent. We support just through our dues much of the operational expense there. Rent for our facilities, utilities, phone bill, Internet hookup, stuff of this kind.

08-00:51:29

Lage: But this is a natural area that has desert fish?

08-00:51:32

Pister: Yes, it has several groups of pupfishes. It has turtles. One of our good UCSC people is in Peace Corps now working on turtles there. And plants. It's about the same as Ash Meadows, only even more of it. So this is available then.

08-00:51:53

Lage: This is a really going organization. You do a lot of work.

08-00:51:57

Pister: Oh yeah, it really is. It really is, and much of it is thanks to this super capability of this fellow Dean Hendrickson at Texas. But we help him out. The administrative work, I handle all things like finances and stuff of this kind. We have the work subdivision, whatever you want to call it.

08-00:52:23

Lage: Do you have a hired administrator at all?

08-00:52:23

Pister: We don't have any paid employees at all. And a lot of people wonder about that. "How the devil do you run the center?" I say, "Well, we believe in it." We donate our time. I probably spend at least two hours a day, my own time, on that. But we have a guy up in Ashland, Oregon. He set up his own consulting firm, Western Fishes. Another PhD guy from Hawaii. He handles our programming, does all of that. Sets up the schedules, solicits papers.

08-00:53:02

Lage: For your meetings.

08-00:53:02

Pister: Yeah, for our annual meetings. We have a coordinator. There are twelve basic hydrographic areas within the Great Basin, different drainage areas, Death Valley being one. We have Central Nevada being another. Colorado River Upper and Lower being two more. So we have that. So we have people handling each one of these areas. Plus a coordinator to coordinate what they do. Our constitution was derived from, not copied from, but based upon the constitution of the Geological Society of America. And this was done by Pete Sanchez at Death Valley, who's been a longtime member of GSA. And so we have then—we also have a number of geologic papers as well. It's not only on the fish, but also the things that relate to the fish.

08-00:53:58

Lage: Yeah, it's very broad-based despite your—

08-00:53:59

Pister: Oh yeah, yeah, as ecosystems themselves are. So what do you want to make an ecosystem, the head of a pin, or do you want it to be the planet Earth, or the solar system, or the universe? Take your pick. They all have the same principles that govern them.

08-00:54:14

Lage: You mentioned in the book there that it had spawned other organizations, the Desert Tortoise. Was it a direct—

08-00:54:24

Pister: Yes, Desert Tortoise Council, and another one, the Arizona Riparian Council. What we did, they're all in our same league. We said, "Any way we can help you set up what you want to do, let us know." Well, we gave them both our constitution, primarily. They can just change words. And it's very legally valid, whatever. And there have been others as well. There's a Desert Bighorn Council that we coevolved with. People working on bighorn sheep.

08-00:54:53

Lage: Is there a special breed of people interested in the desert?

08-00:54:58

Pister: Yeah, Sierra Club has a major desert section. Who's the guy that does that? Trying to think of his name.

08-00:55:05

Lage: Elden Hughes?

08-00:55:07

Pister: Yeah, that's the guy, sure. Yeah, Elden phoned me up one day, says, "You get our newsletter?" I said, "No, I know you got one, but nobody sends it to me." He said, "Oh my gosh." So sent me a whole bundle of them. He's a great guy. I really like Elden. So yeah, there's a special breed.

08-00:55:25

Lage: You think of Edward—not Edward Albee.

08-00:55:27

Pister: Ed Abbey?

08-00:55:28

Lage: Ed Abbey.

08-00:55:28

Pister: Yeah, he was a beginning—

08-00:55:31

Lage: He was a special breed.

08-00:55:32

Pister: He sure—oh boy. We nearly got him to talk at one of our Desert Fishes Council meetings, because my old buddy at Arizona State, grizzled old prof down there, was a good friend of Abbey's. Says, "I think I can get Ed to come up and address our meeting." Something else came up, and he couldn't make it. But all his writings, *Desert Solitaire* and all these, are just really classic works. He was a great guy.

08-00:55:55

Lage: Now do you—when you say they're a separate breed, do you mean that? Because I also asked you yesterday, I think, what is it that people see in the desert, and you said, "Well, anyone who sees the desert." So tell me, but does it take a special kind of appreciation?

08-00:56:13

Pister: Well, yes it does. I think you have to have people that are willing to put up with the privations of the desert, that can go out, say, in Death Valley in the middle of July and enjoy themselves. They're willing to put up with those privations. We always hold our meeting at a more favorable time of the year in Death Valley, in November, because it's not so blasted hot, and we can go out and do our own field trips without killing ourselves doing it. But I thought, okay, like at Berkeley, right here, the MVZ, Bob Stebbins, herpetologist, Dave Wake, another herpetologist, they don't have any fish people here

anymore, it's just George—do you know George Barlow? Did you ever do an oral history on him? He was an ichthyologist there, and just really a great person. He was a very active member of our group. But you mention desert and their eyes just light up, because they know what's there. It's great for bird people, because deserts—I mentioned Saline Valley. This is one of the interesting things I went through with state bureaucracy. And I recognized in the desert, water is an extremely key issue. In Saline Valley, which is like Death Valley, it's about the same, about as hot there, a little bit higher maybe in terms of elevation—

08-00:57:36

Lage: And where is it again?

08-00:57:38

Pister: This is between the Inyo Mountains and the Funeral Mountains in Death Valley. You go from the Inyo Mountains into Saline Valley and over subrange then into Death Valley itself. So they're adjacent. To get to Death Valley, say, from Lone Pine, from Highway 395, you go right past the turnoff to Saline Valley. But here at the southern end of Saline Valley is a very nice perennial stream. Not a lot of water. But anything in the desert, maybe this wide, maybe six inches deep. But it's flowing all the time. And it flows into a big salt bed, maybe a square mile of pure sodium chloride out there. Well, the person who owned it, we started negotiating with him, we'd really like to get the water. He said, "Well, yeah but you're going to have to get the whole unit. I'm just not going to give you the water and not the rest of it." So I had to go through the battle of trying to convince very skeptical people in Sacramento that it was worth our Wildlife Conservation Board funds, comes out of horse racing money, to buy the square mile of salt.

08-00:58:57

Lage: To get the water. And what were you going to use the water for?

08-00:59:02

Pister: Well, just essentially to maintain the marsh. It's a marvelous place for birds. We went there in April, we again being a couple of ornithologists from Bishop, some of my scientific aide employees, and others, just to see what was there in April. I think within a day we'd counted something like ninety-five bird species, because in these little islands of water in a sea of sand, so to speak, birds just go from one to the other. And this is a time of migration anyway. So we were able to buy it. So we own all that now, have all the salt in the world.

08-00:59:37

Lage: And we is?

08-00:59:39

Pister: State Fish and Game. Yeah, we got that. The feds aren't involved here. I would imagine—see, it's all part of Death Valley National Park now. The

Park Service took all that over. And I would imagine we just might say to the Park Service, “Here,” because they take good care, they’re good stewards.

08-00:59:56

Lage: I’m thinking—we’re just about to end this section. So I’m wondering if we maybe should call it a day as well.

08-01:00:06

Pister: It’s up to you.

[End Audio File 8]

[End of Interview]

Interview #4: 01-24-2008

[Begin Audio File 9 Pister_e_philip9_01-24-2008]

09-00:00:00

Lage: Okay. We're on again. This is Session 4 of our oral history, and we're starting Tape 9. Today is January 24, 2008. I'm interviewing Phil Pister for the Regional Oral History Office. Now Phil, yesterday we had quite a discussion about pupfish. One thing that I've seen in the writings, but I don't think you mentioned, having to do with the Owens pupfish, was didn't the Nature Conservancy come in on that as well?

09-00:00:47

Pister: No. No, they haven't been involved in the Owens Valley, only out in Ash Meadows.

09-00:00:56

Lage: I confused the two. The other reference I ran across, maybe this was out in Ash Meadows too, having it filmed for TV. Which was that?

09-00:01:10

Pister: Yes. This was at Devils Hole where we had one of the big television channels in LA come up, and they did quite a thing on us.

09-00:01:20

Lage: And how did that happen? How did that come about?

09-00:01:25

Pister: We knew—we speaking of the very small group of us—knew that probably our ultimate salvation would be in public pressure. So we felt the best way to do this is to get the dilemma of the Devils Hole pupfish into the media, particularly in something as broadly viewed as say NBC in Los Angeles. They have millions of people that watch this on their evening news. And that's where it came through.

09-00:01:52

Lage: And how did you get them involved?

09-00:01:57

Pister: Well, okay, I knew personally through previous stuff this fellow Bob Simmons, who was their environmental reporter. He'd been up to places like Crowley Lake like in the opening of the fishing season and stuff, and it was quite newsworthy. So this came along, I thought hey, Simmons is the guy I want to get hold of. He was an excellent environmental reporter. So he came there to Devils Hole in August of about 1970 I guess, thereabouts. And down in that part of the desert, it's just blistering hot in August. Probably not quite as hot as Death Valley, but close to it. And he brought his photographer with him, and then they didn't have the video cameras we have now. It was big reels of thirty-five-millimeter film that they were doing all this with. And to

get down to Devils Hole, you just don't walk next to it. You've got to climb down a ladder about fifty feet. And they brought all that stuff down there, and I've got some great pictures of them doing this.

But it came out, and that began quite a public outcry, what are we doing to save this poor little fish? You need that, if nothing else, for politicians to know that the people that vote for them are concerned about this. That helped us a great deal in getting going. Meantime, the federal people back in Washington, who had been out also and seen the dilemma of these little guys, they were continuing on from the federal level. We were doing it locally, but gaining political support. And I mentioned the dilemma of—not the dilemma, but the interesting situation of the "kill the pupfish" bumper stickers and the "save the pupfish" bumper stickers.

09-00:03:39

Lage: Yeah, right, the strong feelings on both—

09-00:03:39

Pister: Oh, very much so.

09-00:03:42

Lage: And then this was about three years before the Endangered Species Act was strengthened so much.

09-00:03:46

Pister: Yes. Two to three years before that. And again after the act was passed, then things became much easier, because there was federal funding made available through the act that could be made available on the spot; it could be through the state agencies, whatever. We called them Section 6 funds from the Endangered Species Act. And that was most helpful to us. Because neither California Fish and Game, which was not even involved other than through me—Nevada Department of Wildlife had no money at all for this sort of thing.

09-00:04:19

Lage: So the Endangered Species Act helped fund, gave a new source of funding to these state agencies.

09-00:04:24

Pister: Oh yes. Yeah, exactly. Exactly. And even now, or maybe especially now even, with the state budget in the dilemma it's in right now, depending heavily upon federal funding under Section 6 of the Endangered Species Act.

09-00:04:42

Lage: Did that change the political situation in the department? Did it give more support for the kind of work you wanted to do?

09-00:04:47

Pister: Well, yes, it did. It makes me mad, because they say, "Well, we can't afford to pay for this. Let these things die out," where they could afford money for all

kinds of things. We're getting back to now to our old family Bible and the videotape concept. The politically oriented administrators are interested in saving the videotapes. And there are those of us who see a broader picture that want to save the old family Bible.

09-00:05:13

Lage: But in this case you had targeted money for endangered species after '73.

09-00:05:15

Pister: Yes, we did. Yes, we did. And of course any project like that has to be approved by the federal government. But if you know how to write requests and whatever, you can easily do this. Particularly if you have very sympathetic people back in Washington or in Portland.

09-00:05:32

Lage: Did the department in California ever create a division such as the Inland Fisheries was a division? Do they have a division for—

09-00:05:43

Pister: Yes, yes. Yes, we have a nongame species group now in Cal Fish and Game. Other states too. Nevada has a very good one. They're very good people in it. And Oregon does as well. And Arizona, they have a very good program in Arizona. And all of these have been since we went through these battles there early on. But yes, they all do. And in fact, California's program could learn a lot from the other states. But they have good people now. And I have no problems with this at all. I mentioned the fellow who took over when I left. Just an excellent person, fully as dedicated as I was to making sure these little fellows are taken care of.

09-00:06:28

Lage: Okay. That was my follow-up there. We were going to talk today about energy-development-related issues of many kinds. But somehow they all fit together. And you had said you encountered one immediately upon your arrival in Owens Valley.

09-00:06:51

Pister: Pretty much. Pretty much, yeah. Like I say, I was in Bishop for about two years before I went up to Garberville, taking a promotion up there. I was there for a little over about two and a half years, and then came back to Bishop. And when I came back, I found a project was starting being promoted by the Los Angeles Department of Water and Power. I'll describe this. I'll try to paint a verbal picture here, as well as I can. There's this big reservoir up there, Crowley Lake, where people just come by the zillions to go fishing, trout fishing. Well, that lake is also used as a facility for running the aqueduct providing water for the populace of LA, and also to produce hydroelectric power. And one of the major tributaries to Crowley Lake is a place called Rock Creek. It's one of the most beautiful areas of the upper Sierra. It's a place that you can literally get the backcountry experience by driving to it, a place called Mosquito Flat. You drive up to Mosquito Flat, walk up in Little

Lakes Valley, and it's just like you packed in somewhere. It's just a gorgeous place. [About two miles below Mosquito Flat is Rock Creek Lake—ed.]

Well, okay, what the City of LA wanted to do would not impinge upon the beauty of this place at all. But they wanted to take Rock Creek. It comes down about ten miles from the lake, Rock Creek Lake, and there's a bunch of lakes up above it, goes down the Rock Creek Canyon, and then into the natural channel coming into the Owens Valley at about the 4,500-foot level, probably dropping about 2,500 feet in the process. But what they wanted to do was divert Rock Creek not into a natural channel, which was okay, but into Crowley Lake, which would then allow them to run Rock Creek water along with all the other Owens River water down through the major hydroelectric penstocks that produce much of the power for LA during peaking times, late evening, whatever—or early evening, it would be, for cooking, whatever. So they wanted this to help expand their peaking capabilities there in Crowley Lake, and then through the major hydroelectric system. Well, we viewed this with a great deal of concern, because Rock Creek, the lower part of it, is a very popular recreation area, and the water going to the Rock Creek Gorge we felt should be left there for esthetic reasons as well as just the benefits of recreation, fishing.

09-00:09:39

Lage:

Now this was before environmental impact statements and all of that. What was the process that the—

09-00:09:54

Pister:

Well, back in that era, there's a section of the Fish and Game Code, the owner of any dam—and this would involve a dam, of course—must release enough water. What we call Section 5937 of the Fish and Game Code. Even though I haven't been hooked with that directly, these numbers are firmly imprinted on my mind in indelible ink. "Must release enough water below the diversion point to maintain in good condition any fish that exist or may be planted there." Well, they're going to dry the stream up; this was in violation of Section 5937. So we then, knowing what their plans were, could protest this under state water law, which we did. The city of LA thought they could get around this politically through the Division of Water Rights. Well, this is great. And Division of Water Rights—

09-00:10:45

Lage:

Water Resources?

09-00:10:46

Pister:

The Division of Water Rights within the Department of Water Resources. It's a subdivision within DWR. Run separately, really. It's all part of the big water thing in California.

09-00:10:58

Lage:

So they were going to make an end run around Fish and Game.

09-00:11:01

Pister:

They were, yeah. So it ended up we raised enough heck over this, Fish and Game did, and it came to a full-blown water rights hearing in Bishop where one of the members of the State Water Resources Control Board and the Division of Water Rights came over and conducted this legal hearing where you're sworn in and attorneys ran the thing and whatever. So this was the most interesting thing. But the best defense you have is to get data. So our position was, in Fish and Game, "Well, okay, you can divert floodwaters, but we want a minimum flow to preserve that recreational resource including the fishery in Lower Rock Creek." Well, their position was—

09-00:11:50

Lage:

How did you set the minimal flow?

09-00:11:51

Pister:

Well, this was the start. Take some pride in this. There's a very sophisticated computer program now called the Instream Flow Incremental Methodology. It's a very sophisticated thing that you put in all these data, and the computer decides what these flows should be. It includes fish habitat preference data, where brown trout a certain time of the year want this much water, they want certain velocity, rainbow trout the same thing, and whatever. So all this is fed into the computer.

09-00:12:24

Lage:

And this was in existence back then?

09-00:12:26

Pister:

No, no. This was not. This was developed probably during the sixties and seventies.

09-00:12:36

Lage:

And we're talking about the late fifties.

09-00:12:36

Pister:

Yeah, we're talking about late fifties, yeah. So what I did then was try to come up with some of the stuff that was developed later in a much more sophisticated way. We would go out with current meters, and we'd stick this thing in the streambed, wearing a pair of hip boots, have a clipboard and all, and you'd measure the velocity of the stream. Then you would put that in terms of the depth of the stream. And you knew pretty much by your own experience what fish seemed to like and what spawning flows they wanted and so on. So all of these data were accumulated by us, mainly me, and made available then during our hearings. So the DWP, Department of Water and Power, attorneys say, speaking to the court, which would be the Division of Water Rights guy, "Well, this water is worth X dollars per cubic foot per second if we run it through our power plants. Going down where it is now, it doesn't develop any power at all. We can't use it for peaking flows and all." So we can come back and say, "Well, Rock Creek now supports a huge amount of fishing pressure that also provides revenue, maybe not to the

Department of Water and Power, but it surely does to the local economy, and the people that love to fish there, they'd pay a lot to retain that resource." So back and forth this went. We had really a great what would be assistant—or deputy attorney general, I guess, or assistant attorney general, out of the Los Angeles State Attorney's Office.

09-00:14:15

Lage:

I see. Was this under the Brown administration, Pat Brown?

09-00:14:19

Pister:

Probably yes, yes. Because see, that same year we took him up on our fishing trip. So yeah, it would have been Pat Brown. I'm not sure how that would fit in with the terms of governors.

09-00:14:29

Lage:

Yeah, I should look.

09-00:14:32

Pister:

But yeah, Pat Brown would almost—he would have had to be governor then. The fellow who conducted the hearing was Lee Silvernail—not Lee Silvernail, but can't think of his first name, there was a Lee Silvernail that came into the picture later on. But Kent, I believe it was Kent Silvernail. An older gentleman that was just really a fine moderator. He did a good job. He had a good sense of humor and was obviously not swayed one way or the other. He could see both sides of the picture, which someone in his position should certainly do. So this then was analyzed after all these data were in. And we had people testifying. I was the main, say, witness for the—what would we—would we be suing the City of LA? I don't know if we have anything like a suit, but it was just presenting different sides of the case. Water for recreation, or water for power development.

09-00:15:29

Lage:

And how do you assess the value?

09-00:15:33

Pister:

Yeah well, this is right. So we left that.

09-00:15:35

Lage:

And did you have people from the community testifying?

09-00:15:37

Pister:

Yes, we did. We had say representatives from the Mono County Board of Supervisors there, because this was in Mono County. And we had them talking about the value of recreation. We had people from the chambers of commerce giving their pitch on the value of the fishing industry up there. We had a lot of people come up there who don't fish, they just camp next to Rock Creek and listen to the water gurgle along. At the lower end of this there's the Paradise Camp. And they say "built over tumbling Rock Creek." And you can eat dinner there, and you hear the stream going underneath where you're sitting, and you look up there and you see the water come. It's a beautiful

stream. So we wanted—it was a sliding scale based upon the recorded flows. And the City of LA had flow gauges that they would have one of their hydrographers read periodically. So we had excellent data on the normal flows in that stream, the undiverted untouched stream. And I built around that in saying, "Well, if there's only fifteen second-feet going downhill, the City of LA can't divert anything. We need at least that much at certain times of year." The mean flow I think was twenty to twenty-two. A cubic foot per second—for those who aren't—is a twelve-by-twelve-by-twelve inch block of water flowing for one second. That's what a CFS, cubic foot per second, actually is. And in a good stream channel that's a pretty decent flow. But we felt that's what they should release for us. So the Water people took these flows that we had recommended, and they supported it, and we won that. And to us this meant a lot, because here the little State Department of Fish and Game, probably one of the smallest units in state government, we beat one of the real Goliaths of the power industry, the Los Angeles Department of Water and Power. It was a predecessor to the Mono Lake situation, where the Mono Lake Committee beat the City of LA also. But this was the first time we had won one, and that they had ever lost a case.

09-00:17:54

Lage:

It seems like Mono Lake—it was a lot harder, the Mono Lake thing.

09-00:17:59

Pister:

Oh, it was, it was a much more complicated thing, yeah. But this was interesting. When we got toward the hearing, they had—the general manager of DWP was a very good man, a very interested person, guy named Sam Nelson. And Sam came up. I got to know him pretty well. And all of us, all of the protestants and litigators, everybody else, all met at a field trip to look at Lower Rock Creek. And I really felt bad for the city attorney, a guy named Rex Goodcell. Rex was a guy, your typical slick attorney. And so we were looking at the stream, and Sam Nelson, who was the boss of the whole operation for DWP, turned to me and said, "What's your feeling on the streamflow?" And I said, "Well, this is a certain flow right now, and we would agree to a flow about this much at this time of year." I think it was then—think our hearings were in November, somewhere. I got this in my notes. And Sam said, "I wouldn't settle for a drop less than this." And I could see the attorney holding his head like this. Because they're with their case. If the boss agrees with the guys they're fighting, it's not good.

09-00:19:24

Lage:

So taking Sam out and showing him the resource helped.

09-00:19:27

Pister:

Yeah, well, sure. And these guys, DWP runs a really sophisticated, and a good, operation. They've been, as a general rule, they've been good stewards of the land and water in the Owens Valley. Well, okay, this was the end of the reign of the realm, the guy I mentioned yesterday that would go around in a great big black Buick with a hat pulled down over his eyes smoking a cigar.

09-00:19:54

Lage: Yeah, but you didn't mention him on tape. So tell me about that.

09-00:19:55

Pister: Oh, I didn't do that. Okay, I didn't. Okay, there was a fellow. He's passed away now. So we can talk more objectively about him. This fellow was Sid Parratt, P-A-double-R-A-double-T. And I think the people that worked under him called him Old Blood 'n' Guts, something like this. He and I were good buddies, because he appreciated what I was trying to do, and I appreciated his job, which was not an easy one.

09-00:20:16

Lage: And what was his job again?

09-00:20:16

Pister: His job was northern district engineer for the Los Angeles Aqueduct system. But that entailed being over also the power developers, say, the Owens Gorge project, and—See, the Department of Water and Power, this water that comes down the Owens River develops power all the way down to LA. There are other power stations farther down, the San Francisquito plants and others. Any drop of water that goes in there is money for them. And Sid was very protective of the Department of Water and Power's water rights there. And we were one of the first ones to really come up against them and say, "We don't like all of the things you're doing."

09-00:21:07

Lage: Now when you say we—

09-00:21:08

Pister: We being the Department of Fish and Game. I'm going to interject this here, because it sure plays into this. Bishop and the Owens Valley is one of the world's really great places to live. One of the primary reasons for this is that most of the land there is owned by the City of Los Angeles for water rights protection. The City of Bishop has obtained water rights for Bishop Creek. And that provides virtually all the water for the Bishop community. And when I first arrived in Bishop in the fifties, early fifties, if you went into a bar anywhere, you were almost certain to hear an argument about the rats that the City of LA was because they're taking the water that we could use for economic development. That became less and less of an argument, until people began to realize perhaps fifteen or twenty years ago, probably beginning in the eighties, that the reason they lived up there was because of the ownership of the land by the City of Los Angeles.

09-00:22:18

Lage: You mean because they couldn't do economic development.

09-00:22:19

Pister: This is right. And if you drive north or south of Bishop, particularly south, you see what unrestricted development in a desert amounts to. You have places like Lancaster and Palmdale. Then going farther out in the desert like

Palm Desert, places like this, Moreno Valley, where there are two-and-a-half-acre ranchettes full of upside-down car bodies and whatever. And people began to realize, boy, we're going to kill the goose that laid the golden egg.

09-00:22:48

Lage: Do you think that's a general feeling?

09-00:22:50

Pister: Yes, I do now. I don't know if it was for a long time. But there's enough people that have moved up there from LA to get away from what they have in southern California. I think if this was put up for a vote now it would—say, should the city release land for development?—it would get probably defeated two to one by those who would want to retain the status quo.

09-00:23:12

Lage: Well, that's an interesting point. Now some people would say that the balance is off. I'm taking the Devils advocate approach. People need a place to live. We need to develop as much as we can so people can have better lives and all. How do you feel about that?

09-00:23:31

Pister: Well, I've got two ways to respond to that. I've even seen some of the more development-oriented people say you could take the entire population of the world, 6.5 billion, and they could all live on an eighth of an acre in the state of Texas. And my response would be, "Who wants to spend the rest of their life on an eighth of an acre in the state of Texas surrounded by 6.5 billion people?" And I'll come back with another one saying, "The only thing worse than having the City of LA in the Owens Valley would be not having them here." And I think they can see this. I've used that in lectures. I've even—City of LA once in a while puts out a PR type video that they'll put on the local TV. And I take great delight in making that quote. And so do they, because they can look at it a tongue-in-cheek attitude too. They realize they've been good land stewards. They've had some fights like in Mono Basin, and early on, our fight there in Rock Creek, and the Lower Owens River Project that they're right—

09-00:24:34

Lage: We didn't talk about that. We should.

09-00:24:43

Pister: Lower Owens Project, okay, that's all part of our energy talk.

09-00:24:43

Lage: Right. You really didn't describe Sid as fully as you did off the record last night.

09-00:24:52

Pister: Oh yeah, okay, well, Sid then, he was about ready to retire. Sid Parratt, the engineer that was in place during the early part of my career there in Bishop. And our first experience with Sid was—and this enters into energy too.

Interesting thing because I've got it in my notes. I want to talk about it sooner or later. Now is a good place. City of LA, when they run the water down through their major power plants, what we call the Owens Gorge plants where they can take the water out of Crowley Lake and all the upper Owens drainages, put it into pipes and run 600 cubic feet per second down through those pipes and produce power with it. Then by the fluctuations—say, you go from 200 cubic feet per second to 600, then back to 200 again—that creates, in terms of the river, a real mess, because you've got high water that literally washes a place out, then you drop down to low water again that the fish prefer. So in order to moderate those peak flows, they have what they call a reregulating reservoir, where the peak flows come into another reservoir that then water could be released from there at a constant flow.

09-00:26:12

Lage:

And where does that—

09-00:26:12

Pister:

That's called Pleasant Valley, right at the base of the lower power plants, so they can release all they want to out of the upper course. It's retained there in the Pleasant Valley [reservoir] and then released out of there.

09-00:26:23

Lage:

Is that at the south end of Owens Valley?

09-00:26:24

Pister:

North end, extreme north end. All of this is the extreme north end. Comes down what we call upper Owens River, in upper Owens Valley, drops down then into the lower Owens Valley, into where Bishop is and the towns down the valley. Okay, so the City of LA built Pleasant Valley Reservoir, and it's aptly named. It's a very nice place. It's a big long thing. Of course it just dams the whole river channel. So when they built that, it created a dam in the Owens River. And back in the late fifties and early sixties, there was quite a group of people, they're sharp people, so they said, "Okay, build a dam there, you've got to build a fish ladder over it." And there were parts of the Fish and Game Code that demanded this also. A fish ladder had to be built over Pleasant Valley Dam. Well, I knew, and anybody that knew anything about fish, trout, that if you had salmon or steelhead there they would go up over a fish ladder. Highly unlikely that the fish population in the Owens River would ever use it. So okay. To keep them happy, we said, "We'll build a spawning channel." And this is frequently done throughout the Northwest now where you have a dam. The different power developers will build spawning channels with optimum flows, optimum gravel for fish that come in there that can't make it over the dam, so they go in the spawning channel and spawn there.

09-00:27:57

Lage:

I see. So they don't go on up.

09-00:27:59

Pister:

No. They can't go up. But that's okay, we'll provide a better habitat for them down below the dam. "Well, okay, so who's going to build this?" "Well, City of LA said we don't know anything about building spawning channels." So I said, "Okay, we'll go out and lay one out for you." So typical bunch of biologists—I took a course in Engineering 1AB here at Cal where we would survey the Berkeley Hills up around the big C, but I had never done something like this. So I went down to the Department of Transportation, the Division of Highways back then, and said, "Hey, I need to borrow a transit and a plane table and an alidade so we can at least lay out the spawning channel."

Well, we were out there really having no idea what we were doing. And here came Sid Parratt driving along in this huge Buick. And he stops there, and he see us. It's all their property. And he wasn't aware of the spawning channel. He said, "What are you guys doing?" I said, "Well, we're trying to lay out a spawning channel here to fulfill the requirements of the Fish and Game Code." And also the local Izaak Walton League was really pushing this project. Sid said, "How are you doing this?" And he himself is a civil engineer. And I said, "Well, here's what we're planning to do." And I'd done some surveying when I was a graduate student of lakes and whatever using plane table and alidade. And he says, "Why don't you guys just pack it up, and we'll meet you here tomorrow morning."

So we went out there the next morning. Here the City of Los Angeles sent out a carryall, a van, I think with three registered civil engineers there. Sid was there. With all the equipment in the world, with their stakes and the whole thing. And they laid the whole thing out for us. I said, "Sid, I really appreciate it." He said, "It just broke my heart to watch you guys doing something you had no business doing."

09-00:29:54

Lage:

But it was a result of their work that you had to do the spawning channel.

09-00:30:02

Pister:

Well yeah, it was. But it turned out then when we got it all laid out and staked out, got the elevations all laid out. I think it was 1,600 feet long. The City of LA then, it was up to them to build it. So they contracted part of it out, did some of it themselves, brought in just the right size gravel, just the right depth and so on.

09-00:30:25

Lage:

You told them what to do.

09-00:30:25

Pister:

Yeah, yeah, we did at that point, yes. And so that has been a very interesting—has worked really well.

09-00:30:32

Lage:

So you did well with Sid, whom you still have not described except his being—

09-00:30:35

Pister:

Okay, well, here's Sid. He's one of the what you might call the old school Los Angeles Department of Water and Power engineers. There's still a few of those around, but not so many anymore. I think you find the newer engineers that are hired, they have a much broader perspective on everything. I might call them better educated engineers, where the old ones were very well trained engineers, to look at the bigger picture. So Sid was one of the last of the Mohicans here. This is funny. Just before he left, I mentioned where I did my graduate work up at Convict Creek, Sierra Nevada Aquatic Research Lab. I was with Fish and Game then, but one of my colleagues up there, Sam Reimers, phoned up and says, "We're doing some work on the spawning in Convict Creek," which goes down through there and then into Crowley Lake. "We sure need some flow data on Convict Creek." City of LA, they really handle that well. They have gauging stations on everything that produces water there in the Owens Valley. Probably the most thoroughly regulated and studied hydrographic system anywhere. Starting way way back. It's about 100 years old now, all this stuff.

09-00:31:52

Lage:

For research purposes, I would think.

09-00:31:54

Pister:

Well, yeah. So I said to Sam, I said, "Well, I think maybe I can get this information for you." Without my knowledge, our wardens had found an obstruction in Convict Creek lower down, and they were threatening to sue the Department of Water and Power for having this thing there. I didn't know about that, but Sid did. So I phoned him, I said, "Sid, we'd really like to get some flow data on Convict Creek." And he was really upset. He said, "If you want that you can subpoena it," bang down went the receiver. So when I found out what was going on, I phoned him up, said, "I really got to"—I had to tell his secretary, he wasn't going to talk to me. "Tell Mr. Parratt that we apologize for this. I had no idea. We just need some data for an entirely different set of uses." And they supplied it almost immediately. This is before the Internet, so they had to copy it and put it in the mail to us. But they did.

So then he retired, and was replaced by a fellow named Bob Phillips, who's still living [added in editing: "Bob died last fall"]—Bob was an engineer right out of Berkeley here, a very good friend of my brother's now. Big tall guy, maybe six-foot-six or seven. And he had an entirely different viewpoint. He wanted to learn what our interests were. One time we were up in the Mono Basin and driving around in one of their big cars. And Bob and I, just the two of us, and very thoughtfully, and he says, "Phil, our job is to provide water and power as cheaply and as efficiently as we can for the millions people in the Los Angeles area. Your job is to provide recreation, fishing, whatever, for

the same group of people." Now he said these things, they seem to be contradictory. Or both self-defeating. But he said, "Within those two guidelines there's an awful lot we can do." And I thought boy, where did this guy come from.

09-00:34:03

Lage: A different attitude altogether.

09-00:34:04

Pister: A totally different attitude. And Bob is in his nineties now. Still living in Bishop. I see him every few weeks. We shoot the breeze, go out for dinner now and then. He was replaced by a person who was equally just the same from Berkeley, Berkeley engineer named Paul Lane, who was replaced by a UCLA engineer. Bringing all this in because the university is involved in all of this stuff.

09-00:34:30

Lage: Well, that's important.

09-00:34:30

Pister: Well, I think it is, terribly so, plus I got a lot of pride in the University of California. And so the engineer since then, we had—and he was replaced by an engineer from USC, which somehow survived that.

09-00:34:44

Lage: You're showing your prejudice.

09-00:34:47

Pister: [laughter] Yeah, afraid I am. Probably unjustified.

09-00:34:49

Lage: You've mentioned Crowley Lake a lot. And I know that you have used it as a symbol of a different—and we haven't really gotten that recorded. So tell more about Crowley Lake. Is it a natural lake?

09-00:35:05

Pister: No. Crowley Lake, this goes back to prior to World War II, back in the thirties. The City of Los Angeles has never been short on planning. What they've done there is comparable to the Roman aqueducts really. They've planned it out just beautifully. But back in the thirties, who thought of environmental problems? They didn't exist. California had a population about five million, something like that. There was water and recreation for everybody.

09-00:35:38

Lage: And dams were progressive ideology.

09-00:35:44

Pister: They were, they were.

09-00:35:44

Lage: Dams and municipal electricity.

09-00:35:45

Pister: Well, even as late as the sixties when President Kennedy had—they ran the big projects in the Southwest. Floyd Dominy was the developer of these. He was the commissioner of Reclamation. And Kennedy endearingly referred to him as the nation's water boy. And so they built these huge dams like Lake Mead. Well, that was before that. Mead was in the thirties. But Glen Canyon was flooded—which broke everybody's heart I think.

09-00:36:19

Lage: Now we're getting off the Crowley Lake story. But did you get involved emotionally at least or intellectually in those fights about the dams on the Colorado?

09-00:36:27

Pister: Oh yes, yes indeed. Yeah, in fact I even corresponded with Dave Brower on some of those things. I said these are out of my area, but California, of course the Colorado River flows southeast from the border there down below Nevada and Arizona. And so I said, "Anything I can do to"—so I did get some data from my counterparts working out of LA, and they have a big office in Blythe right on the Colorado River.

09-00:36:54

Lage: That you provided to Brower?

09-00:36:54

Pister: Yeah. Not a lot of stuff. But the fishes that were there, and so on and so forth. I might add that right as we speak here today there's a major federal effort. Two things. Below Glen Canyon Dam, which is the lower Colorado River project; above Glen Canyon Dam is the upper Colorado River, clear up into the Green River and the upper tributaries to the Colorado. And big teams of biologists, hatchery situation, trying to keep alive the native fishes of those two sections of the Colorado. We're deep into this in our Desert Fishes Council. That's why I know so much about it. They have some really good people, and they're about holding the line. But see, what we have—and this enters into all of this. Ann, we've got to do this sooner or later. You have—it brings in Crowley Lake too. You have the economic interests, where you have people that love dams; it's a huge boating industry there on Glen Canyon [Lake Powell]. Lake Mead as well. People that love to fish there. They don't fish for the razorback suckers or the chub populations.

09-00:38:07

Lage: Those are the natives.

09-00:38:07

Pister: Yeah, the natives. They're there to catch the striped bass and the largemouth bass, the channel catfish, and all the warm water fishes that are there.

09-00:38:17

Lage: And were those all introduced fish?

09-00:38:19

Pister: All introduced. Give you an example. In California we have what I would call twenty native desert fishes. This includes the pupfishes and the lower Colorado River fishes. Of that number, six are extinct and seven are endangered. On top of that, these poor native fishes—California, Arizona, other groups, federal government, have introduced fifty-three nonnatives to provide sport fishing. And I often refer to these big fish in there as chainsaws with fins. Because if you're a native fish there, you're going to have a tough time surviving. And that's what my counterparts in the Fish and Wildlife Service, Nevada Fish and Wildlife, and Arizona, Utah, clear up to the top, even Wyoming, that's what they're trying to do.

09-00:39:19

Lage: And are they also dangerous to the other native species? Plants and snails and—

09-00:39:25

Pister: Yeah, pretty much, but fishes show up first. I don't know that the plants will suffer. But because of the recreational industry there, you've probably heard about the zebra mussel. All of a sudden in Lake Mead zebra mussels show up, or the quagga mussels, which are very similar. They had to get there on boats brought from stream systems that have these things. They're not even native to the United States. They came in ballast water into the Great Lakes. From there they've been working their way out.

So Crowley Lake then, getting back to where we're talking about there in the Owens Valley, emulates this on a smaller scale. Crowley Lake—there's always been a good brown trout fishery in the Owens River since probably the early 1900s. Brown trout themselves, however, are not native. They're native to Europe. They were brought in just for fishing purposes, into California.

09-00:40:26

Lage: But in what time period?

09-00:40:28

Pister: Time period? Late 1800s, early 1900s. And California still plants brown trout in certain areas, which is okay to me, as long as they're not jeopardizing the existence of the native fishes there.

09-00:40:44

Lage: Now what about brook trout?

09-00:40:44

Pister: They're also introduced from the East Coast.

09-00:40:48

Lage: And rainbow trout?

09-00:40:48

Pister: Rainbow are not—in the Owens Valley there are four native fishes, none of which are game fishes. Rainbow trout are native to the Pacific Coast, because they evolved from steelhead. There used to be steelhead right in Strawberry Creek, right here on campus. There was a hatchery.

09-00:41:11

Lage: So rainbow trout are native to California, but not to the east side of the Sierra. And then brook trout are from the East.

09-00:41:11

Pister: That's right. They're native to the East Coast, pretty much.

09-00:41:19

Lage: And brown trout from Europe.

09-00:41:19

Pister: Yeah. But they're also very popular for fishermen. So Crowley Lake then, the dam on Crowley Lake—it's an earth-fill dam—was completed in the early 1940s as part of their overall project to run power, part of the overall hydroelectric project really.

09-00:41:43

Lage: For LA.

09-00:41:45

Pister: LA. But also to help regulate their aqueduct, bringing water to LA. It filled during World War II, and they spilled right after the war, I think late 1945, early 1946.

09-00:42:04

Lage: And does Crowley have a multitude of streams that feed into it?

09-00:42:08

Pister: Yes, the main one being the Owens River. That's the big one. And then also Convict Creek and McGee Creek, Hilton Creek, all of the inland streams coming off the east slope of the Sierra and entering the lake. I think at Crowley Lake the elevation was something a little less than 7,000 feet. But it provides a great power drop. And all these streams, of course, add to the power system there. Okay, so here's this big reservoir. And then my department, to be honest, and to be fair to them, said, "Here's this great reservoir here. We should plant trout in there." And so they did. And the trout was—

09-00:42:49

Lage: And they planted what kind?

09-00:42:51

Pister: Rainbow, mainly. And they just grew like mad. Which is typical of a new reservoir. When a reservoir floods rather shallow land, the initial productivity of aquatic organisms is very high. So we found right away that the fish we

planted in Crowley Lake were just outstanding from the game standpoint. People would come out with these great big darn rainbow trout. Brown trout did something of the same. There are photographs there in the fishing office, which is run by the LA Department of Parks and Recreation, that show—I think there’s one guy there with a twenty-and-a-quarter-pound brown trout. A huge thing. Looks like something you got out of the ocean.

So along with that, though, there are native fishes in Crowley Lake. There’s a chub there. It’s a genus Gila, G-I-L-A. Well, the chub population is pretty good. And a little later on, probably in fifteen or twenty years, that huge initial productivity starts to drop off.

09-00:44:03

Lage: Because it’s a less rich environment?

09-00:44:03

Pister: Yes, exactly. And right away the local businesspeople think there’s got to be a reason for this. And they didn’t care what we said. To them, it was these nongame fishes, the suckers and the chubs. Those are the ones that are eating the food that our trout should eat. When there’s practically no overlap at all. This is a marvelous story, and I’ve written this. I got a call one day from the head of the Chamber of Commerce up there at Crowley Lake wondering what we were going to do to get rid of the chubs in Crowley Lake that were competing with the rainbow trout. That same afternoon, I received a call from Professor Hubbs down at Scripps asking what we were doing to preserve them. Showing how—

09-00:44:50

Lage: The same afternoon.

09-00:44:53

Pister: Yeah, the same day.

09-00:44:53

Lage: Coincidentally, or had he been aware?

09-00:44:55

Pister: Well, it was a coincidence that it happened the same day. We knew about these two different forces. So that shows how people view these resources.

09-00:45:05

Lage: Now when was that?

09-00:45:05

Pister: This would have been probably early seventies.

09-00:45:09

Lage: Oh, that was later on, not—

09-00:45:09

Pister: Yeah, oh yeah, no, not right away. Yeah, this would have been the early seventies when I got this call from Carl down there at Scripps. So people just view things—good friend of mine says, "Where you stand depends on where you sit."

09-00:45:24

Lage: I wonder if you could give a picture of what the fishing was like there. Was it a difficult place to get to?

09-00:45:34

Pister: Crowley Lake is right off of US 395, a major arterial between LA and Reno. All four-lane through there now. Within a mile you're at Crowley Lake, off of that highway, on a nice paved road.

09-00:45:49

Lage: And so you can pull up your car and get out your—

09-00:45:51

Pister: You can do that. It's a fee. You got to get a boat permit. And virtually—well not all of it is boats, but mainly boats. People come up and bring up these huge things. You could go to Hawaii without batting an eye on one of those without getting seasick, enormous boats from Santa Monica. And people with their yachting hats and so on. But all fishing, and doing really well. There at Crowley the Fish and Game Department still do this. You can plant the fish, we call them subcatchable size. They're about maybe six inches long. Perhaps fifteen or sixteen to the pound. That's the way you measure sizes on trout. Put them in there when the season ends—it's only a three-month season—in say early August. And those fish will grow to a pound apiece over winter. And so when Crowley Lake opens up, there's this huge mass of fishermen go there. At one time we ran a very careful statistical analysis about how many people were actually there by counting boats. Restricted access. We knew exactly what was there. And there were something like 12,000 people fishing from about 5,000 boats all at the same time for those opening two days.

09-00:47:07

Lage: At the same time?

09-00:47:09

Pister: Yeah, and to show what they were doing, the first weekend over 80,000 pounds, which is forty tons, of trout were taken by these people. And I calculated the dimensions of a cone one time. With that many fish that would weigh that much, something like, oh, twenty-five feet at the base, maybe forty feet high. It's a huge pile of trout. But the lake retains something of that popularity. It's dropped down a fair amount. The department then, run by very good biologists that understand these things, has changed some of their stocking patterns and whatever. It's nowhere near as productive as it once was, but the fishing is still very good there in the opening.

09-00:47:57

Lage: And does Fish and Game run the fishing operation? Or LA?

09-00:48:01

Pister: No. We plant the fish. The people from LA run the boating concessions and all the recreational facilities.

09-00:48:09

Lage: So this was your two extremes. You had the Owens pupfish and you've got this Crowley Lake thing, which you had a responsibility for.

09-00:48:16

Pister: That's true, and when I spoke about that famous "Species in a Bucket" episode, the department was running—the lake was closed to fishing at that time, because the lake opens the last Saturday of April. All of May, all of June, all of July, and closes July 31.

09-00:48:40

Lage: How did they pick that date?

09-00:48:42

Pister: Well, the dates were picked—the opening of the lake is essentially a political thing. The businesspeople there love the opening weekend. The people come up. "Hey, the fishing season is opening." Up we go. They'll rent motels and they'll rent boats and they do all this other stuff. There's no reason, really, not to open it earlier. There's a reason to close it on August 1, because at that time the hatcheries are just bursting at the seams holding the fish in their hatchery ponds before they take them and plant them in Crowley Lake. And other lakes as well, but mainly Crowley. So that's a good reason to close on August 1. Then the fish just really live it up eating mainly immature midges, which are little mosquito-like critters in Crowley Lake.

09-00:49:31

Lage: Have the chub been retained? Who won that battle?

09-00:49:33

Pister: Oh, chub are still doing fine. But did I mention my friend there at Colorado State University that says that he keeps a big jug of whiskey under his desk just waiting to get a next call from a fish geneticist? We think we have everything all figured out. And the geneticist will call up and say, "No, that's not a pure-strain chub there." So we have a big project now run by my friend Parmenter, who took over when I left, on pure-strain chubs. But the ones that are there now—for a long time these big brown trout I mentioned, the best way to catch them was by using chub minnows, hook them onto a hook, and these big devils, they have to eat fish, they're too big to just eat bugs. So they go around eating all these little chubs this long. And they finally get one with a hook in it, and that's—bring them into shore. So we do have pure chub populations, but they're not in Crowley Lake.

- 09-00:50:31
Lage: So they're some kind of a mutant chub?
- 09-00:50:33
Pister: They're hybrid. They're hybrid.
- 09-00:50:33
Lage: Hybrid.
- 09-00:50:34
Pister: See, back in those early days, people would bring chubs from all over the place.
- 09-00:50:39
Lage: As bait.
- 09-00:50:39
Pister: Yeah, as bait. Yeah, and when they're done, most people would not kill them. They just dump them out of the boat. And they then hybridize with the pure chubs on through the years. It's impossible—
- 09-00:50:49
Lage: Now I'm interested in the word pure. Because I've heard people talking about this emphasis on pure natives. And I've even heard it compared to people who are concerned about the purity of the white race and things like that. How do you—why is it important to be pure, and what does it even mean to be a pure chub?
- 09-00:51:20
Pister: Just ran into this with my favorite geneticist there at Davis. I sent over my golden trout manuscript. And early on, California was planting—back in the thirties—started planting golden trout from the Cottonwood Lakes brood stock in the late—or the first two decades of the 1900s, particularly 1918, 1920 in there. And then from there on.
- 09-00:51:52
Lage: Okay, planting the golden trout out of this one small area into—
- 09-00:51:56
Pister: Yeah, well, what they did, see, we would take golden trout eggs. We'll talk about golden trout more in depth later on. We take eggs from the Cottonwood Lakes that were planted—they were introduced there in 1891, and they grew really well. But I think 1916 or '17, Fish and Game went into there and set up a spawning station to collect wild trout, take the eggs, haul them by mule, and truck down to the Mount Whitney Fish Hatchery in Independence, which isn't all that far away, and raise them up there into fingerling size, and from there plant them throughout the Sierra Nevada. Some of the first planting of golden trout was done by the Sierra Club.
- 09-00:52:38
Lage: I remember stories about that.

09-00:52:38

Pister: Yeah. Will Colby was one of the biggest culprits in that respect. Talk about Colby later. But he loved fish. He was California's Fish and Game commissioner.

09-00:52:50

Lage: Oh, he was?

09-00:52:51

Pister: Yes. I don't know who was governor.

09-00:52:51

Lage: He was a state parks commissioner, too, I believe.

09-00:52:55

Pister: Could well be. But so, okay. So in one of the early parts of my golden trout paper, I sent it over to Molly Stephens, who was doing the genetics on this. Probably in the thirties, we're not sure when this happened, but at the Whitney Hatchery, rainbow trout were somehow mixed in with the golden trout in the hatchery and were then planted back into the pure stocks in the Cottonwood Lakes. And when I first got there in Bishop—I mentioned Elden Vestal who had preceded me. He was one of the major forces in protecting Mono Lake. Elden had noted, as I had when I was backpacking back in the forties, that these fish don't look like golden trout should look.

Well, I'll jump ahead a bit so we can get on to other things in the right chronological sequence, because we've got all that energy stuff to finish up yet. So I said, "Without our knowledge, impure golden trout were planted throughout the Sierra Nevada and even to other states." We sent golden trout to, I think, Colorado, Wyoming, even to other countries. We sent some to Brazil, sent some to England. They never made it there. So I said, "Impure trout. Without our knowledge, impure trout were. . ." So within the last week, Molly sent me back her comments on Word, Track Changes. And she had a note there. She said, "I don't like the word impure, because that's a value judgment. Hybridized is the term that should be used here." So I went back in the manuscript and changed that to hybridized.

09-00:54:51

Lage: You see what I'm getting at, that some people question, "Who cares? Why does it have to be pure? What does it even mean to be pure?" Because the golden trout was probably at one time a hybrid of something else way back.

09-00:55:06

Pister: Well, yeah. In fact, this is one of the dilemmas we run into with golden trout systematics, or the classification of them. Which of the alleles that are being analyzed now with the very latest technology, which represent hybridized from rainbow trout, or which were always there when they evolved from the golden trout? Because they evolved from the golden trout from the Kern River rainbow, which were quite close to the steelhead out of the ocean, within the

last 8,000 years, which genetically is not a long time. But it's a paradox. Here we almost encourage within the genus Homo—or the species Homo sapiens, as we are—mixing. When it comes down to creatures, that's a no-no. But I guess there's—

09-00:56:01

Lage:

Do you see any connection between the people who are so concerned about keeping natives pure, I'll use that word, with people who are concerned about keeping races pure or keeping immigrants out of the US? In your experience is there any correlation?

09-00:56:20

Pister:

Well, I would say that the reasons that most of the opponents say to immigration, they're selfish reasons. Their attitude would be "not in my backyard" kind of thing. It goes back to the movie *Guess Who's Coming to Dinner*, Spencer Tracy and Katharine Hepburn. My gosh, our daughter's going with a black fellow. Nowadays—that was a long time ago—nowadays it's more accepted. But I think that it comes down again to preservation of species. There are those who feel an impact on the economic value. Did I mention a lady at the golf club that said, "What are you doing preserving pupfish? Do they make money for anybody?" So I would say, if there's an economic reason behind keeping pure species, I could say okay. But I think as a biologist, I owe it to future generations to keep these groups of fish as pure as I can, or unhybridized as I can. There are biological reasons to do this. It's like the—

09-00:57:29

Lage:

You also mentioned the biological reasons where they fit their ecosystem.

09-00:57:36

Pister:

We go back to Annie Dillard again. They fit their ecosystem like water is shaped by a bowl.

09-00:57:47

Lage:

I'm going to stop you there, because we're about—

[End Audio File 9]

[Begin Audio File 10 Pister_e_philip10_01-24-2008]

10-00:00:07

Lage:

Okay. We're back on with Tape number 11 [actually Tape 10], January 24. We just finished a conversation about natives and purity and all that, and probably gave a nice picture of what Crowley Lake was like. We want to finish or continue with energy development. And you didn't mention

something that happened maybe first, which had to do with—where are my notes? When you first got to Owens Valley, something about the gorge.

10-00:00:58

Pister: Yeah. That was—

10-00:00:58

Lage: Happened before the Rush Creek.

10-00:01:04

Pister: Yeah, back in the thirties, though the Department of Fish and Game tried to get the City of LA not to dry up the gorge.

10-00:01:17

Lage: Give background to that.

10-00:01:21

Pister: I think I need to give some, because this is a very interesting thing. We're victims of our own times. We're trapped in the ignorance of our own generation. It's sure true here. Back in the thirties things were just—World War II hadn't even started yet. Things were very elementary in our philosophies and psychology of what we're talking about here. So the Fish and Game Commission contacted the City of LA, says, "Please leave water in the gorge." Because they were regularly catching huge big brown trout out of there. City of LA says, "No, it's not in our plans, too bad."

10-00:02:02

Lage: They were capturing it above Owens Valley and taking most of the water around Owens Valley. Am I getting it right?

10-00:02:09

Pister: Not really.

10-00:02:10

Lage: Okay, why was the gorge—

10-00:02:13

Pister: Well, the gorge, okay. It's a natural stream channel of the Owens River. When the Crowley Lake Dam was put in, it dammed the natural flow of the Owens River. The gorge starts at the dam at Crowley Lake. Then it goes down to the reservoir, the reregulating reservoir. I wish I'd brought a map so you'd get a better idea of how this whole thing works.

10-00:02:38

Lage: We'll put one in this. [<http://www.fishsniffer.com/maps/owens.html>]

10-00:02:38

Pister: Yeah, we should definitely do that. So okay, "No, we're not going to do this." So they in the progress of things, they finally dried up the gorge. This is before they start building their penstocks or their power plants or anything. This was in late 1953. One of my jobs as a new Fish and Game employee, this

is summer employee, or seasonal employee, was to take a fish truck—fish truck being defined as a maybe probably a half-ton, three-quarter-ton pickup truck with a tank of water in the back with different aerating facilities—and we'd plant fish all over the place with this—but I was given this truck to go up into the gorge where you can drive next to it and rescue the fish that were flopping around before they died, put them in the truck, then take them down below the dry gorge, and release them back into the Owens River, so this resource would not be lost. And it's interesting. So I've personally witnessed the entire scenario here of that gorge drying up and then being rewatered again as part of the overall change in water management in rather recent years.

10-00:04:07

Lage: So that's been recent that they started releasing water.

10-00:04:10

Pister: That's an interesting story, too. I believe this was in 1990. Shortly after I retired, about the time I did. Water is interesting. It just doesn't flow. It has a mind of its own. To keep the penstocks from imploding or exploding, they have to be very careful how they regulate the water through there. But one of their hydro plant operators at the upper end of the gorge system, don't know what happened, but he turned the valve the wrong way or something, at the wrong time, and the lower sections—see, okay. When the water comes out of the upper power plants, it goes into a huge about a six- or eight-foot metal steel pipe that out of Crowley Lake goes into these penstocks, and they go whoom down the mountainside into the power plants, picked up again by another set of pipes, and sent through the bottom gorge plants. Well, some guy working for DWP screwed a valve the wrong way, and the lower sections of the big aqueduct penstocks just exploded.

10-00:05:39

Lage: So he didn't let them flow.

10-00:05:41

Pister: What it looks like is if you took a can that you maybe bought at a store and somehow were able to cut a chunk of that side of that can and peeled it back. That's what some of those gorge sections looked like, the pipes looked like. And what that did, it released water back into that old dry Owens River channel. Then the law, being as it is doesn't stipulate how long any—this was viewed then by the courts as a dam, diversion point. You have—

10-00:06:24

Lage: Because the water got in there by mistake, it changed the legal status?

10-00:06:27

Pister: Yeah, exactly. So right away our hatchery people brought fish up there and planted them in that water, which you might look at this as a dirty trick, but on the other hand, I guess it's like negotiating with the Arabs, you do what you got to do to maintain your direction.

10-00:06:45

Lage: This is after you retired, so you weren't part of this.

10-00:06:48

Pister: Yeah. But Steve went up there, Parmenter, and got some great photographs. So okay, but those pipes, a lot of good steel there. So they went up there, torched and cut them out. Water and Power did. Cut out the damaged sections of these huge pipes. Loaded them onto flatbed trucks then and took them down to LA I guess for reprocessing or resmelting down to the pipe factory, whoever builds those things. But I drew this analogy. Somehow those flatbed trucks or flatbed trailers with these damaged sections on them were parked maybe quarter mile from my house there in east Bishop. And I drew this analogy. This was right after or during the Gulf War, first Gulf War. It would be like a trailer full of burned out Iraqi tanks on a trailer. Even though they might be ugly, you'd take a lot of satisfaction in seeing them there. [laughter] That's the way I was. I felt, what a break to get the water back in there! So okay, it took quite a while to get water all the way down through the gorge.

10-00:08:05

Lage: But at this point LA couldn't rebuild those—

10-00:08:10

Pister: Well, they could rebuild it, but they had to keep water.

10-00:08:12

Lage: They had to keep water because you had fish in.

10-00:08:13

Pister: Yes, exactly. They had to release water to perpetuate what—

10-00:08:20

Lage: Did they take it to court?

10-00:08:21

Pister: No, no. I think they knew they were licked on this one. So that was an interesting part of that. But that was a part of all this energy scenario.

10-00:08:30

Lage: Yeah, this is fascinating.

10-00:08:30

Pister: But about that time, before this happened, to get back into the modern perspective from my standpoint as a biologist—it was in, I believe, 1980 when the secretary came in again. She—

10-00:08:54

Lage: Secretary—

10-00:08:54

Pister: In the Fish and Game office. Yeah, and she back then did typing before we went into word processing programs, whatever, took care of public relations

stuff out in front. Somebody come up, "Where can I go fishing? Where can I go camping?" Thelma would handle all that. So she said, "Phil, there are a couple of gentlemen here that want to talk to you." "Fine, come on back." They introduced themselves as the Henwood brothers. Fine. They say, "We're hydroelectric developers, and we have applied to build a power plant on Green Creek," which is a tributary to the East Walker River up above Bridgeport. And I said, "Come again on that?" They repeated what they said. "So on what basis are you doing this?" As part of the Public Utility Regulatory Policies Act, a law that I had never until that time even heard about.

10-00:09:59

Lage: Was it a federal law?

10-00:09:59

Pister: Yes.

10-00:10:01

Lage: Tell me the date again, around.

10-00:10:01

Pister: About 1980. And the law, I believe, was passed toward the end of the Carter administration.

10-00:10:09

Lage: To encourage—

10-00:10:09

Pister: Encourage entrepreneurial development of power. One of these things where I could—we'll talk more about this when we get into golden trout—it hits your mind and your mind immediately extrapolates and expands and all this to what's going to happen. So I said, "Well, we're going to have to look at this pretty carefully under state law about how much water you'll be allowed." "We've already worked that out. My brother Ken here has a PhD in ecology from UC Davis." As if that was necessarily—if he'd had no financial interest in it, I'd say, "Okay, probably knows what he's doing." "We've already decided"—I can't think of the flow that Green Creek—a good flow in Green Creek is something like five cubic feet per second. I said, "We're going to have a look at this in terms of historic flows and everything else." Well, you can see that these guys were saying to themselves, "Well, I guess we're not going to bluff this guy." They had built other power facilities in Northern California up around in Plumas County. Place called Graeagle up there. Do you know where that is? Have you ever heard of that?

10-00:11:22

Lage: Say it again.

10-00:11:22

Pister: Graeagle, G-R-A-E-A-G-L-E. Well, okay, so but at any rate they have a plant up there. And I guess they figured they'd come—see, what interested them in

Green Creek, interesting bit of history, I think that was the first hydroelectric facility built in the state of California to provide electric power to Bodie during the mining years. And back then, it was really interesting, because they made a point never to make strong bends in the wiring because they felt that if you did that the electricity would fly off the end of the bend when it hit the right angle. It would not go through the pipe or the wire. So they—

10-00:12:02

Lage:

So this was—Green Creek came off the East Sierra down into—

10-00:12:06

Pister:

Yeah, it does, into East Walker River, off the north end of Yosemite basically, what it is. If you drive into Bridgeport, you look up the Big Meadows there toward the crest, you see a bunch of sawtooth mountains. That's the Sawtooth Ridge at the northern end of the Tuolumne River drainage. Tuolumne River there going down through—before it hits Hetch Hetchy.

10-00:12:32

Lage:

So would this have been public land that they were going to work on?

10-00:12:33

Pister:

Yes, yes, it was all Forest Service land and BLM land.

10-00:12:38

Lage:

And had they received those permits?

10-00:12:40

Pister:

No. No, they hadn't yet. But they wanted to get the water, which had to come to us first. And happily, thank God for this, the Forest Service and mainly Bureau of Land Management here were just as concerned about this as we were. But that was just the first instance here. We then—this was during the early formative stages of this Instream Flow Incremental Methodology I mentioned earlier, equating fish habitat interests with streamflow and whatever. And so about that same time it seemed like everybody started to apply for these projects. Found out that most of them were done by attorneys back maybe in New York City, just looking at topographic maps, looking for a lot of brown lines close together, little blue lines going through them. Because this showed there's a good power drop there, that they could then hire a consulting firm perhaps to go out there, make the studies, and build a project for them. And I guess there was a fair amount of money for maybe a mom-and-pop operation, but not for anything that really contributed much to the nation's power grids.

10-00:13:57

Lage:

I wonder if the feds were even promoting this by giving grants.

10-00:14:04

Pister:

Well, they were. Well, the federals, the upper levels, yeah. This was during the early years of the Reagan administration. And everybody was out trying to make a quick buck off of the exploitative philosophy that you get in a

conservative administration. So that was the first one. Then we got them on Bishop Creek, we got them on other parts of the Walker River system, we got them all the way down as far down on the Inyo Forest as it exists down in the east side. Clear to Olancho Creek at the southern end of Lone Pine. For about a hundred and some miles along the east slope of the Sierra, there were these projected hydroelectric plants. And I could see this just basically not only impeding but almost destroying that huge recreational resource, because that twelve million visitor-days I mentioned, that's why they come up there, for these major streams coming off the Sierra. So it was just a matter of principle with me.

So then we began to negotiate with both the developers and also the Federal Energy Regulatory Commission out of DC. It was all set up under this Public Utility Regulatory Policies Act, the federal law. Made it complicated. We're lucky in this state. We can be unilateral in the way we look at these resources. Fish and Game, what's it doing with the fish, what's it doing with the game? But you get a group like the Forest Service that are mandated by law to be multiple-use in their perspective, it's not as easy for them. They at least have to pay some attention to energy as part of the mandate of their agencies. So again it comes down to it's like the—did I mention my friend Meacham from Alaska?

10-00:15:53

Lage: Yes, you did yesterday, talking about—

10-00:15:56

Pister: Well, in a similar scenario, probably the same meetings, I met a fellow named Quentin Edson. He was a biologist with the state of Washington, or perhaps with the Fish and Wildlife Service headquartered in Washington. He, by again great coincidence, ended up as chief of the Division of Water Rights for the Federal Energy Regulatory Commission. So I felt if they're going to be doing this stuff, there's a part of law that says you have to look at the cumulative impact of this type of project on the overall resource. So I phoned—

10-00:16:40

Lage: Did you come up with that yourself? Or were you—

10-00:16:43

Pister: Yeah, I sure did. I could see that the whole is equal to the sum of its parts, an old axiom from geometry. So I phoned him up in Washington. I said, "You probably don't remember me, but maybe you do." I explained who I was. And I said—it's tough to get through to a guy like that. It was all these levels of bureaucracy up to the chief. I said, "Well, we've got a series of hydroelectric projects proposed for mostly on Inyo National Forest or Toiyabe Forest up in the Walker system, and I feel that there's going to be a real impact on the fishery resource." I said, "I know you, from your association with me at the Pacific Fishery Biologists and all, that you're going to have a professional interest in this as it relates to energy development." I said, "There are places

here that you can't believe, they're just unbelievably beautiful, that hydroelectric projects are proposed for. Virtually every canyon fits that description." He said, "I better come out and look at that." So he flew out to Sacramento. We loaded him in our department Beechcraft and flew him over to Bishop, put him in a car, a caravan of cars, and drove him through some of these things. And I could—particularly the upper Rock Creek one. This was the one I felt was our—

10-00:18:03

Lage: So this was also Rock Creek that they were—

10-00:18:07

Pister: Same one. So I felt this was going to be our poster child thing for the hydroelectric stuff. And he got up there and he looked at Bear Creek Spire, does that mean anything to you? Bear Creek Spire is a huge peak at the upper end of Rock Creek. Just a beautiful thing. And this chain of lakes down through on upper Rock Creek coming down, then hitting the canyon where this guy wanted to just impound the water, and going down Rock Creek and building a power plant right at the base of this, right in the middle. And every one was basically the same, Ann.

10-00:18:40

Lage: It's unbelievable that it would even be—

10-00:18:43

Pister: Well yeah, it was to me. So he said, "Jeez, this is something that we have to look at from a broader perspective." And I said, "That's the whole reason I wanted to get you out here." So okay, "Well, I'll send out some people more or less from the biologist perspective out to Sacramento, and you can talk about this back and forth." Well, this was one that just really got me. These guys came out. Fellow named Mark Robinson. And they were good guys. A lot of the initial studies were done by the Oak Ridge Lab there in Oak Ridge, Tennessee, one of the really prestigious federal laboratories. Well okay, so they come out.

10-00:19:23

Lage: And they were biologists.

10-00:19:24

Pister: Oh yeah, fish people. But they also, being associated with the energy end of things, were looking at energy fully as much as they were at fish. And our director was in this meeting, and all of our water people, all our being the state Fish and Game people.

10-00:19:44

Lage: Now who was your director at this point?

10-00:19:46

Pister: Still Ray Arnett at that time. But he was off in a world of his own, I think. Leave it up to the staff people to decide here. So we got to talking about these

projects, and I said to Mark Robinson, I said, "Mark, to me this is more a matter of ethics than biology." I said, "This is something that's right or wrong. This to me is just terribly wrong." His response was just marvelous. He said, "When you talk about ethics, you lose me." And that was a book in a couple of words. That tells me a lot.

So back then so they started running the cumulative study, and they came up as part of the study run out of Oak Ridge on the cumulative impact. In doing this, they learned by working with the Forest Service and Bureau of Land Management and with us about the tremendous recreation demand that those streams supported. At one time, Ann, we had ninety-five hydro projects proposed on forty of the major streams that were the heart of this recreational resource. To our credit, I guess, only one of these was ever built. And this was a retrofit project over in the White Mountains. It was a project that had been there for many years. And this fulfilled the intent of the law to retrofit existing projects, existing dams. But these people picked it up to build new dams as well, and I guess under the law they could conceivably do this. But we were just—those of us in the recreation or even the fish business, uh-uh, this cannot be. It was almost where you lie down in front of the bulldozer, that kind of thing.

10-00:21:35

Lage:

Right, I would think so. Some of those areas. Now did you bring in—did you alert conservation groups?

10-00:21:44

Pister:

Yeah, they were—yeah, the local Sierra Club people, the Audubon people. Audubon is one of the—probably even more—we have our—what group is this? We have the Bristlecone Chapter of Native Plant Society and the Range of Light Group on the Sierra Club, Eastern Sierra Audubon and so on. And they've gotten now to where they're quite popular. Friends of the Inyo. All NGOs, but really good ones. They know how to play their cards. They're good at it.

10-00:22:13

Lage:

Now how about the fish groups like Izaak Walton League?

10-00:22:18

Pister:

Yeah, well, some are big supporters. Two groups. There are two very powerful groups, particularly in California, California Trout and Trout Unlimited. Cal Trout is strictly California, you might imagine, the headquarters in San Francisco. And then the TU, Trout Unlimited, is a national thing. But nation being comprised of fifty states, they also have separate areas here. And we had good contacts in each of them. Of course they were just horrified by this. My gosh. You're attacking the concept of motherhood. Dry up our stream. And literally they live for that. These people are just totally nuts about fly-fishing particularly. So they were good supporters.

How this finally shook out, I think some of this we just—the time ran out on it. But one thing that really entered into it was just the cost factor. This first group came to us and said, "Need some flow information. Do you people do that?" Speaking to us. I said, "Uh-uh. It's up to you guys." "What's it going to cost?" Well, even a small study was at least ten thousand dollars, probably up to as many as forty or fifty thousand dollars, to do a statistically valid study of streamflows versus trout and all. Furthermore, the technology was just being developed then by the US Fish and Wildlife Service, mainly working out of their Fort Collins office in Colorado.

10-00:23:49

Lage: Now was this just to determine what the streamflow was, or to figure in what the fish needed?

10-00:23:53

Pister: Well both, because what the fish needed would determine the streamflows, largely. And this then, to go back a bit to the power developers, if you tell them that they can only divert so much water, then they look at the economic feasibility, what it's going to cost them to build a project, what they can make off of it, and so on. So I think that's what killed most of them. The developmental costs and the actual operating costs did not justify what they planned to do. So out of that ninety-five, only one was built. There are a couple still in the possible stages, but they're rather innocuous ones, and our people—we've developed our methodology here to a point, it's going to be really tough for anybody to build one of these things.

10-00:24:43

Lage: Because I would think the pressures will increase as we're looking for new energy sources and—

10-00:24:49

Pister: Well, they will, but I gave a talk one time at the DWP. They have their Engineers Club down in the City of LA there in the Water and Power Building right across from the Dorothy Chandler Pavilion. And it was on this very subject. I talked about the Owens River Gorge and so on and so forth. And I made this statement. I said, "I think many of these recreational resources like the Owens Gorge"—this was before the Owens Gorge was dried up really—well, during while it was dried up. And I had some very good graphs that I worked out. I said, "When the value of this water for recreation is worth more than it is for power generation, it's going to be released into the river channel." And the head of their power section down there, really a good guy, came up and he says, "You're right, that's going to determine how much water we release, if we release any for hydro stuff."

10-00:25:42

Lage: It's harder to figure the value of it for recreation.

10-00:25:44

Pister:

This is the tough part. Luckily there are economists now who are deep into this, about the recreational value of water. And particularly the University of Washington, I don't know anybody here at Cal, economists here, are doing this. But it's quite a field. Here's another interesting perspective on this whole thing: sustainability, economic growth. There's a real battle there. Can we under capitalistic principles continue to develop and develop and develop with the limited resource base and have sustainability? No, we can't. Anybody with an ounce of brains knows you can't do this. But you can imagine a concept like that getting through Wall Street. [laughter] Those guys live on constant economic growth. But there's a new group in the Society for Conservation Biology now on that very subject. It's all staffed by mainly university people, some from the agencies.

10-00:26:46

Lage:

And what's its title? Is it something about sustainability?

10-00:26:48

Pister:

It's on the Web now. I think it's EEEF, something like that. I can't remember the acronym. I'm a member of the group. There's another one under the Society for Conservation Biology, the Fundamental—not Fundamental, but Religion and Sustainability. And the greening of religion is becoming quite a thing.

10-00:27:11

Lage:

Yeah, it is.

10-00:27:11

Pister:

Well, I'll be with one of these guys tonight at our dinner out at Roger's place, Frank Baldwin, who actually—

10-00:27:18

Lage:

When you say one of these guys—

10-00:27:20

Pister:

One of the greening of religion people. Frank is the pastor of the Orinda Community Church. And also is very much of an outdoorsman, environmentalist. I think his assistant pastor, it is, has written a very good paper on this very subject, about the parallel views of sensible religion and environmental concerns.

10-00:27:42

Lage:

Yeah, I think more and more the—I know the Sierra Club had a thrust to try to find common ground with various churches.

10-00:27:49

Pister:

This was started by a guy who was a pupfish biologist at the University of Nevada at Las Vegas, guy named Tom Baugh. You'd be interested in this as a historian if nothing else. I'll send you the Web information on that, because

it's really good. I joined all of these different groups, and they know what they're doing, and they play their cards very, very well.

10-00:28:13

Lage: When you're interested in ethics, as you are, there's even more—

10-00:28:16

Pister: It really is. If you're going to be a professional ethicist—a lot of people have said to me this, interested in ethics. My wife's been quite ill, she's been quite ill for thirty some years.

10-00:28:30

Lage: Oh, she has.

10-00:28:30

Pister: Oh yeah, early seventies, yeah, she's been with serious back problems. And so like this trip here, I have to have somebody come in with her, at night particularly.

10-00:28:42

Lage: Is it—

10-00:28:42

Pister: It's spinal degeneration, result of osteoporosis. Yeah, this has been a real difficult thing for both of us. She's had six spinal operations. None of them really worked other than you might say they helped to stabilize things. Last one was in the year 2000. They don't do that degree of surgery in Bishop, so we went down to Good Samaritan Hospital in LA, had a very good surgeon do the work. Said, "Phil, Martha, there's nothing more we can do for you surgically. Just going to have to tough it out." Well, she's been able to do that.

10-00:29:19

Lage: So there's a lot of pain I'll bet.

10-00:29:19

Pister: All the time. Lives in constant pain.

10-00:29:24

Lage: And do they know a reason for it?

10-00:29:24

Pister: Well, the reason being essentially this, when you have a deteriorating spine you get what they call compression fractures. You can be sitting here like we're sitting. Your spine will give way. And comes down and hits nerves. You got to wait for that to heal up. It'll take two or three months. And that'll heal. But then you just wait for the next one, wait for the next shoe to drop. You get to the ethical perspective, people have said to me, "You're a young man yet," they said, back when this first happened back in the seventies. "Why don't you work out some way to work out a divorce?" How could I ever, ever teach ethics and do something like that?

10-00:30:08

Lage: You mean people really suggested that to you?

10-00:30:10

Pister: Couple of them did, yeah. Really, good lord, man. How could I ever sleep at night if I did something like that? But luckily Martha has been able to jump on top of this. She can handle it. She got a great mind, marvelous mind, and can pull herself out, even though she got the pain, she can work her mind—that's a matter of biofeedback I think—to where it's not so debilitating that she can't read, listen to music. She won't watch TV. She has a very good VCR and DVD player. Do things with that.

10-00:30:44

Lage: So the active life that you've led has had to be separate from her.

10-00:30:48

Pister: Very much, yeah. She was still, even into the eighties, not so bad off that she couldn't go up into Rock Creek again. She loved to go up there and spend a couple weeks just by herself and stay in a nice furnished cabin there and walk up into the basin and literally live it up.

10-00:31:08

Lage: So she loves nature.

10-00:31:08

Pister: Oh, yeah. She was raised the same way I am. Both of our families were—

10-00:31:14

Lage: Now tell me about your children, as long as we're on this, and we have maybe ten minutes here.

10-00:31:17

Pister: Okay, my kids, well, they were of course raised in Bishop. We moved from—Anne was born in Garberville during the great flood, and '57, she would have been about two when we moved back to Bishop. Karl, my son, was born the following year in 1958.

10-00:31:35

Lage: Named after your brother?

10-00:31:41

Pister: Well, he thinks so, but it was actually named after one of Martha's uncles. He watches this, he'll find out.

10-00:31:47

Lage: Do you spell it with a K or a C?

10-00:31:47

Pister: Yeah, K. I don't think any of his kids are named K. The first names I know are not. But maybe a little bit of both.

10-00:31:59

Lage: Maybe some of both.

10-00:31:59

Pister: Very dearly of my brother, I think that may have entered into—it was Martha's decision, but she's a schoolteacher. She taught elementary school for several years before we were married and had the children. Her main interest in naming her kids each with a four-letter name so they wouldn't have any trouble learning to write their name. So yeah, we had A-double-N-E and K-A-R-L. Anne went on, got her degrees essentially in English, English literature, and recreation. Spent so much of her time as a child up in the mountains with us. Karl, Karl's a people person. Two master's degrees in social welfare and social work. Anne—

10-00:32:54

Lage: Did either of them come to Cal?

10-00:32:54

Pister: Pardon?

10-00:32:55

Lage: What schools?

10-00:32:57

Pister: Oh, they both went to Brigham Young.

10-00:33:00

Lage: Brigham Young.

10-00:33:00

Pister: Yeah. Both very good in this subject. Though Martha, being a very conservative person, and me to some extent, wanted them to go to a school where they wouldn't be tempted too much to—not that I had any concern about my kids. They would never have done this. It's a good school, BYU is okay. I would never—if I had a choice of BYU or Berkeley I wouldn't even think about BYU, because I realized when I got here that they didn't get just the cosmopolitan perspective here. There at BYU, virtually every kid there is a white Anglo-Saxon type, WASP type thing, Mormons, all of them Mormons, or pretty much all of them. So they both studied there. But in Anne's field, very good people there, with PhDs from places like Berkeley and professors are very good there. One of Karl's PhD students is in engineering there at BYU.

So Anne is now teaching high school English, English literature, in Frederick, Maryland. And has a real challenge there because many of her kids are bused in from poor areas of Frederick. Frederick is a big city. Some from Baltimore even. I said, "How do you take a kid that doesn't even know who his parents are and interest him in *As You Like It* or *Macbeth*?" But she's good at this. She takes some of her better students, those that have the financial backing, hauls them over to the Globe Theatre in London every year so they can experience

Shakespeare. Karl is a family counselor up in Portland, Oregon. And he's bilingual, very strongly bilingual and—

10-00:34:41

Lage: In Spanish?

10-00:34:41

Pister: In Spanish, en español, yeah. He lives in a cul-de-sac there, it's a very cosmopolitan group; they're the only, you might say, regular white people there. The rest are Hispanics, Russians, Slovaks, I think there's one group of people there from—yeah, I think from England. And so it's a very cosmopolitan group. And he is in business with a guy, in a translation service—they're all naturalized, naturalized Hispanics—see, up there is this huge nursery business up there in Oregon. Okay, here come all the manuals out of say *Ferry's Seeds* and all these other groups, in English. So he and his buddy up there, they translate these into workable documents for the Spanish-speaking workers there.

10-00:35:34

Lage: Oh, that's interesting. And he does that and counseling?

10-00:35:38

Pister: Yeah. And this was during the early days of the spotted owl thing. Called me up one day. Says, "Dad, I've got a couple of clients that are out of work now, and they blame the spotted owl. What kind of a rationale can I give them about spotted owls and their jobs?" I said, "Well Karl, probably the best thing you can do with them is to say, 'Look, you're overharvesting timber now. You're going to be out of the business sooner or later anyway, rather soon, so just as well bite the bullet now and get a new profession.'" It's going to be hard for a while. But Oregon has proved this. Their out-of-work mill workers and loggers have gone into other business now, and they haven't suffered at all in that part of Oregon where the logging and the mills have been shut down. So he says, "This worked." And he's good at talking with people. He's very humble kind of a kid. Said, "I can understand that." And he does.

10-00:36:46

Lage: Did you take them out on any of your field trips and things when you—

10-00:36:51

Pister: Oh yeah, yeah. We made a number of trips together. Martha, of course, in the car trips, she was always with us. But on the backpack stuff, we went out by ourselves. We went up, we had some really great trips together. In fact my daughter Anne—what I did, these pictures I brought the other day, I sent her maybe a dozen of those and just—she was out with us at Christmastime looking up at her mountains again.

10-00:37:13

Lage: Does she miss being out West?

10-00:37:17

Pister: Sure does.

10-00:37:17

Lage: Is she married? Are they both married?

10-00:37:19

Pister: Yeah. Yeah, she divorced her first husband and married a guy now who's—he's a geologist working with the Department of Energy in Washington or Germantown. And studied at San Diego State, got a master's degree elsewhere. And just really a nice guy. I liked her first husband too, but she didn't.

10-00:37:40

Lage: That's more important.

10-00:37:40

Pister: Really. I don't have to live with this guy.

10-00:37:43

Lage: Well, I think this is a good point to stop.

10-00:37:46

Pister: Talk about golden trout this afternoon.

10-00:37:49

Lage: We've done energy, and we'll do golden trout this afternoon.

10-00:37:49

Pister: There's one part of energy we'll finish up, and that's the geothermal perspective.

10-00:37:56

Lage: Oh, I'm sorry, I didn't realize that. We could go for five minutes on that now.

10-00:38:07

Pister: Okay, well, along with the hydro—this was toward the end of the eighties. Hydroelectric stuff was starting to taper off then because of the reasons I mentioned earlier. But along with this then came the Geothermal Power Act of the late seventies. And this then provided again a strong financial incentive for people that wanted to develop geothermal energy. Well, of course outwardly this looks fine. But after you've pumped a lot of heat out of the underground, what does this do to this aquifer, producing heat? What was really disturbing to us was that one of the major projects that was brought up there in the Owens Valley was right next to Hot Creek Fish Hatchery that runs on geothermal heat, constant fifty-eight degrees year round. And what's that going to do to the hatchery, which is strongly dependent on this?

10-00:39:07

Lage: So there's a geothermal system underneath.

10-00:39:09

Pister:

Yeah, very definitely. There are big geysers down in the Hot Creek Gorge down below the hatchery that before it gets that hot people love to fish in. It's a very productive trout fishery. But once you get down below the geysers, it's so hot the Forest Service had to close it off because people could actually get scalded to death in there. So that was the big thing. And so we've had a number of battles there, both locally politically and so on. What finally worked out on that—USGS out of Menlo Park has been very good; they've had some of their very finest geothermal geologists working with us on that, setting up safeguards with temperatures and all, so if these things do start to affect the temperatures the thing will shut down. That's all part of the thing.

So that's the geothermal thing. The plant is working. It's run by Sierra Pacific Power, something like that, and apparently it's a viable thing. So far it hasn't had any noticeable impact on Hot Creek. But we're watching it very closely. We being the regulatory agencies, my own agency, Forest Service—this is on Forest Service land—BLM. BLM administers the Geothermal Steam Act. So they're in this too.

10-00:40:31

Lage:

So many interagency things on all of this.

10-00:40:33

Pister:

Oh yeah, you have to understand them or they just don't make any sense at all. Fish and Game is looking at it again from the state's aquatic resources.

10-00:40:39

Lage:

Well, just as a summary, it shows you how difficult developing alternative energy resources is. None of them are free of problems.

10-00:40:50

Pister:

Yes, it is. No, they're not. I thought that as I drove up 580 the other day past the big windmill farms.

10-00:40:59

Lage:

Right, those have run into—

10-00:41:00

Pister:

What an eyesore. All the way from Mojave. Mojave's being one of the really big windmill areas. Everywhere there's a mountain, look up and there's a windmill on it.

10-00:41:08

Lage:

It's an eyesore, and apparently it interferes with the birds.

10-00:41:12

Pister:

Yeah, I think so. Maybe enough people will put in these fluorescent light bulbs, it'll help things along.

10-00:41:22

Lage: Of course they have their problems too. Mercury.

10-00:41:26

Pister: Yeah, what are you going to do with it? I think just take them out on a big barge and dump them in the ocean. [laughter]

10-00:41:31

Lage: That's a fisheries man for you. I should have turned it off before you said that.

10-00:41:37

Pister: You should have done that, yeah.

10-00:41:38

Lage: Shall I stop now?

[End Audio File 10]

[Begin Audio File 11 Pister_e_philip11_01-24-2008]

11-00:00:00

Lage: Okay, we're on Tape 12 [actually 11]. We've come back from lunch, and this is January 24 still. Okay, you were starting to tell me a story that I thought maybe we should record. So you have to start over.

11-00:00:21

Pister: This is good. Well, seems like many of the high points of my career were started with our receptionist at the Bishop Fish and Game office, Thelma Hagerty, a marvelous lady, who would call me for different reasons. The office is small. We didn't have to have a buzzer system, she'd just yell out, "Phil, somebody here to see you." So I went out, and here was this fellow that I'd never met before. I'd never seen him before. Dressed like he'd just come in from a pack trip or a backpacking trip. And he says, "Can you help me to get out to the islands on Mono Lake?" I said, "Well, why do you want to do this?" And he said, "Well, the reason I want to do it is I'm a photographer and a writer, and I'm doing a piece for *National Geographic* on Mono Lake. This is a newsworthy thing, this is"—

11-00:01:17

Lage: Was this during the controversy?

11-00:01:17

Pister: Yes, well, it was indeed. It was in 1972. I think the lake almost hit its low point then. And so I said, "Who are you?" He said, "Well, my name is Galen Rowell." And I had heard of him even back thirty-six years ago now. That was 1972. And so we started talking back and forth. I said, "Where are you from?" He said, "Well, I'm from the Bay Area." "Okay, where?" "A place called Albany." "Okay, what do you do in Albany?" He said, "Well, I grew up

there and I"—at that time he was running an automotive repair shop, and he's an excellent mechanic, I found out later. And so I said, "Well, how come you were in Albany?" Said, "Well, my dad is a professor at Berkeley, UC Berkeley." So this focused it in, and I began to put two and two together. It turned out that I had had his father for a speech professor when I was at Cal, E. Z. Rowell. And I can see him now in my mind's eye very clearly. So that started a longtime association with Galen. And he's the epitome of mountain photographer and climber and skier and everything else. Just an amazing person. Just terribly unfortunate that he lost his life there flying back into Bishop.

11-00:02:47

Lage: Oh, Bishop is where he had the accident.

11-00:02:52

Pister: Yes. Yeah, I was back in West Virginia, teaching back at the training center, in my room. I was watching the news, and it was one of these things where they write it out on the bottom and it goes across the screen. Says, "Photographer Galen Rowell and wife killed," or something like that. Didn't give any details. "In air crash." And all I could think was that Barbara Rowell, Galen's wife, was a very accomplished pilot, and that maybe somehow they were flying somewhere, something went wrong, but turns out no, she wasn't even involved in the flying at all. They had just flown in from Siberia, I believe, into Oakland. Then they went ahead, and Galen called over to the Bishop Airport and got hold of a friend of his, says, "Can you come and get us?" This was in the night. And—

11-00:03:39

Lage: And why did they want to get over to Bishop?

11-00:03:41

Pister: Because that's where they lived.

11-00:03:42

Lage: Oh, they lived there.

11-00:03:42

Pister: Yeah. They moved then from wherever—I guess Emeryville—over to Bishop. Had a home there. And they'd moved the business over there too. It's now Mountain Light Photography there in Bishop, beautiful things. So the pilot came over and got them, and on the way into the Bishop Airport just about a mile away piled up into the ground, and everybody was killed. And it was just—I don't know any of the details on it at all, but it was just a real tragedy that that happened.

11-00:04:19

Lage: I'll say. Well, at that first meeting, did you get him a boat or take him to Mono Lake yourself?

11-00:04:23

Pister:

Oh yeah, oh sure. Let me carry it on farther. I'm glad you asked that question, Ann. One of my seasonal employees then, fellow named Dave Travis—and Travis gets hanging around the office. I said, "Dave, can you take Galen out onto Mono Lake? He may be there a couple days." Well, that's fine with Dave, he just loved adventure of that sort. And so Dave took him out there, and they got to be good friends as well during that period of time. And then Dave is the one who went ahead then, ended up getting his doctorate in history at Cambridge, and now the overseas program, New York University in Florence, Italy.

11-00:05:01

Lage:

Oh, a long way from Bishop and fish.

11-00:05:03

Pister:

Yeah, it is, but his heart, again like many of us, all of us, I think we come back ultimately to the Sierra Nevada, he just dearly loves it there.

11-00:05:14

Lage:

So we talked about Mono Lake, and you said you didn't do much except you provided some assistance.

11-00:05:22

Pister:

That's basically it. I provided physical assistance.

11-00:05:26

Lage:

Quietly?

11-00:05:28

Pister:

Yeah, surreptitiously would probably be a better term. Well, I would have never been terribly criticized by my department on this. We had—the Department of Fish and Game being definitely politically involved there in the Owens Valley with I think four major fish hatcheries there in the Owens Valley, three of which are on City of Los Angeles property. And Fish and Game Department, I think mainly to avoid controversy as much as anything, or maybe work even, did not enter actively at all into the Mono Lake question, such a big thing with conservation groups.

11-00:06:09

Lage:

Did you feel personally that you really couldn't speak out or become—

11-00:06:13

Pister:

Well, there's not much more I could do. I did offer some assistance during the court cases.

11-00:06:21

Lage:

In what way now? When you say offer?

11-00:06:23

Pister:

Just observations on fish populations in Mono Basin like at Rush Creek and Lee Vining Creek, Mill Creek, others like that. But my major contribution to

the Mono Lake effort was by just making equipment available to the research people. Mono Lake has never had a nickel. They're better off now. But for a long time it was just—

11-00:06:47

Lage: The [Mono Lake] Committee, you mean.

11-00:06:47

Pister: Yeah, the committee. Yeah, the committee and the researchers that worked with the committee, just driven totally by a good ethic and a commitment to the resource, what they did. So I could do this for them. I could—all state equipment, when we buy their gasoline for our outboard motors that they were borrowing to put on our boats. But it worked out really well, and it helped them a lot.

11-00:07:17

Lage: And that wouldn't be something that you'd get called on the carpet for.

11-00:07:21

Pister: No, no, this was low-enough-level, nobody's even going to know it. Get gasoline—well, of course, we were running boats ourselves then. You'd find a boat that they needed, about the right size, and you just haul it up there in a trailer and say, "Here it is, let us know when you're done with it."

Then later on, I'd say maybe ten years later, I then was a member of the Mono Lake Committee—or the board of directors of the Mono Lake Committee. I remain a member of the committee.

11-00:07:55

Lage: We were trying to get an oral history project going on that at one time.

11-00:08:00

Pister: That'd be worth a lot.

11-00:08:00

Lage: I guess the funding never really materialized.

11-00:08:02

Pister: Yeah, and the major guy there was killed, too, in a car wreck, David Gaines, who started the whole thing.

11-00:08:10

Lage: Yes, well, it makes you all the more eager to get the others.

11-00:08:12

Pister: Well, that's true. But his wife Sally is still there and very active in Mono Lake. And there are enough people around there. A couple who are very interested in history. There's a lady there named Lisa Cutting. And Lisa, she wanted to do an oral history herself one time. We never quite got around to it. We came together in a class that I was teaching over there. She and another—

she's a Berkeley person, as was Jodi Hilty, the other lady, they're both here in a geography class, I believe that's when we first met over there.

But the final thing on Mono Lake that I want to relay here was just the fact that a person, one person, can make a difference. And David Gaines had that commitment. Smarter than heck. He wrote a good book on the birds of Yosemite and so on. He was a Davis person, UCD. Which brings us around again to the impact of the university, which you and Karen are working on. And so that would be about it. But he just literally did the impossible there at Mono Lake.

11-00:09:25

Lage: It did seem impossible for so long.

11-00:09:28

Pister: Well, yeah, it did indeed. My first view of Mono Lake was in the summer of 1948. Well, no, first photograph I took of it. My first view of it was in 1932 when I was three years old, but I don't remember that. So that's enough for Mono Lake, I think. Certainly a worthwhile venture for everybody.

11-00:09:49

Lage: Very good. Okay. We were going to talk about the golden trout. We finished up the geothermal.

11-00:09:58

Pister: I think I'm pretty much done with the energy. We hit enough of the geothermal stuff just before lunch. But as far as the golden trout, this has been a labor of love with me, along with my professional responsibility. My first recollection of seeing a golden trout was when our family was camped at Tuolumne Meadows in upper part of Yosemite Park just before you head over Tioga Pass into the Mono Basin. And my father wanted to show us Devils Postpile. So we loaded in the fierce little Plymouth and drove over into Devils Postpile area. It was raining like mad and Karl, my brother, and I were just talking about this yesterday, how because of the heavy volcanic involvement over there, we watched the water running down the road floating pumice along the way. So we got down to the San Joaquin River, and here came a fisherman. My dad said, "Let's see what he's caught." It was a fisherman that had been fishing there in the Middle Fork San Joaquin, and he had some golden trout. And I can still see that, even though this was probably nearly seventy years ago.

11-00:11:30

Lage: Now what is the impact of seeing the golden trout?

11-00:11:34

Pister: Well, I'd say the impact was this, that it imprinted on me, and because of that I got this deep interest in golden trout.

11-00:11:43

Lage: But are they particularly beautiful?

11-00:11:45

Pister: Oh, yes they are.

11-00:11:45

Lage: Distinctive?

11-00:11:47

Pister: They are, and somewhere, Ann, along the line, I'm going to have to send you the first painting made of a golden trout. It was in 1905 when Theodore Roosevelt prevailed upon the US Bureau of Fisheries to send a scientist from the Bureau of Fisheries, a fellow named Dr. Barton Warren Evermann, E-V-E-R-M-A-double-N, to do a research study. The famous author, Stewart Edward White, who had written *Wild Geese Calling* and so on, he had been on a pack trip up into the upper Kern River, and it was quite easy, it's always been easy to catch golden trout up there. But he was afraid that because of increasing fishing pressure, they could become extinct. And it was not an unrealistic thought. It could be. As I look on it now, it would have been very difficult for people to fish all of the fish out of there. So Evermann went in there at the instigation of President Theodore Roosevelt, motivated by Stewart Edward White, and ran this study for a couple years.

11-00:12:59

Lage: On?

11-00:12:59

Pister: On golden trout. Yeah, his paper, this famous paper called "The Golden Trout of the Southern High Sierras." And he, for whatever reason pluralized, Sierras like that, which is wrong of course, but that's okay, we'll give him credit for that. His work was excellent. But that was before the days of digital single-lens reflex cameras, and if you were going to record this, you brought in somebody who was a competent artist. Black-and-white photography was not too advanced in 1905. So Evermann did these absolutely gorgeous color drawings of these different fishes up there. And I'm bickering right now with the Forest Service, who's publishing this big paper of mine. I said, "If you print my paper without a color photograph of a golden trout, it will border on blasphemy." And we'll see if they buy this or not, but I think they will. Beautiful fish.

11-00:13:58

Lage: So just tell me what it looks like. How is it different from the other trout?

11-00:14:06

Pister: Okay, well, it has an overall golden appearance to it. Its belly particularly is gold. For lack of a better term, it's like a newly minted gold piece, with a bright red stripe along the side. And then what we call parr marks in our lingo, which are—they're vertical marks along, maybe six or seven of them along what in ichthyological terms we call the lateral line. But for practical

purposes, it's about halfway down the fish. And it's a sensory mechanism the trout have. And brilliant red fins. Probably the best way to describe it is like an aquatic canary or oriole, something like that. It comes close to an oriole.

11-00:14:54

Lage: How nice.

11-00:14:54

Pister: It's a beautiful fish.

11-00:14:57

Lage: And it had a restricted range?

11-00:14:59

Pister: Yeah, it evolved in the Upper Kern River Plateau, which is south of the main Sierra really. Mount Whitney comes along, and then south of that you go into the Kern Plateau. Mount Langley is the southernmost 14,000-foot peak. And then from then on, the plateau gradually grades down till it hits the area around Lake Isabella and Kernville, quite a ways south.

Part of my job then in Fish and Game was to be concerned over the biological integrity of these waters that were under my jurisdiction then. My first hint of something going wrong up there was during the mid-sixties, when—there's a very good angler in Kernville, a town father I guess you want to call him, whose name was Ardis Walker, A-R-D-I-S Walker. And we got to be friends. They have a Kern River Association group that meets in Kernville, and I went down there, gave talks a couple of times. He sent me a message one time, and he says, "Every time I go fishing in the Kern, seems like I find brown trout farther north." Of course, the Kern River essentially flows from the north to the south and then cuts to the west and goes into the Central Valley.

11-00:16:32

Lage: And the trout were upstream?

11-00:16:36

Pister: Trout were up in the upper reaches. Yeah, they evolved in the upper reaches. Probably from nine to eleven thousand feet in elevation, somewhere in that range.

11-00:16:43

Lage: And when do they think they evolved? How long ago?

11-00:16:46

Pister: Since the end of the Ice Age. I would say, at least in the last eight to ten thousand years. And they evolved through geographic isolation, very similar to the pupfish we've talked about.

11-00:17:03

Lage: From the rainbow trout?

11-00:17:05

Pister:

From the rainbow trout. Probably their grandfathers way back were the steelhead rainbow that came up unrestricted before all the water went out into agriculture, cotton fields, whatever in the southern Central Valley. But the Kern River rainbow is probably their progenitor fish, which maybe eight or nine thousand years ago were isolated by a couple of things, but mainly volcanic flows creating what we now call Volcano Falls, between the lower part of Golden Trout Creek now and the main Kern River. These falls are substantial falls. They drop hundreds of feet, like Yosemite Falls in a way.

So Ardis said, "Every time I go up there, I find brown trout." And I was concerned about this because brown trout shouldn't have ever been imported from Europe for that matter, in terms of biodiversity reasons, but they were. And they are a very hardy fish, very successful fish, and also a lot of fun for people to catch. So wasn't too long after that, this would have been maybe the mid-sixties, I received a phone call, I think this was in 1969, a lot happened in '69, everything.

11-00:18:23

Lage:

Yeah, big year.

11-00:18:23

Pister:

Yeah. 1969, I had just turned forty in 1969, right. So much has happened since then. But in any event, our game warden, fellow named Vern Burandt living in Lone Pine—that was part of his patrol district up there, where our wardens, which are separate from the biologists—they're the enforcement component of the Department of Fish and Game.

11-00:18:50

Lage:

And you didn't have any jurisdiction over them.

11-00:18:55

Pister:

No, no, but we did work closely together. And this is a good example. He phoned me up. He said, "Phil, you ought to know this, because a good friend of mine, my next-door neighbor here in Lone Pine, caught a brown trout way up in the South Fork Kern River." And he says, "It's not a mistake, because he knows his fish really well; he knows a brown trout when he catches it." I thought, "Oh boy." Even while I was talking to him, it's one of these cases when you can envision what this is going to entail. Now remember, that was nearly forty years ago now. I can see what would happen. We're going to have to go up there, we're going to have to build barriers to keep brown trout from moving up into that area, we're going to have to take those that were already there and kill them off somehow and restock with golden trout. And that's exactly what it was. I went up there the next—

11-00:19:52

Lage:

But how do you kill one species and not the other?

11-00:19:52

Pister:

You can't. That's part of the story here. If you kill the brown trout, you're going to kill everything else that's in the stream by way of fish. So we went up there the next day. Luckily there's a flying service. The Tunnel Airstrip goes right along to South Fork Kern where this fellow caught his brown trout, and there was a pilot there at that time named Bob White. Bob flew us in there in a Cessna 180, which is a great airplane for that. We took a fish shocker in, which is a great, quick way to catch fish. It takes a six-volt battery or twelve-volt battery, jumps it up to a really high voltage, and it knocks fish out, doesn't kill them. They're just anesthetized.

11-00:20:36

Lage:

Over a big area?

11-00:20:37

Pister:

Well, it depends on the composition of the water. The more salt in the water the more it acts, the higher the mineral content of the water. So we went up, and just below the airstrip—we just had hardly started—we got a five-pound brown trout in a stream that was about the distance from me to you right now, maybe seven or eight feet wide. And I thought, "Oh boy." And this was up above what we thought were barriers. They weren't barriers.

11-00:21:13

Lage:

Were they intentional barriers or—

11-00:21:14

Pister:

No, this was natural.

11-00:21:17

Lage:

Natural barriers.

11-00:21:17

Pister:

Yeah, it's natural, what we call Tunnel Guard Station, Forest Service Station there, between—well, just below this the South Fork Kern drops significantly.

11-00:21:30

Lage:

I see, and that you thought would keep the brown trout out.

11-00:21:32

Pister:

Yeah, we thought this would keep them from coming up. So what do we do now? Well, we thought, well, first off, looking at the stream in different components, there's the upper part above the guard station, then you have a middle part, then a lower part. So right away I began thinking, we have to start at the upper end for obvious reasons, because if you kill off the fish halfway down and a bunch of impure ones come down—hybridized fish come downstream, they're going to negate your work. So at this time we brought in engineers. We had enough humility by that time on building things as biologists on our spawning channel work. So we better bring in engineers. Well, both the Forest Service (the Inyo Forest) and Cal Fish and Game had very good civil engineers then, still do. And so flew in an engineer, couple of

them, and they went down and said we had to barrier this stream somehow. So we found a place in that gorge just below. And we'll have to have a map here too to put in the manuscript somewhere along the line, or the tapes.

We had to somehow barrier this gorge. There's probably maybe fifteen miles of stream above this, and brown trout are going clear to the top. And there's no way that you could take that fish shocker, because this won't get all the fish. There'll always be a couple somewhere that you missed. Try your best with it, you can go up and down that darn stream, you keep getting brown trout. So we found a spot about halfway down the gorge, Ramshaw Gorge they call it, because the meadow just below Tunnel is Ramshaw Meadow. So this is known as Ramshaw Gorge. Maybe couple of miles between the lower part of Tunnel Meadow and the upper part of Ramshaw Meadow. And they found a spot there that we could make a barrier just—we didn't have to pour concrete or anything; it was a natural constriction in the stream that we could blast rock with and fill up the streambed up to a point where it would ultimately silt in and create an impassable drop, maybe ten feet. And if you have a drop of ten feet, trout aren't going to jump over it. So we did. We went in, we blasted the heck out of rock; it's all in close cooperation with the Inyo National Forest and their biologists and their engineers and powder experts and the whole thing.

11-00:24:12

Lage: How about hydrologists?

11-00:24:12

Pister: Well, that too. Yes, we had a hydrologist working with us, a Forest Service guy, Tom Felando, just really a great guy. And he knew his work really well too. Tom had a—this is a sideline here. He had a great ability to use malapropisms. I remember one time we were up there on the same project. We were camped out. And I've always had a hard time getting up in the morning. I hate to get out of bed. But Tom's one of these people at the crack of dawn would be out jumping around building fires and things, happily putting on the coffee. And so he did this one morning, I yelled out, I said—it was a really cold morning, makes it even harder to get up. I said, "Tom, why don't you just shut up and go back to bed?" And his response was something you just die for. He says, "Come on, Phil, this is the best time of day, when we all get up and conjugate around the fire."

11-00:25:14

Lage: That's wonderful.

11-00:25:16

Pister: Yeah, so okay, back to—we went all over that entire area checking out springs and marshes and things. So we built that first barrier. Then we had to remove the bad fish from up above it, which were both golden trout and brown trout. Happily no hybridized rainbow trout, because golden trout and rainbow trout are very close genetically, they can hybridize.

- 11-00:25:40
Lage: But brown and—
- 11-00:25:41
Pister: No, no, they're different. Two things, they're different genera for one thing. Brown trout are *Salmo*, the golden trout is *Oncorhynchus*. Yeah, this is the rainbow.
- 11-00:25:51
Lage: So they're much too distinct.
- 11-00:25:55
Pister: Yeah, yeah, and furthermore—
- 11-00:25:55
Lage: But do the brown trout drive out the golden—why were you concerned if they wouldn't hybridize?
- 11-00:25:58
Pister: Yes, yes, yes, they do. They will do this. Just by their numbers and their highly, I say, aggressive behavior, predation, they will—
- 11-00:26:07
Lage: They kill the young? Or they eat all the food?
- 11-00:26:10
Pister: They'll eat anything they can get their mouths around. And ultimately that'll render the species extinct, or extirpate it is a better term. Fish are all gone, but there are still others somewhere else. If there's nothing anywhere else they're extinct. But extirpated from a given area. Extinct from the planet Earth.
- 11-00:26:29
Lage: I see, okay, so if you let this go eventually—
- 11-00:26:33
Pister: Oh yeah, in fact when we started running our detailed analyses on these things, going in with the fish shocker again and collecting large numbers, there's no differentiation between the susceptibility to a current between brown trout and golden trout, so you're getting them in equal numbers. Found out that in many locations that the brown trout outnumbered the golden trout nearly 100 to one. The golden trout were nearly gone.
- 11-00:27:01
Lage: Really.
- 11-00:27:01
Pister: Yeah.
- 11-00:27:01
Lage: I'm surprised you hadn't had more reports.

1-00:27:05

Pister:

Well yeah, I am too, really. But I think it was very fortunate that this one fellow mentioned, who was a next-door neighbor with one of our game wardens, who was keenly aware of the sensitivity of the whole thing, that phoned me up so we could start doing something about it. So that was in September of 1969 that we went up there and found this great big brown trout. And they were all over the place. That was the largest we got. I use this as an illustration in my paper. This guy holding this great big darn fish nearly as wide as the stream was. So we then built the barrier. We then had to remove the brown trout from up above the barrier. To do that we had to remove everything. Happily there are two streams there, the South Fork Kern River and Golden Trout Creek, come within probably 200 yards of one another. Yet they're totally separate drainages. So we could collect golden trout from above the barrier that were pure fish and hold them in cages over in Golden Trout Creek that was not going to be subjected to the chemicals.

11-00:28:14

Lage:

I see. And was Golden Trout Creek, had it had any infestation?

11-00:28:18

Pister:

No, no. No brown trout over there at all. But we were afraid because they were so close. We have in fish management, particularly in wilderness areas, what we call the coffeepot or bucket syndrome, where somebody says, "God, those fish were good. I didn't see many over here. Let's take some from here and put them over there." And it's almost always devastating when they do that ultimately. So we collected up to, I think, 6,000 golden trout from that upper area.

11-00:28:52

Lage:

With nets?

11-00:28:52

Pister:

With the fish shockers.

11-00:28:52

Lage:

Oh, with the fish shockers.

11-00:28:52

Pister:

You go through with the shockers. That pulls them out from under the banks where you can get them with the net. Then from there they go into a bucket, and then from there into these hardware cloth holding boxes that we would put them in.

11-00:29:04

Lage:

Who did the labor on this?

11-00:29:07

Pister: Well, if you were ever to look at the acknowledgments section of my paper—I would say that probably close to fifty people from all different parts of life and—

11-00:29:19

Lage: Volunteers?

11-00:29:19

Pister: A lot of volunteers. We had one fellow who was a forestry student back at Syracuse University in New York that flew out at his own expense from New York to LA and then came on up to help us with this project. We had a number of people. We had people from the Department of Transportation, UC Davis, a guy from Berkeley, all there because they were very interested in this, and they saw the conservation implications of it.

11-00:29:46

Lage: Did people from California Trout and groups like that help?

11-00:29:49

Pister: Yeah, they helped too. Although most of the help from them came a little later on, when we turned that whole area into the Golden Trout Wilderness.

11-00:30:00

Lage: Okay, I'll let you go on with your story.

11-00:30:05

Pister: Okay, so then we built that barrier, cleaned up that upper section, brought fish in from where we were holding them across the 200-yard section, restocked.

11-00:30:16

Lage: Did you have to poison the—have we said that?

11-00:30:19

Pister: Well, we did—yeah, there's two chemicals we used. They're the old standby, rotenone, it's a derivative of a South American plant, derris root plant, and you can—we learned this, somebody did, from the South American Indians. When they wanted to collect fish they'd take this root and they'd smash it in the stream, and the fish would belly up. What it does, it renders the gills unable to assimilate oxygen. Of course the gills are their counterpart to our lungs.

11-00:30:50

Lage: Then what was the other?

11-00:30:52

Pister: The other one is the thing called antimycin, which is—it's a good fish killer, works very differently, this impacts the electron exchange between cells, it's a much more complicated thing.

11-00:31:04

Lage: So you end up with a lot of floating fish that you have to get rid of.

11-00:31:06

Pister: Yeah, yeah you do. We would go through and get all we could and just bury them, or put them out in the middle of a meadow where the coyotes would eat them the next night or something like that.

11-00:31:19

Lage: Did you get any flak for killing fish?

11-00:31:24

Pister: Yes. Luckily, most of this we did before the animal rights movement finally came in strong. I had to put up with a couple of really vitriolic letters from people, say, "Why are golden trout more important than brown trout? They're both living organisms." And it comes down to ideologies again. They don't want to see anything killed. So I have a good friend who's an environmental philosopher at Colorado State, Holmes Rolston, who had written a book called *Environmental Ethics*, a textbook, printed by Temple University Press. And he had used this very subject of our work on the Kern, and brown trout versus golden trout. He said, "Is it ethical to kill, say, the brown trout?" And it was his analysis as a professional philosopher, yeah, if it's a matter of the survival of a species as opposed to the well-being of an individual trout that should not be there in the first place, from the standpoint of natural biodiversity, then it is indeed ethical to kill these fish. I never heard back from these folks.

The next problem we had with that were from the aquatic entomologists who—see, these same chemicals will kill aquatic bugs as well.

11-00:32:45

Lage: I was wondering about that.

11-00:32:48

Pister: And part of our project, though, the first time we introduced this, I had an aquatic entomologist who worked for us from Oregon State, a graduate student, who ran a very good study on the impact of these things on the bugs, mayflies, stone flies, the caddis flies, the whole thing.

11-00:33:04

Lage: That the fish eat.

11-00:33:04

Pister: Yeah, yeah. So before we restocked—happily virtually all of these life-forms, all the bugs, are winged forms, and they could fly over that 200-yard gap between the two streams and recolonize. And it was our impression too that we did not destroy the whole insect fauna, but just a fair amount of it. They were still there to act as seeds for—so we waited several weeks before we restocked that, just to let the food base build up again. And that worked out—apparently worked out pretty well. But then we had to take this whole project

then and continue to move it downstream. We wanted to rid the entirety of the Golden Trout Wilderness of brown trout, which should not be there, and—

11-00:33:51

Lage: But it wasn't a wilderness yet, was it? Was it already a wilderness?

11-00:33:53

Pister: No, but we knew this was coming. We were already working with the Forest Service on setting this up. This I think was around 1979. Nearly ten years later, when the Endangered American Wilderness Act was passed. I guess that was during the end of the Carter administration that happened.

11-00:34:10

Lage: So you moved on downstream.

11-00:34:13

Pister: Yeah, we built another barrier. And then a third one clear down at the boundary of the Golden Trout Wilderness, which we knew would be about there, place called Schaeffer Meadows Barrier. Another one, Templeton Barrier. Heavy volcanic activity up there. And there are these big cinder cones. Great big things, couple thousand feet high, they're big pieces of nature there. And so we built another barrier that did not last too terribly long. That's interesting country. It's all decomposed granite and decomposing granite.

Well, our first barriers were made of what we call gabions. A gabion is probably best described as a big box, maybe six feet long, maybe two feet high, two feet wide, the box being made out of essentially Cyclone fence material, galvanized steel. And you just lay these in like big bricks in the stream, and they silt in. It makes a pretty good barrier. And the two barriers we built this way down from the one where we filled in the stream, which was not subject to that, they lasted quite well for, oh, seven or eight years. But because of the decomposed granite going downstream, which is abrasive as all get-out, it began to remove the galvanizing from the steel baskets. They then rusted and by the weight of the rocks in there, began to disintegrate.

When they did this, the support for the main structure would begin, particularly, most of that force was hitting on what we call the apron, it's the lower downstream part of that barrier, that began to crumble and go away. And when that happened the whole barrier began to tip. So we tried to hold the line until we could do something even better. We flew in two-by-two-by-two-foot cubes of concrete, precast concrete, and paved the area right below the dam with these blocks of concrete just to keep this hydraulic force from further degrading the gabion baskets.

Well, that worked for a while, but we could tell something better had to be done than that. So in 1996, well yes, '96, Department of Fish and Game, within the Department we have what we call our screen shop crews. And they're just generally good at all types of construction. We brought them in on

horses, and luckily the forest supervisor, even though this was in the Wilderness in 1996, he allowed us to bring in motorized equipment. He said, "If we're going to"—I think he recognized the total incompatibility of having a Golden Trout Wilderness with no golden trout. And we were close to getting to it. And so he said, "We'll just look the other way. If somebody doesn't like it, we'll explain why we did what we did, they can sue us if they want." So Dennis Martin was a real help to us in this respect.

So they flew in concrete mixers. We flew in something like eighty cubic yards of premixed concrete with helicopters. Things to saw the reinforcing bar with, the rebar, you need carborundum saws to cut this to the right lengths and things. And all that was brought in and set—we had then to put the South Fork Kern River into a big pipe so we could build the barrier around it. And this was all done by one of our engineers named George Heise there in Sacramento. These guys just did a marvelous job. So we got the Templeton Barrier done. The same thing, the degradation, was happening at the very lowest barrier at Schaeffer Meadows. So we had to build a similar barrier there.

And it just totally amazes me yet, Ann, how in about early part of the 2000s, 2002 I believe or '03—and Fish and Game has never been high on anybody's funding list. We're way down at the bottom. Somehow my counterparts in Fresno were able to get \$2.5 million to build the lower barrier. And that's a huge amount of money from a bunch of tightfisted congressmen or state legislators to build a fish barrier. And you'd have people in Fish and Game, would question using that much money for this. But they did, they got it, contracted it out. It was done by the Department of Water Resources, they were the contracting agency, we just paid them for it, but they had private contractors come in and build the thing. 2002 they had a huge forest fire. They got everything going. And the Forest Service made everybody move out because they were afraid everybody was going to get incinerated by this fire, and they had good reason for that. So we had to stop the project in 2002 and complete it in 2003. But the barrier itself is a real piece of work. It's a beautiful thing.

11-00:39:44

Lage:

How does it look? Does it look like a big intrusion into the natural scene?

11-00:39:48

Pister:

Well, of course anything like that is going to be an intrusion. But the Forest Service, their people are good. It's all faced with simulated rock, it doesn't look like Hoover Dam or a big concrete thing. This is very thoughtfully done. I'll have to send you some pictures of that because—

11-00:40:12

Lage:

There are a lot of writings asking, "Is nature natural, and how much have we constructed nature?" And here's a great example of a—

11-00:40:22

Pister: It's a good example of that.

11-00:40:22

Lage: Completely constructed attempt to preserve a natural ecosystem. It's totally based on this huge engineering feat.

11-00:40:37

Pister: There's a guy, one of the early issues of the journal *Environmental Ethics*, who wrote a paper, a graduate student, on the ethics of artifacts, which these things are. And you can justify it on this basis. So to go back a bit again now on—fortunately our work worked. It worked out. We were able to kill all the brown trout. But this took a lot of work. We had to chemically treat with rotenone over 100 miles of stream, which is a huge amount to have to do. And to make sure you got all of the brown trout out at the time.

11-00:41:19

Lage: And really make sure you have everything out.

11-00:41:21

Pister: Yeah, so another interesting part of this, the only other native fish up there in that upper area was the Sacramento sucker. Well, most fishermen disdain things like suckers, although that's part of the bowl shaping the water from the evolutionary standpoint. So we as part of our restocking, we restocked Sacramento suckers in there right along with the golden trout.

11-00:41:51

Lage: And do they compete with the golden trout?

11-00:41:53

Pister: Not really, because they coevolved. There might be some, but it'd be a minimal thing. We find two species have coevolved, they've learned to live with each other.

11-00:42:00

Lage: But did you have to explain that to the California Trout groups or any of those?

11-00:42:05

Pister: Particularly there's a group of fly fishermen in Ridgecrest, which is out in the desert across from Porterville. It's home of the Naval Weapons Center, Ridgecrest, and China Lake. And they were somewhat upset by all of this in the first place. They could understand what we were doing with the golden trout. They had a tough time with the suckers, until I used that same exact analogy of the water shaping the—

11-00:42:36

Lage: They got it.

11-00:42:36

Pister:

Yeah, they did. These people are a sharp bunch. They picked up this stuff, and they'd find out they're going to be able to go up fishing anyway; that's the big thing. But back again to the bugs and the courts. We've had a terrible time. Luckily, we were able to do this with the golden trout. But with other species, my counterparts in Region 2, which are out of Sacramento—Region 6 we have now is out of Bishop pretty much—but the people working on Silver King Creek, which is a tributary to the East Fork Carson, comes and joins with the West Fork, and they go down and they end up in the Carson Sink in Carson Valley near Carson City. Their native habitat, they evolved there, these Lahontan cutthroat trout—or the Paiute cutthroat trout.

11-00:43:29

Lage:

So they're a separate species.

11-00:43:30

Pister:

Totally yeah, they're different, same genus, but a different species, and certainly different subspecies. So for the last couple of years they've had the same essential thing of an invasion of rainbow trout and an infusion of rainbow trout genes into that Paiute trout population. So they've been all ready to go twice, and our opponents on this who—

11-00:44:02

Lage:

Ready to go?

11-00:44:02

Pister:

To do the treatment there to get rid of the hybridized fish or impure, whatever you want to call them, hybridized fish. They've been all set to go. Equipment, people from all over the state go to help. At the last minute, a judge will grant a restraining order to stop it.

11-00:44:20

Lage:

And who's bringing the suits?

11-00:44:20

Pister:

It's this group of people who don't want this chemical introduced in the stream. In a way, they've got a good point. We don't yet fully understand the impact of these chemicals. So I can understand that. I've always looked at it this way. There's a possibility that we could lose say a subspecies of a mayfly, although it's unlikely as all get-out. But if we don't do that, we certainly are going to lose the fish. But then they'll say, "Why is a fish more important than a bug?" Well, I don't think it is. But we know we're going to lose one. We don't think we're going to lose the other. We brought in the best aquatic entomologists anywhere to help us with these studies. It's not like we're brushing them off because we took a course in Ent 1A as undergraduates we think we know it all. We don't know it all. We understand that. So the major appendix item in the paper I'm writing on golden trout relates to that very subject of this grad student at Oregon State who came down just to assess the impact of these chemicals on the aquatic invertebrates.

11-00:45:31

Lage: But the challenge is based on other species and not on animal rights.

11-00:45:36

Pister: Far less so. The animal rights people, they've sounded off now and then. But with no real—see, one thing that's helped here, there's been some good research done, particularly a researcher up in the University of Wyoming up in Laramie. Do trout feel pain? And doing all of the most sophisticated studies he can do, he said, "No, they don't." At least not as we experience it. And so with that, it takes away most of the argument that the animal rights people might have. Particularly where you're dealing with, say, an imported fish from Europe. Or even in the east slope drainage, rainbow trout from the other side of the mountain from over here, as opposed to the other side of the crest of the Sierra. It takes away much of the argument they might otherwise use. Again it's a matter of ideology, and oftentimes you can't argue with those folks, they're so convinced in what they're doing.

11-00:46:42

Lage: Yeah, they have their sense of right and wrong.

11-00:46:43

Pister: Well, they do, and certainly under the First Amendment they're entitled to state them.

11-00:46:49

Lage: Were you telling me that some of the golden trout had also been transplanted to areas they didn't originate in?

11-00:46:55

Pister: Yes, they had. Beginning around the turn of the century, that would be 1800s into the 1900s, the beginning of the twentieth century, fish began to be moved. Brown trout were brought here from Europe. But then they began to be moved by design. I don't know if the Indians did much of this. But white men, white people, came in and started moving fish. And curiously, and almost paradoxically, one of the major movers of fish was the Sierra Club. They would go in on their famous High Trips back in that era with large numbers of pack stock, mules, horses, whatever. And they would get all of the gear hauled in, the food, the tents and sleeping bags, other stuff. Here they'd have maybe twenty or thirty horses or mules sitting around with nothing to do.

Well, back in that time, in fact, he was the one who took over the Sierra Club after John Muir bowed out, Will Colby—Colby Meadow along the Muir Trail in the Southern Sierra [was named after him]. He loved to fish. And so he would then supervise these groups that would go in the Kern, catch fish, isolate them, seine them out, whatever, in these same streams, Golden Trout Creek and South Fork Kern. Put them into cans, slung on the side of horses and mules, and start moving them northward. Gradually, gradually, gradually moving them way up. I've got a photograph that I use in lectures also showing the old Fish and Game Commission twenty-mule team in 1914 hauling golden

trout up over Paiute Pass out of Bishop to plant in the upper parts of the San Joaquin River drainage.

11-00:48:51

Lage: Were they considered better eating? Or is it again the attractiveness?

11-00:48:55

Pister: Well, no, they were probably available more than anything. Because see, our first hatchery over there wasn't built till I think 1916, the Mount Whitney Fish Hatchery. So there was no other place to get them.

11-00:49:02

Lage: They were available because they were the native fish.

11-00:49:05

Pister: Yeah, sure, and there were lots of them. They could just get wild fish. And the hatcheries, when they came along, they began to plant little guys.

11-00:49:11

Lage: Because there simply weren't fish in the other lakes?

11-00:49:13

Pister: Oh no, no, I should point this out, that the lakes that these fish were transplanted—or planted into, introduced into, have all been created by glacial action since the end of the—well, during the Pleistocene. They dug out these holes, then the lakes gradually of course had water in them. And started to build up food chains in the different lakes. And so there are all these waters. And the thinking back at that time was, if something's wet, it's got to have fish planted into it. Nobody thought about biodiversity in 1900. Bad enough in 2000, but—

11-00:49:53

Lage: So you're talking about the early days of the Sierra Club High Trips.

11-00:49:55

Pister: Exactly. And it wasn't only the Sierra Club. There was a group in Bishop called the Rainbow Club of Bishop. And they loved to have—after the hatcheries got going, they would arrange with the Fish and Game Commission to do their own planting. And we've still got the records—I saved them there in the Bishop office—of the requests and where the fish were planted. Well, the irony of this whole thing was much of the fingerling trout availability there was through our Mount Shasta Fish Hatchery up in McCloud up in northern part of the Sacramento Valley. And most of what things they raised were steelhead. So one of the first guys I worked with, he says—interesting story there. They would load these fish on what they call fish cars, railroad cars and start moving them, say, down the east side of the Central Valley, with aeration equipment to keep the fish alive. They'd pull into a siding to get ice to keep the fish cold and things. And, say, there's a sportsmen's group in Fresno or the other side in Bishop or Lone Pine. They'd say we want 5,000 golden trout, 3,000 eastern brook trout, 4,000 brown trout. So here would be

this fish car that would come up with nothing but steelhead on it. So they would take a can of steelhead, write brown trout on it, and that's the way much of the confusion of species distribution was exacerbated by that sort of thing.

11-00:51:35

Lage: So steelhead are related to rainbow. But they're not rainbow.

11-00:51:39

Pister: Well, actually, it's a behavioral thing more than anything.

11-00:51:47

Lage: When they're in freshwater, they're—

11-00:51:47

Pister: What happens is the steelhead are anadromous fish. They go out in the ocean, they go off and they come back into freshwater to spawn. That's part of my early work up in the North Coast. I studied that. And then some of the steelhead then didn't return to the ocean and became resident rainbow trout. But all on the west side, until human beings began to move them by whatever means into areas where they were not native, and that would include the Owens Valley in the Great Basin on the other side.

11-00:52:24

Lage: It's quite a natural history.

11-00:52:26

Pister: Oh, it really is, it really is.

11-00:52:29

Lage: Not so natural.

11-00:52:29

Pister: Not so natural. Probably the best book on this is Peter Moyle's *Inland Fishes of California*. Peter did a real fine job on that. He tells about those early situations.

But golden trout, back to that again, we're not out of the woods there at all. So once we got the brown trout out, it is a matter of constant monitoring. You go up there in certain locations every year. You check the integrity of the barriers, are they okay? Then get on up in the northern part of that Kern Plateau. We begin to see that even though we did our best, still rainbow trout were infused in the populations, probably not in great numbers, but in both the Golden Trout Creek and the South Fork Kern, the ones that come close to each other.

So now this is where the geneticists come in—particularly Molly Stephens, who did her doctoral work on this—to give us some insight on the degree of hybridization. Can we maybe overcome what's called genetic swamping, by bringing in pure fish, keeping dumping them in there and so on? Sometimes

that will work. But at least we have some very scientifically valid guidance now from good geneticists there at Davis to help us understand this. Very grateful for these people.

Stephen Jay Gould, the recently departed philosopher-scientist at Harvard, put this so well. "He said we are trapped in the ignorance of our own generation." And that's as true today as it was 100 years ago. All we can do is hope to build on the mistakes we've made in past years and not repeat them in the future. At least we can identify them now.

My wife's mother took part in some of those early Sierra Club High Trips back in the early 1900s where the ladies all had long skirts and things. And I have two books she bought which she gave to Martha and me. *My First Summer in the Sierra*, first edition of John Muir's writings. And others of his writings in first editions. I protect those with my life. Probably worth a lot. I never thought about that, but I wouldn't sell them for anything. And then even when I—time goes so quickly. I was born in 1929. And when I think what the state of our resources were in 1929 as opposed to what they are now, nearly eighty years later, there's just this huge change. And that's been so interesting to me, particularly after World War II, to watch this change in the concern over biodiversity issues, concern over species, the need to conserve species.

11-00:55:25

Lage:

More threats, though, but also more awareness.

11-00:55:25

Pister:

Well, yes. Yes, exactly. So this makes the whole picture much less solvable. But on the other hand, it was the historian George Santayana who said that "Those who fail to remember the past are condemned to repeat it." I think that we can learn enough to at least let us know a better direction in future years. But then we run into things like you just mentioned. We have more water quality problems, things of this kind. So back again to good old Richard Nixon. For all of his failings, he did give us the Endangered Species Act, the Clean Water Act, Clean Air Act, the Marine Mammal Protection Act, National Environmental Policy Act, all of the laws now that form the basis for what we're trying to do.

11-00:56:24

Lage:

Now, he was president when they were passed.

11-00:56:26

Pister:

Well, he signed the bills.

11-00:56:26

Lage:

He signed them. Bush probably wouldn't sign them.

11-00:56:30

Pister:

Oh no, no way in a million years would George Bush sign anything like that. I'm willing to have that recorded for posterity.

11-00:56:40

Lage: There was such an upwelling of environmental feeling during those years, and I think Nixon was a good politician.

11-00:56:46

Pister: Well there was, and then when Reagan came in, his secretary of the Interior, James Watt, built the way for the environmental movement there. What was it? Sierra Club was able to get something like two million signatures asking for his dismissal. And the guy was just—this is one of the dangers of trying to think with lawyers telling you what to do. I think people are inspired by things, it's good. But it has to be something not politically motivated like those guys.

11-00:57:18

Lage: We're coming to an end of this tape. Is there anything more on the golden trout that wouldn't be more than two minutes?

11-00:57:28

Pister: Yeah, I think so. So where we are now, we are running this constant monitoring program. Oh, part of this, and this is certainly worth saying, that whole entire Kern Plateau area was terribly overgrazed beginning back in the Civil War times. There was all this grass up there, and sheepmen and cattlemen just came in and literally destroyed the habitat. Took all of the riparian growth out, anything that might retain water. And ended up as beef and mutton. So part of that whole project, and a very key part of it, has been range rehabilitation overseen by Forest Service range conservationists.

11-00:58:14

Lage: Is this in the Golden Trout Wilderness Area?

11-00:58:17

Pister: Yes, yes. It's those same meadows I mentioned earlier. That's where most of this has occurred. But that's worth taking up after we change tapes because it's a valuable part of the whole thing.

11-00:58:27

Lage: Let's do that. Hold on.

[End Audio File 11]

[Begin Audio File 12 Pister_e_philip12_01-24-2008]

12-00:00:00

Lage: All right. Here we are on Tape 13 [actually tape 12], if you can believe that, continuing our fifth [actually the fourth] session.

12-00:00:20

Pister: Okay, so are we going now?

12-00:00:20

Lage:

Right. We're going to continue some things related to these golden trout.

12-00:00:29

Pister:

Well, it's been an interesting thing. As I hinted just at the end of the last tape, overgrazing up there in the Kern Plateau, where the golden trout evolved, has gone on now for nearly 150 years. It started back during Civil War times. And so there've always been cattle up there, at least in recorded history. Of course the Indians never had cows. But what this did then, gradually the meadows were just like you mow with a lawnmower every day. Pretty soon there wasn't much left. Along with that, all of the water pollution problems you can imagine from large numbers of cattle. So part of this overall plan there for the Golden Trout Wilderness brought in concerns over the cattle as well. And this is interesting, showing you how hardball politics works. One of the former supervisors of the Inyo National Forest was Bob Rice. Bob is a topflight guy, he went back to, I believe, the hearings on the proposed Golden Trout Wilderness when they were deciding what this was really going to be. And it seemed logical to Bob that since this was going into a wilderness classification, this might be a good time to just get rid of the cows. So he made this known at one of these congressional hearings. And there were two, I guess, livestock-oriented congressmen from the state of Colorado who said, "Mr. Rice, either the cows stay, or you don't have a wilderness. Now you've got a choice to make." So even though it's a wilderness, there's these blasted cows up—

12-00:02:17

Lage:

Because I don't think of it as compatible with wilderness somehow. It's not the usual pattern.

12-00:02:22

Pister:

No, and here we had this little airstrip we'd fly in and out of. They made us get rid of that, that's certainly not wilderness. How about the blasted cows? Well, that's okay because—

12-00:02:31

Lage:

So is it still being grazed?

12-00:02:33

Pister:

Yeah, but what they've done, luckily in the last seven or eight years we've gotten some really good range people there on the Inyo. Not that there weren't before. But this one lady, Lisa Sims, she's been really courageous in this stuff. And so in some of the worst areas they put that on a ten-year rest period. And it's just been amazing to see the difference in the stream bank stability, stream bank vegetation, the whole thing, just by getting those things off for just a few years. And the irony of this—and everybody recognizes the irony of this. These grazing leases are granted—of course they have to pay back the Forest Service certain amount. But on those leases up there, the revenue to the government is small enough that you or I could pay it. I think something like

\$5,000 a year. And you can imagine what impact that makes in the federal budget. So these are the things that you really—

12-00:03:48

Lage: So what is the force, aside from these congressmen from another state, that keeps those cows on the land?

12-00:03:54

Pister: Well, of course it's a federal wilderness area under the Wilderness Act. And I guess the Colorado congressmen feel an obligation to the California cattlemen as well as they do to their own. And that would be as I see it now. But where it is right now, I think it's been seven years since the leases were put on hold there. And they'll be reevaluating these things before too much longer. And that's when I think we'll have some strong testimony about, hey, let's just forget this from here on in.

12-00:04:32

Lage: And could you or your people, your cohort in the Fish and Game—is there scientific evidence of what the impact of cattle on fish life?

12-00:04:46

Pister: Yes. Yeah, something that would certainly be admissible in court. I'm using just two photographs in my paper that probably—the saying that a photograph or picture is worth a thousand words, sure is true here. Sure is here. And pictures, though, aren't necessarily a final analysis. The Forest Service and university range people and range conservationists have been up there and made their own evaluations of this. So that's where we are right now in the grazing issue.

12-00:05:10

Lage: It seemed like a long battle to get that area into a wilderness. The Kern Plateau, I remember hearing about the Kern Plateau for a couple of decades.

12-00:05:25

Pister: Oh yeah, yeah.

12-00:05:29

Lage: Do you know the principles behind that? I think of Martin Litton as having an interest. I'm not sure exactly why.

12-00:05:36

Pister: Well, yes, there—well, this is an interesting sideline. One of the interests up there, rather amazingly, is the Anheuser-Busch Company that make Budweiser. And—

12-00:05:52

Lage: And where are they located?

12-00:05:52

Pister:

Well, this is all part of the way American economies work I guess. The guy who used to run the cattle up there has a ranch—or had a ranch, he's dead now—on the shore of Owens Lake with some big artesian springs coming out of it. Well, some entrepreneurial type guy, I guess, hooked up with Anheuser-Busch, says, "Hey, we can bottle water here." This huge craze of bottled water now. And so Anheuser-Busch was willing to—what the heck is it? Crystal Geysler Water, yeah. I think most of Crystal Geysler Water, I guess, in California is bottled right there, though I'm not sure it all is. So that's how Anheuser-Busch got involved. And this entered into the—

12-00:06:45

Lage:

And they own Crystal Geysler?

12-00:06:48

Pister:

Yeah, and they also then assumed the leases as part of this whole operation up on the Kern Plateau.

12-00:06:54

Lage:

They assumed the grazing leases.

12-00:06:54

Pister:

Yeah, yeah, they assumed those. So this then entered into the cattle thing very well with the trout people. Say—Cal Trout, Trout Unlimited, they went to the Anheuser-Busch people, saying, "How would you like it if we came out with a full-page ad in the *New York Times* telling what you're doing to the California state fish for just a pittance?" Yeah, and so they were quite willing to have these leases at least put on hold for a while.

12-00:07:33

Lage:

Well, that's an interesting tale.

12-00:07:33

Pister:

Yeah, it's an interesting story. We haven't had their Clydesdale horses up there yet. That's probably next. So that winds up the—that's what we're doing now. The grazing is a big thing. Just the overall habitat and monitoring is a big thing, and we're looking for fish all the time that shouldn't be there. And are equipped if they should show up, what we'd do next. That's why we put it into three sections. If there's going to be an invasion of brown trout from down below, it'll be the first section first. So we can go in and just clean that one out and not affect the upper ones, so we wouldn't have to do the whole stream again.

12-00:08:10

Lage:

Now you talk a lot about we, but you've been retired since 1990. Are you still active in all this?

12-00:08:15

Pister:

It's hard to break out of that. It'd be like you talk about the university after you retire.

12-00:08:18

Lage: No, I know, but how involved are you?

12-00:08:22

Pister: Well, I'm involved to this extent. I go up there every year or so. Prowl around, look at my old haunts, my old grazing areas, whatever, that I used to monitor. And you might say I'm used as a historical resource, because I have an institutional recollection of what that has been through the years.

12-00:08:46

Lage: Have they tried to capture that in some way? We're not going to be able to capture that kind of on-site institutional memory.

12-00:08:53

Pister: I've got probably a couple thousand Kodachrome transparencies of all this. But they're not worth a lot without a narrative to explain them. How to go about this, I don't really know yet.

12-00:09:08

Lage: I think it's something to think about, how do you make your collection of photos useable.

12-00:09:34

Pister: Okay, let's do that. We can go into this Mammoth County Water District thing, with the weeds.

12-00:09:41

Lage: That would be good.

12-00:09:43

Pister: This is a peripheral thing; it's a totally new topic. But when you're in a quasi-recreational business like the Department of Fish and Game has been, and particularly back nearly fifty years ago now, you get hooked into all kinds of weird things. And I can't think of a better way to put it than just weird things. Our department being a public agency, it's sensitive to public pressures. One of which was back probably fifty some years ago, we got a lot of static from the Mammoth County Water District. They supply water to the community of Mammoth Lakes, the big ski resort there. And part of their constituency is the resort owners that rent boats for fishing on the lakes up there. Well, in one of the lakes, Lower Twin Lake there at Mammoth, or all of the Twin Lakes at Mammoth, below Horseshoe Falls up there, a big invasion of weeds came. How'd they get there? Well, we really don't know for sure, although the species of weeds that are there are commonly used in home aquaria. You see weeds in a person's aquarium. And they're there for oxygenation and other, just for decoration, whatever. But once they get put into a wild situation, it's like any other undesirable invader. They exert bad things into the habitat if they're not native there.

So Fish and Game, what are you going to do about it, you guys plant fish up here, people can't catch them, somebody's going to have to do something

about this. Well, so they contact their state assemblymen or whatever, who then go back to the department, which then ends up with me: what are you going to do about the weeds at Twin Lakes? Well, I roped in the Forest Service right away because this is on the Inyo Forest. But they don't know anything about killing weeds, even less than I do. So this goes back and forth and—

12-00:11:52

Lage:

Did you see the virtue in getting rid of the weeds?

12-00:11:55

Pister:

Well yeah, only to the extent that it makes fishing easier. But from the biological standpoint I really—I didn't see a great deal in that. Because it's like mowing a lawn; you're not going to kill the weeds off, you just depress the population for a while, then they come right back. It's very similar to mowing a lawn. So how to get rid of these things? Well, we did some literature checks and found out that the chemical sodium arsenite kills the species of weed. So we got a few bottles or a can, big drums of sodium arsenite, for some tests. And went out there and rented a barge and put pumps on there and sprayed this stuff around. Amazing I'm here right now, I didn't kill myself with this stuff. And it did kill the weeds. But we weren't equipped to spray the entire lake situation. So we contracted with—what you call it—I guess a pesticide firm in Los Angeles, Western Exterminators, Incorporated, and they said, "Okay, for X dollars we will do the weed treatment for you."

12-00:13:05

Lage:

Can I just stop? Did you tell what date this was?

12-00:13:09

Pister:

We started in the fifties. It went into the sixties.

12-00:13:12

Lage:

Okay, I thought it might be early on.

12-00:13:15

Pister:

No, well it's early, but it's maybe fifty years ago, about that, which I guess is early.

12-00:13:20

Lage:

I just wanted to put it in.

12-00:13:22

Pister:

Yeah, I'm glad you did. It's in my notes here MCWD to remind me of this. There are two parts of MCWD. So they sprayed this stuff out there. And it killed the weeds. But this is also public water supply for the community of Mammoth. This is before we had the environmental laws. And some guy with the State Department of Public Health found out about this, and I guess literally went through the roof. Guy named Sam Kalichman. I never will forget Sam. He was one of these reserved guys, he'd just shake his head. [laughter]

12-00:14:03

Lage: Was this something that was seriously dangerous?

12-00:14:07

Pister: Well, I guess. Arsenic is a cumulative poison. I don't think anybody ever died from it or even got sick from it. And certainly the statute of limitations has now taken over sixty years later.

12-00:14:17

Lage: Or we wouldn't be recording this.

12-00:14:19

Pister: Or we wouldn't be recording. Or maybe we can delete it. Ask the CIA about deleting this. So I got a call from a friend that lives up there at Mammoth. She said, "Phil, what's going on here? I turned on my shower at night and all this green stuff came out of it." [laughter] So I said, "Probably decomposing weeds, nothing to worry about." So that finally went through.

But along with that, Mammoth was beginning to develop. Off of weeds now along to just plain water. I recall one time getting a call from the Forest Service saying, "We have an application here from the community of Mammoth to divert water out of Mammoth Creek for domestic consumption." He said, "We need input from you guys, talking about Fish and Game, for this." So we worked with the Forest Service then and said, "Okay, it was for two cubic feet per second out of Mammoth Creek, essentially constantly for 365 days a year. So well, okay, lots of water around then."

Then the population started to escalate, they needed more and more water, finally to a point where there just wasn't anything left for them. The stream had to have a certain amount of water in it to keep the stream alive. So now where we are on that now, the Water District is trying their best to find other sources of water. They'd like to—the Owens River starts at a place called Big Spring, goes into Crowley Lake, the major source of water for Crowley Lake, just east of Highway 395 as it goes up toward Reno, about maybe fifty miles north of Bishop. So they now want to drill wells up in that area and then take the water for the domestic water supply of Mammoth. And we're deeply concerned over this, because if you do this, you drill wells around springs, as we found out all through the desert and all through my career, it dries up springs, it lowers the water table to that point. So the district is really scratching their heads now. I don't know what they're going to end up doing. Have to go to water rationing or something. And this is hooked up with big business, because it's America West or something ski [resort].

12-00:16:50

Lage: They want to keep that going.

12-00:16:50

Pister: Yeah, yeah, and they want to expand, too. And water, of course, is necessary for expansion, whether it's in Las Vegas or in Mammoth Lakes.

12-00:16:59

Lage: You'd think there'd be plenty of water coming off the Sierra.

12-00:17:00

Pister: Wouldn't you think that? But there's not, particularly in the fall. After the snow has melted off there's not much left. Well, where are we now?

12-00:17:16

Lage: I want to just go back to the poisoning of the weeds. How would that have been different if it happened ten years later? This is before NEPA, before—

12-00:17:25

Pister: Oh yeah, ten years later we would have had to go through the environmental impact statement. Certainly environmental review. Which we didn't have to do back then.

12-00:17:35

Lage: Do you think you might have come out with a better solution or—

12-00:17:38

Pister: Well, possibly. I think what they've done now, I think the district themselves invested in some weed harvesters, and they can go up now with these very well designed things. They're big like big sickle bars you'd find on a harvester harvesting grain. And they can go through there and chop these things off, and part of the mechanism is to take them, stick them on some kind of a conveyor belt, then they're dumped into a truck ultimately and hauled away and disposed of. So we probably would have ended up with something like that. But we're never going to dump arsenic into a public water supply again.

12-00:18:15

Lage: Yeah it seems like a—what's the word I want to use? Not terribly well thought out.

12-00:18:22

Pister: Yeah, no, you're right. But nobody had any better solutions at that time. They didn't have weed harvesters back then. They've been developed since that time. And we didn't probably realize the full environmental consequences of doing this.

12-00:18:38

Lage: It's a good marker of what the thinking was then.

12-00:18:42

Pister: Well yeah, but it shows that there's been a huge evolution of laws, awareness, and all kinds of things going through that second part of the twentieth century. And that's like me still working on the golden trout now, because they're still in progress. And I doubt that the golden trout will probably never be solved totally, because we'll always be getting new technologies. In my paper I make the statement we'll never have the last word on these, only the latest word. Because we've gone from—

- 12-00:19:14
Lage: And the last word in how to preserve the species? Is that what you—
- 12-00:19:19
Pister: Well, of the identification of them.
- 12-00:19:19
Lage: Oh, even identification.
- 12-00:19:21
Pister: Yeah, we've gone from what they used many years ago called allozymes, first blood technology, then allozymes, to DNA, to now what we call microsatellite DNA. All being more and more refined to identify more specifically our target animal, what that really amounts to.
- 12-00:19:43
Lage: And here it is the California state fish.
- 12-00:19:43
Pister: Yeah, yeah, it is indeed. And again it's just—if these things fall under our stewardship, and indeed they do, not only Fish and Game, every citizen in the state, and to expand that out, every person in the world should be concerned over things like this. See, this is one thing we take for granted here in the US. Things like endangered species projects. We can do this because we have a strong economy. The money is there to allow us to do these things. You don't find sophisticated endangered species programs in the Third World because they can't afford to do it.
- 12-00:20:23
Lage: Right. They're thinking of other things.
- 12-00:20:23
Pister: Oh, yeah. Now my counterparts in Mexico see this. They're not as bad off as say the people in sub-Saharan Africa in many respects, people in Mongolia, whatever. And who knows what we've lost there just through neglect through the years and without knowing? What have we lost that we may never know what we lost? I was working back one time, folks at the University of Tennessee at Knoxville. And the Tennessee River system, the TVA, has been a huge impact on the Tennessee River. And a good friend of mine who's a professor of ichthyology there at University of Tennessee, I said, "Dave"—Dave Etnier—said, "Dave, what was the pre-TVA, what was the fish fauna back at that time?" And tears came to his eyes. He said, "We'll never know. We'll never know what we've lost there." We've had things like the famous or infamous snail darter. So we've gone through those episodes and come through them okay. We found populations, but I'm sure we've lost others. We've lost several of the Death Valley fishes through the years before we really began to learn what we have.
- 12-00:21:38
Lage: And you know that because of what?

12-00:21:38

Pister: They're no longer there. They were collected and described.

12-00:21:42

Lage: Oh, they were described.

12-00:21:42

Pister: Yes. Some of Miller's early work, Bob Miller, was some of the fishes that are no longer there.

12-00:21:49

Lage: And maybe there were more there before Miller ever came on the scene.

12-00:21:53

Pister: Oh, I'm sure there were. Like the one spring, the thing called the Pahrump poolfish. Very similar to a pupfish, but it's different group of fishes. They were in a place called Manse Spring right out of Pahrump Valley, town of Pahrump, which is now about 50,000 people, it's a big thing. That spring has dropped in level over forty feet in the last few years just by groundwater extraction. And I fought the permits on that simply because of what it was going to do to California. Because a lot of that water flows into California. And it should not all end up in sewage treatment plants in Nevada. But these are tough ones. Interstate water problems, they can be real sticky. That's all been part of this. You can't maintain biological integrity with nothing there to sustain the biota.

12-00:22:44

Lage: When you describe so many of these problems and how they were solved, it almost makes things like the California Department of Fish and Game seem outmoded. The divisions between agencies, federal, state and different, forestry, water, they all interrelate.

12-00:23:07

Pister: Well, they do. They do. And that's why in something like the Kern Plateau work, where you're trying to save the fish, which the Forest Service is indeed interested in, control the grazing, fix the grazing damage that's been occurring—see, some of these big cuts are just through plain erosion as a result of poor land management. So that involves going in and building big silt control dams in these stream channels and building up the streambed again, but those things are time-consuming. There's one place that these projects were built not too—it's in the Kern Plateau, but outside of where we're talking about here—where the whole thing was photographed while they were putting in what we call log barrier dams. You just take logs and lay them across the creek, pin them in so they won't just wash on downstream, tie them into the banks and whatever. This was done in about, I think, in 1950, and also they excluded the cattle, fenced the whole thing off. I was there probably forty years later. And it had just totally healed itself. It was just beautifully done. You couldn't see the logs. There were willows growing up, the trees had grown up, they weren't impacted by cattle.

So these are difficult decisions. But these are interagency things. The fish blend into the cows. And so that's the reason for working together on these things, because we have different laws. Be great if we had one great dictator, who would say, "Okay here's what you're going to do. I don't want to hear anything from you till it's done." Unfortunately, bureaucracy doesn't work that way. Frustrating as heck.

12-00:24:59

Lage:

Well, you could also see the danger in it, it seems to me, because you are there defending your resource, and if you had one big dictator who didn't care about the fish you'd be in trouble.

12-00:25:09

Pister:

Well, that's true. You'd have to assume it'd be a benevolent dictator and a very wise one.

12-00:25:16

Lage:

Find one for me before we put everything under one agency.

12-00:25:21

Pister:

Sure ain't George Bush.

12-00:25:22

Lage:

I wanted—I think we'll just do one more topic, and then that—

12-00:25:26

Pister:

Okay, fine, sure.

12-00:25:26

Lage:

And that's going to be that Slinkard Creek episode, because that also brings in some bureaucracy and how you fought it.

12-00:25:34

Pister:

The same thing, yeah.

12-00:25:35

Lage:

So what was the issue at Slinkard Creek? Give some background to it.

12-00:25:38

Pister:

Okay. Did you see that chapter relating to me in that book?

12-00:25:45

Lage:

That's where I got the story and the letter.

12-00:25:46

Pister:

So you read the letter in there. Okay. Another one of our endangered fishes is the Lahontan cutthroat trout. That was the cutthroat trout—I mentioned the complex of cutthroat trout groups throughout the Great Basin going clear back into Colorado. The Colorado state fish is the Colorado cutthroat, which is native to the west slope of the Rocky Mountains. So we have our counterpart there in the Lahontan cutthroat, which is hooked up with Pyramid Lake and so

on and so forth. But in California it was in just a couple of very shaky stream systems, in a place called By-Day Creek and then Slinkard Creek. But mainly in By-Day Creek. So we needed—and to enter into this—

12-00:26:39

Lage: Give the date.

12-00:26:39

Pister: This would have been in the eighties. The eighties, California Fish and Game for wildlife reasons acquired a beautiful area called Slinkard Valley, S-L-I-N-K-A-R-D. Slinkard Valley has a nice stream going through it named Slinkard Creek.

12-00:27:03

Lage: And where is it?

12-00:27:06

Pister: It's just about due east—or west—of the little community of Coleville, which is in the Walker area of the West Walker River. Slinkard Creek is in a parallel drainage to the Walker River, cuts to the right at the bottom, or cuts to the east at the bottom and drains into the West Walker River, then into Topaz Lake and into Nevada, where it's then diverted into irrigation. But upstream where the fishes are, which we were concerned about, is this area, this Slinkard Creek, that the Department of Fish and Game acquired mainly for deer management, because there's some excellent deer habitat up there. But my colleagues and I, mainly—well, people in the Forest Service as well, they were concerned about the fish, as were we. Because there were times with By-Day Creek where the creek nearly dried up, and if it did that the species was gone. Like my Owens pupfish, in a way.

So I decided then—we decided, it was several of us, mainly my good colleague there, Darrell Wong. I was on Darrell's master's committee, and I hired him at the drop of a hat. This guy is great. And we decided, what an ideal place to preserve a fish. We own the property, we don't have to worry about upstream rights or anything. This is ours. So what better way to preserve the Lahontan cutthroat trout? It goes *Oncorhynchus clarki henshawi*, that's the subspecies. Named after Henshaw, one of the early guys working out there. So we wrote up a project. Well, the difficulty here was that at that time there was really a good eastern brook trout population there. And since Fish and Game owned the property, they could control access to it. There's a big locked gate at the bottom of the property to keep the riffraff out, namely the angling license buyers of California.

12-00:29:34

Lage: Now, why did they control access?

12-00:29:39

Pister: Because it was a great place for some of the brass in Cal Fish and Game to go fishing. And there were buildings up there with bunks, cooking facilities.

What a great place to take your buddies and get away for the weekend. Everybody goes through the gate. They lock it. Go up and do whatever they want to do for the weekend, including catching some very nice brook trout. The only downer naturally up there, the place is full of rattlesnakes. Probably a good thing. So okay, so I put up this proposal to chemically treat again, using rotenone, Slinkard Creek. After all the brook trout are killed off, to plant from By-Day Creek a group of fish that we had, which are pure Lahontan cutthroat. And in a beautiful perennial stream like Slinkard Creek, this would be a refuge for them. They'd always be there.

12-00:30:44

Lage: And are they not as good an eating fish?

12-00:30:48

Pister: Well yeah, sure, they're fine to eat, yeah, they are, but if you got a bird in the hand, it's worth two in the bush, from the standpoint of the boss or whatever. So I didn't name names in the paper, or the letter, I wrote. But probably won't do them here either. Probably just as well. But in any event I can use similarities.

12-00:31:08

Lage: So you came up with this idea. Let's give the whole—

12-00:31:10

Pister: So I came up with this idea, and I submitted my plan to our regional office in Long Beach. Well, some of the brass down there looked at this and said, "Hey, we're not going to let these guys wreck our private fishing area." Because we bring over the director, and we bring over friends from other agencies, and we go through there and probably lay in a bit of booze and spend the weekend just living it up with this great fishing, trying to avoid the rattlesnakes. One morning one of my colleagues there was camped over. He ran across ten rattlesnakes on his way down to the stream, out sunning themselves in the early morning, warming up. So request denied. You're going to have to preserve your cutthroat trout some other way.

12-00:31:56

Lage: Did they give the actual reason? Did they tell you why?

12-00:31:59

Pister: Well no, the reason was we've got a good fishery there, hey. And one of the boss's favorite statements was, "If it ain't broke, don't fix it." And I can see his point there. From his perspective it was probably a good thing to keep. So in my letters—I don't know if you recall reading this part—I told about my episode of holding the species in a bucket. I said, "It'd be good if people in the higher echelons of the department have that same experience, might give you a little better idea of why we feel strongly about some of these issues that we're dealing with here." So I went ahead then, as you recall, from the letter, and said, "We're going to do it anyway, whether you like it or not." And I went on to say that I would personally welcome a personnel board hearing and

reprimand on this, because I said, "You know as well as I do who's going to win this; it's going to be me and not you. And you're just going to have egg all over your face if this gets into the public"—

12-00:32:58

Lage: Because of the endangered species issue?

12-00:33:01

Pister: Well, sure. And just the obvious ethics and morality of the whole thing. I said, "If you want a place to catch brook trout, I can list on probably five or six single-spaced pages places you can go catch brook trout. Doesn't have to be there in Slinkard Creek." So I said, "Here's my plan. On a certain date we're going to do this. And we're going to build a barrier to keep reinvasion from down below." So we built the barrier, just like we did in the Kern. And we went ahead and did it. Nobody said a word.

12-00:33:30

Lage: You had a lot of—first of all it took a lot of gumption to really—

12-00:33:36

Pister: Well, it did.

12-00:33:36

Lage: I read the letter, and you really challenged them.

12-00:33:42

Pister: I did.

12-00:33:42

Lage: But then you also had a fair amount of autonomy to be able to put the resources in.

12-00:33:48

Pister: Well, that's true. See, I was a field manager, that was my job, in the field. My bosses, both the regional manager and our supervisor of Inland Fisheries in Region 5 then, were in Long Beach. But we had the very same [experience] as being out in an infantry battalion fighting the enemy and getting these letters from the Pentagon.

12-00:34:10

Lage: Well, you had a budget, and you could allocate it as you wanted.

12-00:34:14

Pister: Yeah, yeah sure, we had the chemicals, we were all set to go, had the manpower, person power, and we could go ahead and do this, and we did.

12-00:34:21

Lage: And how did it turn out?

12-00:34:21

Pister: It turned out really well. The cutthroat trout are doing beautifully up there.

12-00:34:27

Lage: And do the brass still go there and fish?

12-00:34:31

Pister: I think they do.

12-00:34:31

Lage: They can fish for cutthroat trout.

12-00:34:33

Pister: Yeah, they can fish for cutthroat there. And they're great fish; they're good to eat.

12-00:34:39

Lage: It's not a preserve where there can't be any fishing.

12-00:34:39

Pister: No, no, it's not a preserve in that sense. It's simply a restricted access stream refuge. [section on refuge v. refugium omitted. See 07-44] The native fish are back in there now, and they're holding their own until we get more habitat for them to go back into.

12-00:36:58

Lage: Interesting. That's all very interesting.

[End Audio File 12]

[End of Interview]

Interview #5: 05-20-2008

[Begin Audio File 13 Pister_philip13_05-20-2008.mp3]

13-00:00:05

Lage: We have that little sound of the lawn mowing in the background, but that's okay.

13-00:00:09

Pister: I don't think that'll bother anything.

13-00:00:10

Lage: No. And it'll stop soon. We are doing the fifth session of an oral history with Phil Pister. And today is May 20, 2008. We are on the thirteenth audio file. That means we've completed about twelve hours of interviews so far.

13-00:00:28

Pister: That's a lot.

13-00:00:29

Lage: That's a lot! And I'm Ann Lage, for the Regional Oral History Office. Okay, Phil. We're back on, after about a four-month hiatus.

13-00:00:37

Pister: Four months, almost to the day! [laughter]

13-00:00:44

Lage: We've reviewed what we've done with the hopes that we won't repeat too much. It's inevitable that we'll have some repetition. But anyway, today I wanted to start with looking at the Department of Fish and Game over the years: your relationship with the top brass, so to speak. The political appointees, and how they may have affected the department, and how it operated, and then also maybe get into your immediate supervisors.

13-00:01:13

Pister: Yeah. That would be good.

13-00:01:14

Lage: Who helped you, big changes over time in the department. When you started your career, Goodwin Knight was governor.

13-00:01:24

Pister: Yeah. That would have been in the early fifties. Yes.

13-00:01:28

Lage: When you left in 1990, it was towards the end of Deukmejian's governorship.

13-00:01:32

Pister: I guess it was.

- 13-00:01:38
Lage: So, that's a long time.
- 13-00:01:40
Pister: Well, it is!
- 13-00:01:40
Lage: A lot of changes in California.
- 13-00:01:41
Pister: It is. I started with the department shortly after it became a department. Until 1952, it was the Division of Fish and Game under the State Department of Natural Resources. Then under the Charles Brown Fish and Game Reorganization Act, Charles Brown being a senator, senior senator in state legislature for a little, tiny place—this was, back in the days, what they called it the cow county legislature, where it didn't matter if you had five million people in your district, or a handful, like Brown did. You had a huge amount of power in the legislature.
- 13-00:02:22
Lage: And where was he from?
- 13-00:02:23
Pister: A little place called Shoshone, in Inyo County, which is the same county as Bishop. It's a huge county, southeast of Death Valley. In fact, just on the border of Death Valley. It's kind of between there and Las Vegas. And so Brown wanted to have this reorganization. He had a deep interest in, of course, natural resources, coming from where he was from, the area out in the middle of the desert. And, boy, that's desert at its most extreme—
- 13-00:02:52
Lage: [laughter] Yes!
- 13-00:02:52
Pister: —out there. So the Reorganization Act was in 1952. And I started with the department in early '53.
- 13-00:03:06
Lage: Right immediately after.
- 13-00:03:07
Pister: Yeah.
- 13-00:03:08
Lage: Right as it became a department.
- 13-00:03:08
Pister: In March.
- 13-00:03:08
Lage: What was his interest, then? To get more—

13-00:03:11

Pister:

Well, I think to have more autonomy, and perhaps a little more clout in the legislature: budgeting and whatever. Fish and Game could then get their own budget, as opposed to being a subdivision of a larger Department of Natural Resources. And I think there were others at that time, too. But this was our major act. And it was passed very strongly by the legislature.

13-00:03:38

Lage:

And did Charles Brown continue to show an interest in the department?

13-00:03:41

Pister:

Well, yes he did. He did, but then he was challenged later in the fifties. He was challenged later in the fifties by an aspiring Republican—Brown was a strong Democrat—by a fellow named Bill Symons, whom I knew quite well. I knew all these guys pretty well personally. And Symons beat him in the next election, and had a—Brown was up in years. He had to be, probably, in his early eighties. And Symons, part of his campaign said, “I can beat Charlie Brown.” [laughter] And the only thing I could figure at that time was maybe in a hundred-yard dash, but not in the election. [laughter]

13-00:04:27

Lage:

But he did beat him!

13-00:04:28

Pister:

He did beat him, yeah. Of course, I don't want my politics to enter into this too much.

13-00:04:33

Lage:

No, I think you should.

13-00:04:34

Pister:

But he was kind of your typical Republican guy: conservative values, and all this stuff.

13-00:04:40

Lage:

Was he *your* assemblyman?

13-00:04:42

Pister:

He was our state senator.

13-00:04:46

Lage:

Your state senator.

13-00:04:47

Pister:

Mm-hmm. And he was, because of this, appointed onto the Public Utilities Commission, and was keenly aware of his, quote, “stature” from that. I wouldn't say he was a bad senator, but Brown was better. Philosophically, certainly, if nothing else.

And so in those years, when I first started with the department, it was a whole different atmosphere. The post-World War II conservation scene was a very

different one from what we have today. Back then, people were relaxing following World War II. They wanted recreation. The environmental movement had not yet started. That was at least a decade away yet. So the department's efforts were almost entirely what you call hook and bullet philosophy. It was fish that people could catch, deer that people could shoot. That's what they wanted. And things like ecological concerns were just not there on the slate. And it was understandable, because the term ecology and its application hadn't started until the previous decade with Aldo Leopold in the forties.

So the agencies, then, being very slow to respond to broader issues—there's probably nothing more intransigent than, say, an established agency that has their budgets in place, their programs in place, their personnel in place. They don't want to be bothered with a change, because it involves a lot of work. And understandably.

13-00:06:33

Lage: Can you be more specific about that?

13-00:06:36

Pister: Yeah. Yeah, I can. So my job, when I started with the department in '53, was to promote that.

13-00:06:45

Lage: Promote the recreational—

13-00:06:46

Pister: Yeah. To promote the—and again, I'll repeat this: this is not bad. It's not a bad thing. But we were mowing the lawn while the house burned down, if you try to draw that metaphor, because there were bigger things on the horizon. My first break out of that—from then, in 1955, I took a promotion and left Bishop. Went to the North Coast, up in the Eel River, living in Garberville, where my job was salmon and steelhead research to pave the way for the State Water Project.

13-00:07:22

Lage: Right. Now I think we've covered—

13-00:07:24

Pister: We may have covered that.

13-00:07:25

Lage: We covered your journey, and I wanted to get more about the leadership of the department as it affected—

13-00:07:32

Pister: Okay. Well, the leadership of the department back then: we had a very good director, a guy named Seth Gordon. Gordon was a professional wildlife biologist—

- 13-00:07:43
Lage: So this was in the fifties?
- 13-00:07:44
Pister: Yes.
- 13-00:07:45
Lage: And he was a professional?
- 13-00:07:47
Pister: He was the first director of the Department of Fish and Game, appointed when the department became a department. He was a wildlife biologist from the state of Pennsylvania, and a very good one. And of course being a scientist, as he was, he did not have, necessarily, the political perspective that, of course—I think all directors become politicians, whether they want to or not. It's a matter of survival, really, to deal with the legislature, with budgeting, and whatever.
- So when I left, then, up onto the North Coast, it was kind of breaking out of that, because I was doing research, researching salmon and stuff, and I think I mentioned this earlier, in preparation for the State Water Project.
- 13-00:08:33
Lage: Right. Right.
- 13-00:08:34
Pister: What are the size of the runs of the Trinity River? Trinity being diverted over into the Sacramento as part of that State Water Project. So how big a fish hatchery do we have to build at Lewiston on the Trinity to mitigate for the loss of spawning.
- 13-00:08:50
Lage: The question was not should we build the water project—
- 13-00:08:52
Pister: No, no.
- 13-00:08:53
Lage: —but how are we going to mitigate it?
- 13-00:08:54
Pister: Simply how can we mitigate it as much as we can. No. Pat Brown, who was the next governor along there, of course that was his big thing his whole tenure in office, was the State Water Project.
- 13-00:09:09
Lage: So that had to have come down through the department as well?
- 13-00:09:12
Pister: Oh, yes. Yes it—

13-00:09:13

Lage: That mission?

13-00:09:13

Pister: —it did indeed. And I don't know, Ann, maybe you can remember if I mentioned it earlier on. When Pat Brown came with us on a golden trout project, where—

13-00:09:28

Lage: You mentioned a hiking trip when his luggage was left behind?

13-00:09:32

Pister: Yeah, okay. So you do recall that. So I did go into that. But Brown—I've got a great photograph at home. Maybe this would be a good photograph to put in the oral history, of he and I sitting together up in the Golden Trout Creek country, just talking. He was most interested in my time at Berkeley, because he asked me a couple of times, "Where did you go to school?" I said, "Oh, UC Berkeley." "That's interesting. What did you study there?" "You know, all of this: wildlife conservation." I don't think he'd read Leopold, but he—

13-00:10:06

Lage: Did he have an interest in the fish?

13-00:10:08

Pister: Oh, yeah, yeah.

13-00:10:09

Lage: And the golden trout?

13-00:10:09

Pister: He did. Because, see, it's the state fish, and we were setting up a brood stock of these, which we already had. But we wanted a more accessible one. And our time up there was to catch all of the golden trout we could. I think we got 989 of them, of which I caught a great many myself. I think there were seven or eight of us up there fishing. I got the award of catching the most golden trout. Of course, I should! My career, my job—

13-00:10:35

Lage: Now, actually *catching* them?

13-00:10:37

Pister: Okay. With barbless flies. And what we did then: these fish were put into cages in the stream—

13-00:10:43

Lage: Ah. Catching them so you could preserve them in—

13-00:10:46

Pister: Yeah, yeah. And then they were loaded into fish cans. We didn't have helicopters readily available then. They were loaded into fish cans. The technology of that is a very interesting thing. Probably worth talking about at

some time in our history here. Taken six miles down to a backcountry airstrip in the South Fork of the Kern, then flown out in a Cessna single-engine high wing airplane down to Long Pine Airport, which is the closest airport there. Then loaded into our big Department of Fish and Game Beechcraft, and airlifted into the lake near our Hot Creek Fish Hatchery, where we had hoped to establish this brood stock. So we could rightfully say that some of the fish that were transplanted into this lake were caught by the governor, because they were.

13-00:11:39

Lage: He actually participated?

13-00:11:41

Pister: Oh, yeah. Yeah. He was a pretty good fisherman, really.

13-00:11:43

Lage: Now is this part of the story of the golden trout in Kern Plateau?

13-00:11:48

Pister: Well, in a way. It's kind of an offshoot of that story, because this did not relate to the preservation of the fish, as much as it did a means of getting a pure golden trout brood stock to supply our fish hatcheries.

13-00:12:04

Lage: I see.

13-00:12:04

Pister: So they could then get fingerling trout to expand the planting program.

13-00:12:09

Lage: So you were planting golden trout, as well as brown and—

13-00:12:13

Pister: Oh, yeah, yeah. Yeah, we were doing that as early as 1918, when the Cottonwood Lakes brood stock was established. And this was way up there. The station itself was over 11,000 feet, just below Mount Langley, Langley being the southernmost 14,000-foot peak in the Sierra.

So this was an offshoot of that. But it was a most interesting thing. I've always liked Pat Brown. I thought he was a very good governor, and he was really a nice guy. He was a fun person to be with. We had a director whom he had appointed as director of Fish and Game and also, I think, he was serving a dual role there, and also director of the Department of Water Resources.

13-00:12:58

Lage: Now who was that?

13-00:12:59

Pister: A fellow named William Warne, W-A-R-N-E.

13-00:13:02
Lage: Because I have Walter Shannon.

13-00:13:05
Pister: Yeah. Shannon was our director after, I believe, Warne.

13-00:13:10
Lage: I see.

13-00:13:11
Pister: See, Warne was a political appointee. Shannon was one of the troops. He came up in law enforcement within the department.

13-00:13:19
Lage: Oh, I see.

13-00:13:20
Pister: And a nice guy, and—

13-00:13:20
Lage: But law enforcement, not biology.

13-00:13:21
Pister: No, no, no. No, in fact our biologists have been few and far between as department directors.

13-00:13:26
Lage: Did this Seth Gordon last long?

13-00:13:29
Pister: Yeah. I think he went clear through the Brown administration.

13-00:13:34
Lage: No, because we had Walter Shannon.

13-00:13:37
Pister: Well, I'm trying to think of the continuity there. Shannon came—I'm not sure who was governor when Shannon came in.

13-00:13:47
Lage: Okay. I have him in '64. Maybe it switched during the—

13-00:13:54
Pister: It probably did. Now, I'm sure how—

13-00:13:57
Lage: Well, at any rate.

13-00:13:58
Pister: Yeah. How long was Knight governor? That's another question.

13-00:14:03
Lage: Well, Pat Brown started in '59.

- 13-00:14:06
Pister: Okay! Oh, yeah. Oh, yeah. That adds up, because that was the year that he came in with us in our golden trout thing.
- 13-00:14:11
Lage: Oh, that early?
- 13-00:14:12
Pister: In August of '59. Because I had to fly up into here. You can get up there in a small airstrip, and walk from there, up into that country to just kind of make an assessment: were there fish there? Were they easy to catch? You know, jump out of the banks, and just—
- 13-00:14:25
Lage: Was this partly kind of a show and tell for Pat Brown, the whole trip?
- 13-00:14:29
Pister: Yes, it was. But I don't know if I mentioned this, too, that when he was up there is when the Red Light Bandit, Caryl Chessman, was going to be put in the gas chamber, and we had the district ranger up there, and I had to rig a back country phone line for about six miles up Golden Trout Creek for a last-minute commutation of the sentence, if the governor felt it should be done. But he had to be in contact with the Department of Corrections, or whoever did this—
- 13-00:15:04
Lage: And did he actually make use of that phone, do you remember?
- 13-00:15:06
Pister: No. No. All it did was cause us a big headache getting the darn line up there. [laughter]
- 13-00:15:13
Lage: Was that unusual, to take the governor out?
- 13-00:15:16
Pister: Oh, yeah.
- 13-00:15:16
Lage: Were there other instances were you—
- 13-00:15:17
Pister: Well, it started what we then called the governor's trip, but I think he was the last governor ever to go on one of those trips. The rest of them would send— wouldn't even send the lieutenant governor. They'd send the department director, they'd do this or that. And it became then, when the resource agency was evolving, it went into the director of resources.
- 13-00:15:42
Lage: The secretary for resources.

- 13-00:15:44
Pister: Secretary for resources, yeah. Well, Warne, I think, was that for a while. And I'm trying to think when he left.
- 13-00:15:55
Lage: Maybe he left when Pat Brown was—
- 13-00:15:57
Pister: I think he probably did. Yeah.
- 13-00:15:58
Lage: Because we get Reagan in '67. Let's talk about whether there was a change in the department at that time.
- 13-00:16:07
Pister: There was. Because Reagan, then—that's when we left Shannon, I think. And Warne. Well, no, Shannon would have been director of Fish and Game under Warne when he was secretary for resources.
- 13-00:16:23
Lage: Right. That sounds right.
- 13-00:16:23
Pister: Yeah. Yeah, that sounds right. I should have checked all that. I know this doesn't go into the politics as much as I just did in the field, but it definitely affected us. And Shannon was a very good director. He'd been up through the ranks, and you could sure tell the difference. When the political appointees came in, like Warne, they just did not have the feel for the resource like the ones that had spent their careers in Fish and Game had. We're back there now. The current director is a Fish and Game guy, Don Koch, and he's a real good one. He's been through it. He understands how the department works. You bring in a political appointee, it's quite a learning curve for them to be able to assimilate to be able to understand what the department *does*.
- 13-00:17:18
Lage: But on the other hand, if you have a department that's sort of stuck in its ways—
- 13-00:17:22
Pister: That's true.
- 13-00:17:23
Lage: —does the director who comes up through the ranks make the necessary changes?
- 13-00:17:27
Pister: Well, sometimes. Sometimes. But then—okay. So this is a good point to bring this up. Reagan, then, becomes governor. Chooses as his secretary of resources, a very interesting thing, Norman B. "Ike" Livermore. Livermore was about as good a secretary of resources as you could ever hope for. He

spent his life in big business. He was, I think, the chief officer for Pacific Lumber, up in Scotia, up in the North Coast—

13-00:18:05

Lage: Before it had the bad reputation.

13-00:18:07

Pister: Exactly! And it just killed Ike when they went to the—well, who was it? This guy, I'm trying to think of his name. The one who—

13-00:18:19

Lage: [Charles Hurwitz]?

13-00:18:20

Pister: —sold out, literally. Turned the redwoods into a big tree farm. So, Reagan—

13-00:18:29

Lage: He appointed Ike Livermore, which is—

13-00:18:30

Pister: —appointed Ike Livermore, and I don't think Ike had much to say about this. But the director of Fish and Game then was Ray Arnett. And the entire time that Arnett was director, Arnett was just crosswise with Livermore.

13-00:18:50

Lage: Oh, really?

13-00:18:50

Pister: They—yeah. Because Livermore, you might want to say this, would tend to be more, I wouldn't say a tree hugger, but was of that environmental philosophy. Because he could see the reason for it. Arnett just could never see this.

13-00:19:04

Lage: What was Arnett's background, do you know?

13-00:19:06

Pister: Yes. He was a geologist with Atlantic Richfield. Maybe this explains it, Ann: he was a graduate of USC. [laughter] Which probably had more to do with it than anything. [laughter] And he headed up public relations for Atlantic Richfield out of their L.A. office.

13-00:19:30

Lage: Even though he had a science background?

13-00:19:32

Pister: Yeah, but I don't think much of a science background. He never impressed me as knowing anything about science at all. He liked to hunt ducks.

13-00:19:40

Lage: Ah!

13-00:19:40
Pister: And so that was kind of what—

13-00:19:41
Lage: So maybe that was his background, that he was a hunter.

13-00:19:42
Pister: Well, pretty much. He was kind of like your prototype wealthy Republican duck-hunter.

13-00:19:49
Lage: And he was put in charge—

13-00:19:50
Pister: Of the entire department.

13-00:19:52
Lage: Instead of using a professional?

13-00:19:54
Pister: Oh, yeah, yeah, yeah. And the professionals under him, like our chief of fisheries, or chief of wildlife, or those guys, had to work with him, and some how try to work around so we had a fairly science-based program. It was kind of like right now under the Bush administration, where scientists are just squashed, and political appointees make the decisions. SSPI, the Society for Science in the Public Interest, have just really raked the Bush administration over the coals, with good reason. Because I have good friends in the US Fish and Wildlife Service, top-flight people, they're excellent scientists, dedicated people. And they'll write a report and go up into the White House, and it's just ripped apart to be made more politically acceptable, which is kind of the bottom line on Bush politics.

13-00:20:58
Lage: So did Arnett do similar things?

13-00:21:00
Pister: Yeah.

13-00:21:01
Lage: Did he squash scientific—

13-00:21:02
Pister: Yeah. Well—

13-00:21:04
Lage: He was there in key years—

13-00:21:06
Pister: Well, he was. In the sixties—

13-00:21:07
Lage: Like '67 to '75.

13-00:21:09

Pister: Yeah.

13-00:21:09

Lage: During the period when you're having your insights, and—

13-00:21:12

Pister: Well, see then that was in '72. And in a way I can see his point. Here I am—and you know the thing that saved me, I probably have talked about this before. I was very fortuitously placed geographically: 300 miles from our regional office in Long Beach, 300 from Sacramento, where the head office was. So being that far away physically, I could do pretty much what I want to, without anybody looking over my shoulder.

13-00:21:46

Lage: You stayed under the radar?

13-00:21:48

Pister: Yeah, exactly, right? Yeah, very close. I flew about ten feet over the ocean, you know? To keep from getting hooked up in the radar. So then I could do things. Like on the Devils Hole thing. This is in Nevada, and here I am involved in a Supreme Court case not even in California. And when it's a politically hot thing—the Nevada state government was not on our side at all. And this, of course, would go down through Nevada's bureaucracy, to where their director would be concerned about a guy from California testifying against Nevada's interests.

13-00:22:26

Lage: I see.

13-00:22:27

Pister: Even though they're surely within the interests of the Nevada Department of Wildlife. My counterpart in Las Vegas was strongly on our side, but it was kind of like me working under Arnett: you had to be careful what you said and how you went about it. And this went around to what I touched on earlier about my discussion with the assistant secretary of resources of the US Department of Interior.

13-00:22:58

Lage: Oh, Nat Reed?

13-00:22:59

Pister: Yeah, Nat Reed. Yeah. And Reed was another just top-flight guy. Thank God for him. He was just great.

13-00:23:06

Lage: He was serving under the Nixon administration?

13-00:23:09

Pister: Yes, he was. And under Walter Hickel, who was secretary of Interior then. But Reed was another—he was from a very wealthy family in Hobe Sound,

Florida. I don't know a great deal about his background, but he had his head on really straight. So because of my work in Interior from 1969 into about '73, I made several trips back there to work on desert fish issues, and also did some of the early drafting on the Endangered Species Act. That wasn't passed and signed until December of '73, so that the early seventies were really formative years for that.

13-00:23:56

Lage:

Since you've brought this up, can you talk more specifically about how you fed into the Endangered Species Act?

13-00:24:04

Pister:

Well, of course anything like that starts with philosophies. And a few points on the value of species: goes almost back to Charles Darwin's time. Alfred Russel Wallace, who was one of Darwin's contemporaries in the British Museum, wrote a marvelous paper. I don't think that I've referred to this yet. But in the *Journal of the Royal Geographical Society* in 1863, during the Civil War—he came up with the theory of evolution, the rule of evolution, at the same time Darwin did, but Darwin gave his paper before Wallace did at the same society meeting, and Wallace was literally pushed into the background because of this. But he went on to say, and this is a marvelous story—he did much of his research in southeast Asia. One of his famous publications was *The Malay Archipelago*. He learned while he was over in Malaysia, in Java somewhere, that the British Museum was being threatened by the British Parliament, because they couldn't see that the great collections that scientists like Wallace, and Darwin, and so on were making were producing revenue. Boy, does that sound like today!

13-00:25:32

Lage:

It sure does!

13-00:25:33

Pister:

Yeah. And so when he found this out, he was just horrified, because his *life* had been spent mainly as a botanist and an entomologist, studying and making these marvelous collections, like Darwin's collections, sending them to the British Museum. To have these *disposed* of just was anathema to his way of thinking. So he wrote a letter to Parliament, essentially saying this: "Species in an ecosystem," well, he didn't use the term ecosystem, "in a *biota* are not too different from the words of a sentence or a paragraph, where if a few of those sentences or words are removed, the paragraph loses its meaning." He says, "The same is true of natural populations." He goes on to say, then, that what we need to do, then, is preserve these things. "If we don't, the future will look back upon us as a society so immersed in the pursuit of wealth as to be blind to higher considerations." And I thought—

13-00:26:49

Lage:

And this was in the nineteenth century?

13-00:26:51

Pister: Eighteen-sixties.

13-00:26:52

Lage: Eighteen-sixties.

13-00:26:52

Pister: During the Civil War. And it's a beautifully written piece.

13-00:26:57

Lage: Now did you bring that forth in the discussions about drafting the En—

13-00:27:01

Pister: Well, no. No, because, see I didn't know about that until I was back there. During one of my lax periods back there, I was walking around. The Interior building wasn't all far from other neat things in Washington. I was by the Natural History Museum, the Smithsonian. They had a display in the window along the street, whatever it was. Connecticut Avenue, or something there. There was this quote. It was nicely written out. This is a great story to tell. So I thought, I read this thing and said, "My gosh! You talk about the applicability to what I'm doing here in Washington." It was just exactly. So I didn't have anything to write on. I had a lunch bag, brown bag, and I wrote down that quote on my lunch bag.

So I've used this as the preface to, I think, our second volume of the *Proceedings of the Desert Fishes Council*, which I was the editor of. I edited many of those early volumes. So kind of let it go at that. A number of people said, "That's a great quotation." So a friend of mine back in DC, he was with the Endangered Species Office in Washington back then, put out a book called *Endangered Fishes in North America*.

13-00:28:24

Lage: And who was that?

13-00:28:26

Pister: Fellow named Jim Williams. A guy I'm in close touch with today. He just retired from—he went from Fish and Wildlife to USGS, like many of those folks did during the Babbitt years of the Interior. So Jim and another colleague back there wrote this book. And I had always been a little bit worried about that quote, because I had never seen it in its original form. I thought, should I really quote this without having checked the veracity of it? So Jim took that same quote and put it in the preface of his book. And I thought, jeez, this is great, because no doubt he checked this out. [laughter] So I phoned him one day. I said, "You know, Jim, I'm really glad you put that in there, because I can't be sure of the veracity of it, because I never checked it out." He says, "You didn't check it either, huh?" [laughter] So I—

13-00:29:19

Lage: Have you checked it since?

13-00:29:20

Pister:

Well, this, okay, leads into another story. So I said, “Well, really probably if it’s not really right, not too many people will know about it anyway.” Next thing I know, [laughter] Jim sends me this thing written in Chinese. The whole thing’s in Chinese characters, with a footnote down at the bottom: Alfred Russel Wallace, 1863! So I said, “The only people who know about this are a few people in the US and six billion Chinese!” [laughter]

So, okay. So I was up at the University of Washington giving some seminars up there, and I had some time. I said, “Hey, I’ll go check at the library.” They’ve got a really good library up in Seattle. So I thought, I’ll check out the *Journal of the Royal Geographical Society*. Great. So I go and I get access to the stacks. And I’m walking through there: 1860, ’61, ’62, ’64, ’65. Somebody had checked out 1863. This can’t be! So I was walking out of the library, head hung low, and there was somebody restocking the shelves that people brought back, and there was 1863! I thought, wow! And it was just exactly right on.

I was with a doctoral student up there. He’s now chief scientist for the Packard Foundation across the bay. And I said, “Walt, you’ve got to make a copy of this for me.” Walter Reid. And Walt did, and—

13-00:30:55

Lage:

And do you say the quote *was* right on?

13-00:30:57

Pister:

Yeah, it was right. The quotation had taken exactly as it was. But what this did, though, it gave me a more secure reference to it. Page numbers, whatever that you’d want in a bibliography or whatever.

13-00:31:11

Lage:

Now, we have to go back to what you did with the Endangered Species Act.

13-00:31:19

Pister:

Okay. Well, of course then we get back to the philosophical basis of it.

13-00:31:21

Lage:

Yeah.

13-00:31:22

Pister:

And that of course was a big start to it. Of course, I knew this intuitively. A number of us did. If you have any understanding of basic biology at all, particularly where there are wild populations involved—Aristotle told us about that, before Christ! 400 BC. He’s got some beautiful quotations on preserving these creatures, ugly as they may be and so on.

13-00:31:51

Lage:

But you didn’t have to convince the people you were working with in Washington?

13-00:31:56

Pister:

Well, no, certainly. No, no, no. No, they were on board. Because, see, we had Park Service people there too, and Park Service people are kind of like—they are single purpose. With some differences there, but basically they're there to preserve the wildlife of parks. And Devils Hole is within the Death Valley National Park. So the Park Service people—and that was one of the things that brought me back to DC, was the problem of the Devils Hole pupfish. They're in this disjunct portion of Death Valley National Park. Monument, at that time.

13-00:32:32

Lage:

Was the Devils Hole problem, which we have talked about, one of the things that led to reworking the Endangered Species Act?

13-00:32:45

Pister:

Yes.

13-00:32:46

Lage:

Or what did?

13-00:32:47

Pister:

I would say that would be one of the catalysts, because we began to see what happened to—

13-00:32:52

Lage:

And is that how you got drawn into helping with—

13-00:32:53

Pister:

Yeah. Well, see in the late sixties, we held our first meeting of the Desert Fishes Council in Death Valley in their big auditorium there. And I think I mentioned this, where we had the agency people on one side of the aisle—

13-00:33:06

Lage:

Yeah.

13-00:33:07

Pister:

—and so on? Okay. So this, then, was the catalyst: we had no laws back then, in the late sixties.

13-00:33:15

Lage:

There was an Endangered Species Act, but it was very different.

13-00:33:17

Pister:

There was an act, but a very inadequate one. It had no teeth in it at all. It was one of these—

13-00:33:22

Lage:

So who prompted the rewriting of this?

13-00:33:25

Pister:

Well, this would have been the people there in the early seventies, then, under Reed's management, and also under some very good people in the US Fish and Wildlife Service, who were faced with the same frustrations that I was: without laws, how do you preserve these things? When the politics are strongly against what you're trying to do? Like in Nevada. Here we're up against the state government of Nevada, against the exploitive interests within the Department of the Interior or the federal government. What do you do in this case? We had no laws.

So when we held our first hearing on preserving the Devils Hole pupfish and Devils Hole in July of 1972, our only hope there was the preliminary injunction under the legal designation of Devils Hole as part of Death Valley National Monument. And that was done under the Truman administration, under the strong lobbying of Professor Carl Hubbs of the University of California Scripps.

13-00:34:28

Lage:

So that was the basis because there wasn't a strong Endangered Species—

13-00:34:31

Pister:

Yeah. Virtually nothing we could use. Through the testimony of a number of us—this was very well done. The attorneys—I think I told you something of the politics *there*.

13-00:34:48

Lage:

You told us something, but elaborate.

13-00:34:51

Pister:

Yeah. Our attorney from the Department of Justice, a guy named John Germeraad, a rather new graduate of, I think it's one of the smaller schools in Illinois. Wheaton College. He'd gotten his law degree there. And I found at that time—he was my first, really underscored in red that some of our very best attorneys are very dedicated people, and they don't fit the mold of the kind of the pejorative term "attorney" that many of us have developed. These guys are just smart lawyers. They know how to win their cases. So we took some comfort in that, because the Justice Department lawyers are very wary of taking a case that they could lose, for fear of establishing a precedent that they don't want to establish.

So I think I mentioned when I was on the stand there, the judge—when our attorney asked me what I felt were some of the major points, I said, "Well, to me it's a matter of ethics." And the attorney jumped out of his skin almost. "Your honor, I object. This has nothing to do with Devils Hole." The judge turned around, and said, "Mr. Lionel, be seated. It's probably the most relevant thing we're going to hear during these proceedings." And so that's when the ethics began to really show up, that this was a matter of—I like the quote of the book of Genesis, the first chapter, where man is given dominion

over the creatures. And it's a dominion, scholars say this dominion is a righteous one. It's not an exploitative dominion at all. So if you want to go back that far, this has got scriptural basis as well. And the old judge, being a strong Catholic, could buy that.

13-00:36:35

Lage: Was your attorney surprised that the judge bought that?

13-00:36:39

Pister: Well, I think probably to some extent. But it was so dramatic. See, the attorney was the—what do you want to call it? The second-in-command, I guess, from Lionel, Sawyer, & Associates. He was Sam Lionel, the junior partner. Grant Sawyer, at that time, was governor of Nevada. So it—

13-00:37:02

Lage: This was the attorney on the opposing side?

13-00:37:04

Pister: Yeah. Yeah, he was the one representing the state of Nevada. And the land developer, who was actually doing the pumping that was draining Devils Hole. That was what was doing the bad stuff. And so it took about six months.

The guy that did all the legwork for us was a PhD student at the University of Illinois. He was a groundwater hydrologist, and just by great fortuitous circumstance, that very area was where he was doing his doctoral research. This was the early days of computers, but he had computer printouts and graphics, that he could point out: "You pump so much out of this well, Devils Hole's going to drop this much." He had data, just irrefutable.

So the judge, federal district court judge there, was under a lot of political pressure to rule for the state of Nevada. But no, he ruled for us. And then it was immediately appealed to the Ninth Circuit in San Francisco, and they upheld the lower court decision. That's what put it to the Supreme Court. When the senators, I think, of something like eleven western states saw this as a real threat to western water law and western water rights, what the states had always jealously guarded. The big question wasn't on endangered species, but that was just part of it. It was the Winters Doctrine of reserved water rights. Who owns water under federal land.

13-00:38:40

Lage: And that's what the Supreme Court—

13-00:38:42

Pister: Yeah. Yeah. And that's the one where we got the eight to nothing decision by the Supreme Court, with Warren Burger, he was the Chief Justice then. He wrote the opinion himself. I should tell you a story that ends up with this, and this is really funny. It's worth relating. I was at Stanford one time, teaching a class in minimum viable populations, along with Michael Soule from Santa Cruz, and a couple of other professors in the field. Bruce Wilcox, another one.

Before I went over to Stanford there, to Herrin Hall, where we were holding our meetings and things, I turned on one of these early-morning TV programs. I've never watched many of those. I think it was a morning show, that kind of thing. And who should be the guest whom they're interviewing? It was Warren Burger. And the interviewer said, "Mr. Burger, have you ever had to make a legal decision based on the law that you disagreed with personally?" And he said, "Yeah, one about stupid fish." [laughter] And I thought, boy! That kind of put it into perspective. And it was kind of like Scalia back there now, you know?

13-00:40:02

Lage: Yeah! So, he—

13-00:40:04

Pister: He fessed up—

13-00:40:05

Lage: His own personal views or values.

13-00:40:06

Pister: Oh, yeah. Very different. But the *law* was explicit. There's no question about that. But I thought, boy. It was interesting, too: William Rehnquist was on the court then. I was impressed by the minds of the Supreme Court justices. They're very, very good. I don't know if you saw Scalia being interviewed on *60 Minutes* a while back. It was a very interesting—it's one of these love/hate relationships. You'd like to strangle the guy probably at least 70 percent of the time. The other 30, well, maybe. This was a most interesting thing, to see how the court did rule on that.

But of course this is cited, that judgment. It's, I think, *People of the United States vs. Cappaert et al*, Cappaert Industries being the developer out there.

13-00:40:55

Lage: How do you spell that?

13-00:40:56

Pister: C-A-P-P-A-E-R-T.

13-00:40:59

Lage: I see. And so that was the industry that was pumping the water for development?

13-00:41:04

Pister: Yeah. And furthermore, they were so blatant about it, Ann. Devils Hole has four sections, corner markers. One of them is a section corner. But the property has four property stakes there. These guys had drilled wells *right on* the property line.

13-00:41:25

Lage: How amazing.

13-00:41:26

Pister: And I remember Carl Hubbs and I were out there one time. Hubbs says, “You know, I wish I had some emery dust now to put in the bearings of these blasted pumps.” Well, what the preliminary injunction did was stop the pumping on those key wells. And the pumping stopped until we came through with the Supreme Court decision, which was not until June of ’76. Four years. We waited four years for that decision.

13-00:41:53

Lage: Now how did—go ahead and finish.

13-00:41:55

Pister: No, I was just going to say: I think I told you earlier about my reaction when I heard the decision. I was—

13-00:42:01

Lage: It was so emotional.

13-00:42:02

Pister: Even *now*, it’s an emotional thing when I think about then. When you tie it in with the “Equal Justice Under the Law” [inscription] over the Supreme Court building in DC, when you think that even a little one-inch fish can get some measure of that equal justice. I’m sure when that was chiseled on the marble, they weren’t thinking of little fish, but—

13-00:42:20

Lage: No.

13-00:42:21

Pister: But still. The principle held true.

13-00:42:24

Lage: Yeah. Now, I still want to get back to—

13-00:42:30

Pister: Department of Fish and Game?

13-00:42:30

Lage: Well, we were diverted from that, but let’s try to finish the—

13-00:42:37

Pister: Endangered Species Act?

13-00:42:39

Lage: Yeah. You say you worked on it, and who did you work with? And what—

13-00:42:44

Pister: Well, okay. There was a guy back there in the secretary’s office that I knew in California, a guy named Jim Ruch, R-U-C-H. And Jim and I went out for lunch a couple of times while I was back there working with the Interior people. Well, in the Fish and Wildlife Service end of things. And because he’s

a Californian, as am I, of course, we started talking about some of these issues. And he said, “You know, we’re doing this act. I’m doing a fair amount of writing myself. Maybe you can help us with some of this.” And of course I did. I didn’t have a lot of involvement. I kind of helped—I say *jumpstart* the entire thing, using some of these examples that I had already been through. I’d say, “You know, Jim, this is not a joke-type thing. This is something we have to have.”

And, see, this then brings us back to Nat Reed’s talk in Portland, Oregon, where he then—there’s a group called the Western Association of Fish and Wildlife Agencies. These people always meet together with the western division of the American Fisheries Society. Just held a meeting a couple of weeks ago up in Portland. But our meeting was in Portland, too, in 1972. [laughter] Okay. So I was asked by the American Fisheries Society back in Washington, who had some of their key people who were from the fisheries office there in DC: “Hey Phil, you know you should give a paper. We’ve got a meeting of the American Association for the Advancement of Science”—triple-A-S—“that’ll be held a hotel over about the New Year’s period, after Christmas and into the first part of 1973. And could you present a paper on the work you’ve been doing and whatever.” That’s where the basis of this paper, the first paper I ever wrote, “Desert Fishes and their Habitats.” It was probably in the, I think, the centennial edition of the *Transactions of the American Fisheries Society*. And it was the first paper ever published in the journal on a non-economic concept. So Bob Miller and I—

13-00:44:56

Lage:

Because their focus was on the economics of fishing.

13-00:45:00

Pister:

Strongly that way. All of these stories, they’re so interesting. I hope they’re as interesting to people involved in reading this and watching it as they are to me, because they’re just fascinating to me. So okay. So Reed, then, was the keynote speaker, at the big meeting in Portland.

That was essentially loaded with the old hook and bullet type directors, and so on. Arnett was there as well. And so Reed made this statement. He says, “You know, we’re looking into new concepts now in our management of our western fish and wildlife resources. We’re looking at a broader picture than just the ones that you shoot and so on.” And he says, “We want the states to do this job. It’s their mandate to do that. But,” he says, “If they don’t, the federal government will have no choice but to come in and do it for the states.”

Boy, this raised about an entire room full of red flags. I was sitting there to myself, just elated with that statement. So when I got back home to Bishop—I was president of the Desert Fishes Council then. I wrote a letter to Mr. Reed, and I said, “You know, Mr. Reed, what you said was just music to our ears,

because those of us who see the necessity of this, not only the nicety of it, but the necessity of it, this was something we needed to hear. It gives us some hope for the future, that gradually we can bring the states in line with this.” They’re there now, Ann, but boy, it was a long battle getting them there.

So my term was about up as president. My counterpart in Las Vegas, a fellow named Dale Lockard, who unfortunately passed away very prematurely, I felt that I owed it to him to keep him in the chain of communications so that when he took over, he would know what was going on, between me, the council, and everything else.

13-00:47:04

Lage: So you were speaking basically in your role of president of Desert Fishes Council, rather than—

13-00:47:08

Pister: Yes. Not as a Fish and Game employee. And this was interesting, too. Oh, okay. That will lead up to this. So I sent the letter to his office in Las Vegas.

13-00:47:22

Lage: Did you send it on the stationary—

13-00:47:25

Pister: Oh, yes. The Desert Fishes stationary—because I was smart enough not to involve the department per se, just myself. I was willing to take that risk. So I sent a letter, and apparently the way they work there in the Las Vegas office, when first class mail comes in, it’s opened by probably their chief secretary. Looks at it, sticks it on the different desks involved. Well, I guess the lady was smart enough to see there’s some political ramifications to my letter. So she sent it immediately up to Reno, to the director of the Nevada Department of Wildlife, which is a fellow named Frank Groves.

13-00:48:02

Lage: Who probably knew you well?

13-00:48:03

Pister: Well, I knew him pretty well, yeah. Who then, I think the minute he saw this, called my director. And so that gets us there to the Vagabond Hotel in Bishop. So there are three guys: there was the director, Ray Arnett; chief of operations, a guy named Chet Hart; and the deputy director, Charles Fullerton. And I knew all of them really well. I worked for all of those guys for my entire career, except for Arnett. But I worked with Fullerton as a warden, and Chet Hart was a wildlife biologist.

So I get a call from Chet, which is his job as chief of operations. “Phil, are you going to be around Bishop during the rest of the week?” And I say, “Yeah.” He says, “Well, we’re going to be over there to look at a fish hatchery. We’d like to talk with you.” I thought, uh-oh. The red flag jumped in my own mind. I said, “Yeah, I’ll be around.”

13-00:48:55

Lage: Did that happen very often, that the big guys came by?

13-00:48:59

Pister: No, not that way. [laughter] So he said, “Okay. We’re staying at the Vagabond Motel. Be there Friday afternoon. And we’d like to talk with you.” All I could think was that the word had gotten out that I was hooked up in this Supreme Court thing and that they saw some problems there per se. And, in a way, that was right. But they were also concerned that I was doing things for Desert Fishes Council. That was not a department-authorized thing. Frankly, if I waited for the department to get involved here, we would have lost any number of species. We just had to jump ahead of the intransigent bureaucracy that pervaded and pervades today.

So I get this call. So I go over there to the hotel room. And this is the one I likened to the Grade-B movie, where they’ve got the straight wooden chair underneath the bare light bulb. These guys standing around with rubber hoses, getting ready to beat me up. [laughter]

13-00:50:02

Lage: Is that what you had in your mind?

13-00:50:03

Pister: Yeah. It really wasn’t quite that bad. But Chet then had the letter I had written, a copy of it. And he tossed this out on the little table I was sitting next to, squish across in front of me. He says, “Have you seen this letter?” I said, “Yeah. I wrote it.” He says, “Well, we want you to know this has been very embarrassing for us, because you, knowingly or not,”—and I knew it very well—“are saying things that are embarrassing to us and to our colleagues,” colleagues being defined as the other state Fish and Wildlife Agencies throughout the western United States, all the way from Arizona, New Mexico up to Idaho and Montana, and everything in between. Colorado, the whole bit, including California and Nevada.

And so I said, “Well, I’ve read the letter. You guys have read it. Did I say anything that’s untrue or wrong in there?” Naïve statement. I really loaded that one. And they said, “Well, no, but it’s just the whole concept that you’re suggesting something like this. So we want you to be much more careful in the future.” “Okay.”

So what this did—I wasn’t going to change my direction at all, because I knew I was doing good stuff. The feds thought it was great, and so did my counterparts in the other state agencies. We’ve got to get some high-level push to get us going in this stuff. So, okay. So what I did then, essentially, was just to go underground. If I had to do work in Nevada, I’d take my own car and pay my own expenses and stuff, which I guess was only reasonable. It wasn’t that bad. (I do have a picture of the state Fish and Game, California Fish and Game Department car parked in front of a brothel, though, in that

part of Nevada. [laughter] It was the only restaurant in the middle of the desert. We were working around Devils Hole.) So next thing I know, Arnett then gets ahold of my regional manager. And he says, “It’s your job to shape this guy up.”

13-00:52:04

Lage: And who was your regional—

13-00:52:05

Pister: A guy named Bob Montgomery. You know, Bob’s passed away now, but if I ever have a debt of gratitude to a guy just—and he worked under Arnett, of course, as all of the regional managers did. He wrote a letter back to Arnett, and he said, “Ray, what this guy does at his own expense and on his own time is his business. It’s not mine, and it’s not yours.”

13-00:52:33

Lage: So he stood up for you.

13-00:52:34

Pister: He did, and I was really grateful for that. But then between me and him was another level of supervision.

13-00:52:42

Lage: And who was that?

13-00:52:42

Pister: Guy named Bill Richardson.

13-00:52:43

Lage: And what was his—

13-00:52:44

Pister: He was a what they call fisheries management supervisor, the manager over all of the functions of the department in, say, southern California, which we were involved in. Our office is part of region five, at that time, office of southern California. Luckily Bill was a hatchery man, but he was also a very, very good thinker. And when he found I was working with pupfish, he was happy. He says, “You know, I was out there in Fish Slough,” which is where the pupfish grew up. It evolved there. And he says, “We saw some fish when we were collecting fish out there, just interested in knowing what they were, that we couldn’t really identify.” And he then went through and described how he remembered it. The guy had a mind like a steel trap. I think Bill—he’s dead now too—remembered everything he’d ever done in his life in detail. He says, “They had to be the pupfish that you guys were working on.”

Well then, we thought at that time they were extinct, but what Bill found and what we found later, we found that they were not extinct. And that’s when in ’64, when Hubbs and Miller—

- 13-00:53:56
Lage: Yeah. So this was earlier than—
- 13-00:53:58
Pister: Yeah. This was then—
- 13-00:54:01
Lage: But let's continue with the story of how you were enabled to do your thing in the Department.
- 13-00:54:10
Pister: Well, I was enabled—
- 13-00:54:10
Lage: Did Bill Richardson also sort of—
- 13-00:54:14
Pister: Well, Bill then, what he did, he provided a level of, say, administrative support for me. See I could go out to Death Valley and do this stuff. I do remember, though—
- 13-00:54:27
Lage: That was in your territory, after all.
- 13-00:54:29
Pister: Yeah. There was another guy from Sacramento, though—now when did this happen? Late '69. Yeah, Bill was in power there. See, we had a big project. One of our huge reservoirs, we literally had *thousands* of people come fish there out of Los Angeles. One of my major responsibilities was to make trout fishing better. Well, that's when I went out and held fish in two buckets in Fish Slough. And saved the fish. They'd be dead now if I hadn't done that. I never showed up at the lake at all when I was supposed to have been at Crowley Lake. Wrote quite a paper on that, really, in that fisheries magazine. This guy from Sacramento, head of fisheries there, says, "I hope one of these times you get your priorities straight." Of course my priorities were straight, but it took a while to get *theirs* into order, philosophically.
- 13-00:55:34
Lage: And how would you answer him?
- 13-00:55:36
Pister: Well, I said, I guess—what the heck was his name? George McCammon, I think. I said, "You know, George, I think my priorities are straight. Biologically, you can't argue with the validity of what I'm doing." This guy, his whole life was tied up in largemouth bass and that type of thing. Largemouth bass aren't even native out here. They never should have been brought here. We have a couple of extinct fishes in the Central Valley, the thicketail chub. Have I ever mentioned Peter Moyle to you?
- 13-00:56:09
Lage: I don't think so, but his name came up as I was reading.

13-00:56:12

Pister:

Yeah, Moyle is a prof at Davis. He's a fish guy. He's got to be one of my real heroes in the academic community. Peter's just a marvelous guy. So Peter, through his collections and all, found that this fish no longer existed. Lake Davis, I'm sure you're aware of that dilemma there, of the northern pike there, that if they were to escape, they could come down and raise even more heck with the native fishes. And Peter's big thing is native fish fauna. It's like preserving any historical artifact, you want to keep them there. And so Peter's done all that he can, and he's been a major force. Like the delta smelt, that's Peter's big thing. It may raise heck with the—may be one of the reasons that they've got water rationing in southern California, as well as here in the Bay Area, because of the diminished pumping out of the delta.

So all of these things are tying together in a most interesting way. This whole thing of philosophical changes: you don't do that overnight. I would say—

13-00:57:31

Lage:

And they're philosophical, but also political.

13-00:57:34

Pister:

Well, they are. They are indeed.

13-00:57:37

Lage:

Reagan was governor, who probably—did he ever come on a field trip with you?

13-00:57:41

Pister:

No. Well, he did this: Livermore, Ike Livermore, he was secretary for resources, was a close friend of, quote, "Ron." Livermore had a signed, autographed picture of Reagan in his office, which, I used to just turn my head to the side. But Livermore was smart.

See at that time, too, it's kind of the same vein. There was a lot of political pressure to build a road over Minaret Summit down into the Central Valley. It would connect directly 395 with 99, basically, was what it would do. And it would go through one of the best wilderness areas we've got. It wasn't wilderness at that time. So Livermore, with that wilderness basically his whole life, said, "We've got to kill this thing." So he said, "Ronnie, this would be a great chance for you to get on one of your horses again." So they arranged one of the pack stations there. Well, that's where Roger Samuelsen and I, that's where we'll be going in August. So they haul Reagan into there, and it's a great photo op. Jeez, you know, all these photographers, Reagan with his white hat, waving it from his horse, you know, big smile on his face. And they took him into where this road would go. And the president of the Sierra Club is there, and a bunch of others. And Reagan said, "We can't let a road be built in through here." And of course that's what Livermore's whole point was.

But then again, because of that, he and Arnett just never saw eye to eye. See, Arnett made his statement, too, which is a beauty. He said, “The best thing we can do for the California condor,” that’s before the big recovery effort started, “would be to shoot them all, stuff them, and put them along freeways so that people could appreciate what they look like.”

13-00:59:39

Lage: That is a true remark by Ray Arnett? Maybe he—

13-00:59:42

Pister: That was in the paper, anyway. I'm quoting, I think from the *Chronicle*. I'm not sure, but—

13-00:59:47

Lage: He was not of the mind that you had begun to develop?

13-00:59:50

Pister: No, but this then goes on to philosophical evolutions.

13-00:59:54

Lage: I want to stop you right there because our—

13-00:59:57

Pister: Tape change?

13-00:59:57

Lage: —tape is about to run out.

13-00:59:57

Pister: Okay.

13-00:59:58

Lage: So hold on.

[End Audio File 13]

[Begin Audio File 14 Pister_e_philip14_05-20-2008.mp3]

14-00:00:05

Lage: We are continuing our interview, and this is audio tape fourteen. Okay. I had just asked you, since we're delving into the Reagan administration and your time at Fish and Game. Did you get to know Ike Livermore, such an important figure?

14-00:00:25

Pister: Yes. I'm not sure exactly what it was. Actually, I mentioned these governor's trips that were made? For whatever reason—

14-00:00:42

Lage: Governor's trips without the governors?

14-00:00:43

Pister: Yeah. But Livermore, because of his background, he used to run a huge pack station out of Lone Pine, the Mount Whitney pack trains. And then also he was high up in the Sierra Club for many years. Of course I joined the club in 1948, so we had some—

14-00:01:02

Lage: Did you go to any of the wilderness conferences that the club put on?

14-00:01:05

Pister: Mm-hmm. The big one—remember, this was a long time ago—was at the Claremont [Hotel, in Berkeley]. They had a big wilderness conference there.

14-00:01:12

Lage: There was one that Ike Livermore actually—the first one, he sort of organized.

14-00:01:18

Pister: Could this have been the one at the Claremont? This would have been in the early fifties.

14-00:01:24

Lage: Oh, I think it was before that, but it had a lot of the packers involved.

14-00:01:28

Pister: Well, he would have been, because that was his whole thing. There was a group called the Eastern Sierra Packers' Association. See, Ike did his graduate work at Stanford. He's a historian, pretty much, on the role of the pack industry in the development of the eastern Sierra, I guess.

14-00:01:47

Lage: Well anyway, back to how you got to know Ike Livermore.

14-00:01:51

Pister: So then I think it was on one of these trips, the governor's trips. Because of the way they were structured, the secretary for resources would be deeply involved. And so this would have been—well, they went on for a couple of decades, really. But some of the early ones, I got to know Ike there. And we obviously saw things very much eye to eye. I got to be very good friends with his three sons. The oldest one, Norman, Jr., is an orthopedic surgeon in Walnut Creek. Sam is hooked up with the Yosemite Association. You've probably seen Sam Livermore in some of the stuff that you've seen here. And the youngest son, David, heads up the Nature Conservancy in the state of Utah. And I've stayed, probably, closer to David than the others.

Although Ike this last—you know, this upcoming weekend, Ann, is Mule Days in Bishop.

14-00:02:51

Lage: Oh, he would always come to that.

14-00:02:52

Pister:

Yeah, he'd always go to that. Reagan was the, I think a grand marshal—whatever they call it. Grand muckity-muck of Mule Days. I remember him flying over in a jet and landing in Bishop Airport, and they hauled him in. Jumped on a mule, rode along Main Street. Well, that's this coming weekend. And last year, Ike in postmortem, he had just passed away, was honorary chief of Mule Days, and all of his three sons were there, riding in the wagon.

14-00:03:29

Lage:

Would that have been something that you did regularly? Go to Mule Day?

14-00:03:34

Pister:

Well, you know, Mule Days, the characters don't change much. [laughter]

14-00:03:40

Lage:

Ike was really a mule man.

14-00:03:41

Pister:

He was.

14-00:03:42

Lage:

Loved mules.

14-00:03:43

Pister:

Well, you know, mules are amazing creatures, with the things they've done through the years. In Bishop, now—some pork barrel legislation by a congressman—being built at our fairgrounds is the mule museum.

14-00:03:57

Lage:

Oh, really?

14-00:03:59

Pister:

[laughter] And just within the last few weeks, I've scanned a number of my mule pictures to make available as JPEG files or whatever for the people putting this thing together. Because people don't do much of that anymore, like packing fish on mules. Got a great photograph taken in 1914. The Fish and Game Commission back then had a twenty-mule team, and they would use this for moving fish, planting fish all over the back country, going over the major trails out of Bishop into the Sierra National Forest over the top. And so I have the photographs; I didn't take in 1914, of course. That photograph does exist, and I have copies of it that I took.

So they'll have a mule museum there. This will be a big thing again. You can't get a motel room [on Mule Days] within a hundred miles of Bishop, north or south. The place is just jammed. People will be arriving there now from North Carolina, Tennessee, Missouri, all of the mule states. And not only do they portray mules there, but they have big mule auctions, and they trade mules.

14-00:05:12

Lage: Why, I had no idea it was such a big deal.

14-00:05:14

Pister: Oh, yeah. Smithsonian had a thing on mules in their magazine here some years ago. It was quite a spec—and a lot of the art community comes here. They have big art exhibits. And they have mule races. [laughter]

14-00:05:27

Lage: I'm going to get us back to the mule lover, Ike Livermore. Did the dissatisfaction with your activities ever rise to the level where Ray Arnett would—would that have been something that he and Ike Livermore would ever get into?

14-00:05:48

Pister: Well, I don't know that *personally* I was involved. But they got into some major philosophical viewpoints. Among other of Arnett's attributes, he was a very vulgar guy. And he, of course, with his position as director of resources and secretary of resources, also a department director, would be called upon to give talks at, say, meetings—

14-00:06:17

Lage: Now, he wasn't secretary for resources, because Ike was.

14-00:06:20

Pister: No, you're right. It wasn't until after Arnett left California, and he went into a comparable position in DC. I guess there's certain personalities of people that think they can be funny when they're just being totally obnoxious. And he would go to these meetings in the Sierra Club and tell off-color jokes that you wouldn't hear in the locker room of a destroyer. Pretty soon anybody with any conscience, they'll be looking at the floor. The women would be leaving. But he thought he was funny. And I don't know if it's an insecurity or what. But he was known for that.

14-00:07:08

Lage: In the department?

14-00:07:09

Pister: Oh, yeah. Yeah. His secretary said, "Mr. Arnett, do you mind if I close the door?" Because he'd get on the phone and use these strings of four-letter words, and she didn't like it.

14-00:07:21

Lage: And yet off he went to Washington?

14-00:07:23

Pister: And I think the same thing there. He might have toned it down a bit back there, but you know a leopard doesn't change his spots that quickly.

14-00:07:29

Lage: No. He was assistant interior secretary.

- 14-00:07:32
Pister: Yeah, assistant secretary of the interior. In fact, I think he succeeded Nat Reed. And, boy, they sure went from A to Z on that one. At any rate, but then you talk about the evolution of thought—
- 14-00:07:50
Lage: In the department?
- 14-00:07:52
Pister: Yeah. Later, about the time that Arnett left the department—
- 14-00:07:56
Lage: Which would have been when [Jerry] Brown came in, right?
- 14-00:07:59
Pister: Yeah. In—
- 14-00:08:02
Lage: And Charlie Fullerton became director?
- 14-00:08:04
Pister: Yeah. This would have been—well, Brown would have been something long out. This would have been late seventies?
- 14-00:08:07
Lage: Well, Brown came in in '75.
- 14-00:08:09
Pister: That's right. He did.
- 14-00:08:11
Lage: And Charlie Fullerton was appointed director. And I think I remember the story that someone was considered who was more of a new thinker. A new thinker. Do you remember that?
- 14-00:08:23
Pister: Oh, yeah. Yes I do. [laughter] All these interesting stories. When we were ready to get a new director, there were two people up for this. The secretary for resources, at that time, was a lady named Claire Dedrick. Dedrick was a real sharp lady. She was from Stanford, a PhD from Stanford. She was interested—of course you'd hope that somebody with the educational level, sophistication of a PhD would understand the thing we were doing. And she did. But we were—
- 14-00:08:57
Lage: She came out of the environmental movement.
- 14-00:08:59
Pister: Yeah!
- 14-00:09:00
Lage: Sierra Club, coastal preservation.

14-00:09:02

Pister: Yes. Yeah, Coastal Commission or whatever there.

14-00:09:07

Lage: It was a citizen group for the coast [Coastal Alliance].

14-00:09:11

Pister: Yeah, but she was indeed a green person. So back to our field trips again, the director's trip or whatever you want to call it. Governor's trip. One of these was out into the desert. And we went into Saline Valley. Saline Valley is about halfway between the Owens Valley and Death Valley, if you go east. Got some marvelous hot springs out there people just love to go to. It's all on BLM [Bureau of Land Management] land, or it was. It's Park Service now. Saline Valley became part of Death Valley National Park, which is great.

Of course at a meeting like that, there's a fair amount of liquor flowing around. See that was one of the things I had to do. We got to hole up with Ike, because I would have to assume the logistics of these trips that were made. Part of the logistics would be to arrange for all of the pack stock, all of the food, arrange for the cooks, and then back up a state truck to the local liquor store and load aboard all kinds of things that most people would have been fired for if they'd done that. But this was okay, because the governor's involved, or the director, or the secretary.

So Claire probably over-imbibed a bit. She was having a real gut-wrenching decision to make of who to appoint for director of Fish and Game. There was Jack Fraser. I got to know Jack. He and I were taking classes up at Hilgard Hall, I guess, in aquatic entomology.

14-00:10:52

Lage: Way back?

14-00:10:52

Pister: Yeah, way back. Under, we had Bob Usinger. Jack, I think, may have become a TA. He was a stone fly guy. Came up through the department with that kind of a background as a regional manager, whatever.

And the other was Charlie Fullerton. And Charlie, it turned out, he was the one that she selected. And she said, "Phil," with her eyes kind of blurry, says, "Who should I appoint for director? I made the decision, but I want to get your input." I said, "Well, either would be a good one. I think Fraser would have a much better insight into biological matters, and Charlie—" Charlie was basically a warden.

14-00:11:32

Lage: Oh, I see.

14-00:11:32

Pister: His background was essentially law enforcement. But I found then Fullerton was an excellent director.

14-00:11:41

Lage: So finish the story with Claire.

14-00:11:44

Pister: Oh, okay. So I said, “Well, I think Fraser would have been the better director.” [laughter] She said, “Oh, I'm so disappointed.” About that time she lost it all and just fell over backwards into one of these hot spring pools. We had to jump in and pull her out. [laughter] She wasn't in danger of drowning, but we wanted to make sure she didn't, because she could have.

14-00:12:14

Lage: Yeah! And this was in reaction to your opinion?

14-00:12:18

Pister: Yeah, to my opinion about a director, because she wanted me to agree with her. In retrospect—see, Jack then went down to somewhere in Australia, and headed up, I think, for the state of Victoria or something or other, he headed up all their environmental stuff for a number of years. And then Charlie became director, and he was a very good one, because he understood how the department worked. [Editor's note: Fullerton was appointed director while Reagan was still governor, then Claire Dedrick kept him on.]

The political appointees we've had there have been largely disasters, because they're just getting their feet on the ground, I'm not saying they're bad, but to understand how the department works. So I was really pleased with our new guy, just appointed recently, Don Koch. We've had some good ones—

14-00:12:58

Lage: And Charlie *was* a good one? And how were his sympathies for the kind of thing that you were—

14-00:13:04

Pister: But this is interesting, too. I mentioned this talk I had given up in Portland, and then Reed's talk. I talked about endangered fishes in the desert. Commended Reed on his precept. This is a great side story, this whole thing up there in Portland. Okay. I can give the talk. I don't have any travel budget for that sort of thing. And I found out that the department was sending some of their people up in the department Beechcraft. All it would involve for me is to drive to Sacramento and jump aboard.

So I asked the guy who was chief of operations then, Jim Leiby. I said, “Jim, could I get space on the plane?” He said, “No. The plane's all occupied.” So I drove up to Reno and got on, it wasn't Southwest then. Some other cheap airline. Flew up to Portland. Came in to whatever hotel they're holding it there. The reason there was no room on the plane is because all of our top

brass and their wives had flown up there. So there was no room for me at the inn, so to speak.

So I'm standing there. What's this guy doing here? I said, "Well, I'm here on my own, of my own expense, to give a paper." "I hope you're not giving a paper on the stupid pupfish." That was what Charlie said.

14-00:14:24

Lage: Charlie said that?

14-00:14:25

Pister: Yeah, but he learned later on. Because he was a reasonable guy. I think he began to see the value of what we were doing here. But a little later. And this comes on as phase two of this chewing out I had gotten by our brass there at the Vagabond Motel in Bishop. It was six years later that the western division of the American Fisheries Society was holding their annual meeting in San Diego. And I was selected to receive an award there. It was, at that time, the American Motors Conservation Award. It's since been taken over by Chevron. And it's to some guy who's done innovative things in government.

14-00:15:08

Lage: For conservation?

14-00:15:10

Pister: Yeah. Yeah. Yeah, it's a conservation award. And Arnett was there. And after I received the award, he came. You know what? And I really appreciate him doing this, because he didn't have to. The guy had a *huge* ego, as big as he was. He was six feet five.

14-00:15:24

Lage: And he was back in Washington by then, probably?

14-00:15:26

Pister: Well, he was on his—yeah. Yeah, I think he was out from there. And he came up to me afterwards, and he says, "You know, Phil? I think I owe you one. I think I'm finally beginning to see what you've been trying to tell me for the last ten years." It wasn't ten, but it was close to that. But you know, I appreciated that, because he didn't have to do that. But I think he thought, I probably owe it to this poor guy out in the trenches, trying to do his job. And all I could do is view him as an impediment.

14-00:15:56

Lage: Well. I think we should close up so we can get—

14-00:16:01

Pister: Probably should! Lunch time!

[End Audio File 14]

[End of Interview]

Interview #6: 05-20-2008

[Begin Audio File 15 Pister_e_philip15_05-20-2008_Roger_.mp3]

15-00:00:05

Lage: Okay. We are continuing the interview with Phil Pister, but we've added Roger Samuelsen, former director of the UC Natural Reserve System, because they have a joint tale here about Fish Slough and other connections. So Phil, you're going to start with how you met.

15-00:00:24

Pister: Yeah. A bit of brief history on Fish Slough. Defining Fish Slough, Fish Slough is in the Owens Valley, of course, where all this is taking place, on the eastern slope of the Sierra Nevada, is probably now, with the water export by the city of Los Angeles, the only remaining natural wetland in the Owens Valley. And it also has the prominence of being—people in fishes, and in science generally, talk about type localities. The type locality is where a species was collected, from which it was described.

In this case, back in the late forties, a graduate student at the University of Michigan, working under Professor Carl Hubbs, who now is dead, of course, but at that time was at Scripps, down in La Jolla. And the Owens pupfish, *Cyprinodon radiosus*, which is the northernmost extension of pupfishes in the United States, or in California. It's in Nevada. That was where Miller collected the fish from which he described the species.

But in any event, Miller contacted me once in the early sixties. And of course in addition to describing fish, he had, of course, a deep interest, as a scientist would, in the entire area. And he wondered if pupfishes might still be there, because when he described it in 1948, it was thought to be extinct. It was described from collected material in a museum at Ann Arbor, where he was a student and a professor. So I went out, and I looked around, and I couldn't find any pupfish. I did find some mosquito fish, which superficially look a lot alike. And said, "We know there's fish out here, but I'm not sure, really, what they are."

And not too long after that, it would have been probably in July of 1964—gosh. Realize how long ago that is, Roger? [laughter]

15-00:02:49

Samuelsen: [laughter] It's quite a few years.

15-00:02:50

Pister: Yeah! He, Miller, phoned me from Ann Arbor. And Miller's really a personable guy. Just a nice person. He said, "Phil, Carl Hubbs and I would like to come up to Bishop and see if maybe we can still find these fish there." So they came up. And I think I may have reiterated this earlier, Ann, but it's

worth repeating. We went out through the marsh and in kind of an isolated location on the east side of the slough, found—I hear Carl’s voice. “Bob!”—speaking to his son-in-law—“they’re still here.” And that made just a huge impact on me in every way. I was glad to hear about it, of course. But what it did, it got me thinking about the value of native fishes as opposed to the very commercially popular fish, the trout and whatever, that people just flock up to the Owens Valley to catch.

Well, about that same time, we began to hear rumbles of development out in Fish Slough. There were 202 acres of privately held land out there. And without going into a lot of detail, one of the owners of the land, turns out that he was also chairman of the Mono County Planning Commission. He owned the land, the 200 acres, he and his brother, and planned to develop it, to put in subdivisions. They even had subdivision maps drawn up. Tufa View Estates, tufa being of the geologic formation. All of this was geologized, if you want to use that term, during the great explosion of the Long Valley Caldera, one of the great seismic events, well, seismic and volcanic, events of all time. Some of the ash from that explosion just north of Fish Slough was detected as far back as Nebraska. So it was a huge explosion.

But in any event. This got me worried. I've always been a great worrier on stuff like this anyway. I thought, how in the dickens can we somehow preserve this land? So I knew that Hubbs himself has always been a giant, both in ichthyology and in conservation issues. So Roger ran across, very recently—he probably knew that it was here all this time—a letter that I had written to Professor Hubbs. This was dated July 22, 1970. And it kind of summarized the threats to the value of the area, which Carl knew, of course. And to me it was a logical thing for the Natural Reserve Committee to think about.

15-00:05:46

Lage: Was Carl on the Natural Reserve Committee?

15-00:05:48

Pister: Yeah. Right, he was—

15-00:05:50

Samuelsen: Yes. We had a system-wide advisory committee for the Natural Reserve System. It was then called the Natural Land and Water Reserve System, but later it was Natural Reserve System. And Carl was a representative of the San Diego campus on that committee. The Reserve System had been established in 1965, and reading this letter, I have a feeling that Carl and Phil must have talked about the establishment of the Natural Reserve System, and that led to Phil writing the letter that he referred to.

15-00:06:20

Lage: The system at the time was a baby, really.

15-00:06:22
Samuelsen: That's right.

15-00:06:22
Pister: Oh, yeah. Yeah.

15-00:06:23
Lage: And were you the first director, Roger?

15-00:06:26
Samuelsen: I was, but I did not become director until 1974. I joined the university in 1967 as coordinator of special projects under Clark Kerr. One of the special projects that was assigned to me right off the bat was this brand new program, which was then two years old, called the Natural Reserve System. As I spent more and more time in developing the system, it became really almost a full-time job, and they named me director in 1974, and I held that title until I took early retirement in 1991.

15-00:07:01
Lage: Okay. So Carl Hubbs was on the advisory committee, and you wrote to Carl Hubbs?

15-00:07:06
Pister: Mm-hmm.

15-00:07:06
Lage: So you knew about the Natural Reserve System.

15-00:07:10
Pister: Yeah. And somewhere along that line, the committee met up in Fish Slough. Several of the committee members, anyway. I know there's Bill Mayhew, from UC Riverside, and Mildred Mathias, of course, was one of the, really, giants in this whole thing. A botany professor from UCLA.

15-00:07:30
Samuelsen: And she had become chairman of the statewide committee by that time, so she assembled a group of faculty to meet with you, and my notes reflect that that was in about December of 1970, Phil.

15-00:07:41
Pister: Yeah, it would have been. It would have been. Because in this memo, the "Memo on Phone Call from E. P. "Phil" Pister, Cal Fish and Game, Bishop." Gives the phone numbers and all. Dated October 21, 1970. This, I think, got the ball rolling—

15-00:07:56
Samuelsen: That's right.

15-00:07:57

Pister: —for the committee. And so then we met up there. I remember Mildred and her husband, I can't think what he did. But anyway, they had this *huge* station—

15-00:08:08

Samuelsen: Well, he was a retired engineer.

15-00:08:10

Pister: Was that it?

15-00:08:10

Samuelsen: Mm-hmm.

15-00:08:10

Pister: Okay. So we drove out to Fish Slough a couple of times, really, in this great big station wagon. Mildred, of course, was just fascinated by the plants. And her graduate students had worked out there, like Bob Haller, from UC Santa Barbara, and so on. The botanists just loved that place out there, because of the—

15-00:08:30

Lage: So it's not just fish?

15-00:08:31

Pister: No, no. Oh, no! See that's the whole idea. It's a natural reserve area, by broad definition. And there's fish there, there's insects, there's snails. There are plants. There's the Fish Slough milk vetch. Maybe this is a good time to bring this up. But in order to get that 200 acres of land—

15-00:08:58

Samuelsen: Can I just intervene with one comment?

15-00:08:59

Pister: Go right ahead.

15-00:09:00

Samuelsen: As I recall, there were not only the 200 acres, Phil, but there were two eighty-acre sites, too, for a total of 160 acres, and the—

15-00:09:09

Pister: In addition to the 200?

15-00:09:11

Samuelsen: That's right.

15-00:09:11

Pister: Okay.

15-00:09:12

Samuelsen: And the initial inquiry was how to protect and acquire those two. Fortunately, I think you were able to—

15-00:09:20
Pister: Fish and Game got one of them, I know that. Yeah.

15-00:09:21
Samuelsen: —get involved with Fish and Game, that's right, to acquire those.

15-00:09:25
Pister: What are we doing wrong here?

15-00:09:27
Lage: I just don't want you to step on the cord. And also, what I think you haven't mentioned is who owned the rest of the land. So it sounds quite complicated.

15-00:09:36
Pister: Do you know, I can't think who owned that land on the east side that Fish and Game got.

15-00:09:41
Samuelsen: Well, you mean the two private holdings?

15-00:09:43
Pister: Yeah.

15-00:09:43
Lage: But there were public lands, too.

15-00:09:43
Pister: Other than the 200 acres.

15-00:09:46
Samuelsen: I do not recall those names,—

15-00:09:47
Pister: I don't recall that either.

15-00:09:48
Samuelsen: —but maybe you're also referring to the fact that the bulk of the land was under public or quasi-public ownership. The Bureau of Land Management and the Los Angeles Department of Water and Power were the two principal holders—

15-00:10:03
Lage: So it was a complicated setup.

15-00:10:06
Samuelsen: That's right. And so part of what we were doing from the get-go was talking to these other agencies about how could we eventually jointly manage this property and protect its values. And we'll get into that more later on.

15-00:10:22
Pister: So eventually it involved a lot of people. Mainly Roger. Even had, I think, Pete Goldsmith, back in Washington. Would he have been the guy?

15-00:10:32

Samuelson:

Yes. He was our Washington representative.

15-00:10:33

Pister:

We had to get, actually, an act of Congress to allow a land exchange to occur there. And we were trying to get that Fish Slough property put into public ownership, through the university in this case, in exchange for 160 acres, I think it was, on Highway 6, which is a route from Bishop through Tonopah, Nevada, on east, clear to Massachusetts. Big, long road. Getting something like that through Congress is not an easy thing to do. Everybody agreed to it. It was a motherhood type thing. The legislation, I think, was drafted by attorneys from the city of Los Angeles Department of Water and Power. They as an agency were strongly in favor of it.

It went into the hopper in Washington, seemed to be going along okay. This would have been the early eighties. A senator and a congressman from the state of Montana, I guess their staffs looked at this: hey, land exchanges with BLM. There's some public land near Miles City, Montana, that we would like to get for some of our constituents. So the bill just goes, whoot, like that. And we worked and we worked to get that thing. There was a senator, I think from Ohio. I can't think of his name, but he was a very liberal senator, a good friend of the conservation stuff. Well, we needed all the help we could get.

The chairman of the California Native Plant Society then was a lady named Alice Howard. She's up at the herbarium up in Strawberry Canyon. And so I thought, well, there's an endangered plant out there. There's the Fish Slough milk vetch. And I said, "I'll try. I'll call Miss Howard, and see if she can maybe—" It's a pretty big organization, CNPS [California Native Plant Society] is, and maybe can get some muscle politically, somehow. So I phoned her up here in Berkeley, and I explained how we wanted to get this land out of private ownership, which had strong, strong push for development there. And of course over in that county, there's so much public land that they look for private land for development, tax purposes, whatever. And she listened carefully. I said, "You know, there's a milk vetch there, too." And this said a lot: she came back with the genus, species, and subspecies of it.

15-00:13:37

Lage:

Right there in the phone conversation?

15-00:13:38

Pister:

Yes! *Astragalus lentiginosus piscinensis*, which is endemic there in Fish Slough. It's the only place it lives anywhere. And she says, "I'll call Marge Hayakawa," Senator Hayakawa's wife, who was equally involved with the plant society. "Maybe she can help." Well, I didn't find out what happened after that, but the senator himself had a lot of political muscle back in DC, and I think he was one of the major proponents of this thing in the legislative process.

It turns out that they got it passed, finally. I find out it was passed. We met Brock Evans the other day, high up in the Sierra Club back in DC. And he phoned up the office one day. He was half-drunk, the secretary said. I wasn't there. She took the message. Said, "Mr. Evans called, and he says they got the bill through." Kind of like the Devils Hole thing. I all but burst into tears over that.

So it was signed by the President, Reagan, within hours of the conclusion of that congressional session, or we wouldn't have gotten the law passed. So it shows how right on the edge we are in many of these things.

15-00:14:55

Lage: And also that you got support from the Republican senators and the Republican president.

15-00:15:00

Samuelsen: Mm-hmm.

15-00:15:01

Pister: And the president, yeah.

15-00:15:02

Lage: And you had the Sierra Club working on it?

15-00:15:03

Pister: Yeah.

15-00:15:04

Lage: And was the university involved in lobbying at all?

15-00:15:08

Samuelsen: Oh, yes. Very much so, through our Washington DC representative.

15-00:15:10

Lage: What was happening?

15-00:15:12

Samuelsen: Well, I think the university, behind the scenes, was facilitating the entire transaction.

15-00:15:18

Pister: [laughter] Sure did.

15-00:15:18

Samuelsen: As we have reported, our involvement started in 1970. The president did not sign until January of 1983.

15-00:15:29

Lage: That's right, because Reagan didn't even come into office until '81.

15-00:15:31
Samuelsen: That's right. And I did not actually sign the joint management agreement until 1985. So that's fifteen years, which I think demonstrates that these projects—

15-00:15:42
Pister: Oh, God!

15-00:15:43
Samuelsen: —require a lot of perseverance, a lot of ingenuity, a lot of cooperation. And through it all, Phil was just talking to everybody possible, insofar as the values of the project were concerned, and I was trying to handle it from an administrative standpoint, to get everybody on board. And Phil and I would compare notes, and hold each other's hands to say, "It's worth it. It's worth it."

But the land exchange that he's described is only part of it. I mean, we went through endless negotiations with the several private owners, trying to buy the property, trying to reach agreement on appraisals, before we went to the land exchange. Because the land exchange was a last resort. We were just not able to reach agreement. We had to be very careful not to threaten condemnation, because that could have been a very expensive proposition, and—

15-00:16:44
Lage: Would you have been able to do a condemnation? Like an eminent domain?

15-00:16:47
Samuelsen: The university does have the authority, however it exercises that very seldom. Because, you know, once you enter into eminent domain, you're losing control over the ultimate price you may have to pay. We were a brand new program. We were dependent on private funding, not state funding.

15-00:17:09
Lage: Oh, no state funding?

15-00:17:09
Samuelsen: We just did not have the unlimited resources one would require if you were going to go that route.

15-00:17:15
Lage: What were your sources of private funding?

15-00:17:19
Samuelsen: We were very fortunate in about 1972, about the same time, to obtain a matching grant from the Ford Foundation. And we undertook a major fundraising campaign to raise upwards of \$2 million, which at that time was a very, very—

15-00:17:36
Pister: Lot of money.

- 15-00:17:38
Samuelsen: —big amount. And we went to individuals, to foundations, to corporations. Had a campaign committee headed by a member of the Board of Regents, who was very effective.
- 15-00:17:51
Lage: Who was that?
- 15-00:17:52
Samuelsen: William Wilson, Bill Wilson, who was a member of the Ronald Reagan kitchen cabinet, and was an appointment of then-Governor Reagan to the Board of Regents. He also—
- 15-00:18:05
Lage: And he took an interest in this idea of reserving natural areas?
- 15-00:18:10
Samuelsen: Well, that's a story in itself. He *became* very interested, but the short version of the story is that then-President Hitch called this brand new Regent and said, "Regent Wilson, there is a program called the Natural Reserve System. We would very much like you to consider heading the fundraising campaign. I'd like to send the director down to visit with you and tell you more about it." So I flew to Los Angeles. That was my first meeting with Mr. Wilson. He and I became very good friends, but I had to sell him on the spot. But I think because the president requested it, he felt he had no choice but to say, "Well, if that's what you want me to do, I'll do it." But he became a very strong advocate, and was very effective.
- 15-00:18:58
Lage: It seems like a very unlikely place for a housing development.
- 15-00:19:03
Pister: Well, you know, I think a lot of this was that the owners of that 202 acres, anyway, which was the major threat, the flatland. This was a means of them to get maximum value for that land.
- 15-00:19:21
Lage: Did they know of your interest?
- 15-00:19:22
Pister: Oh, yeah.
- 15-00:19:23
Lage: They knew Fish Slough had already been established.
- 15-00:19:24
Pister: Yeah. They were keenly aware of this. And to me, anyway, I think to Roger, too, the irony of it: these guys were wealthy orthopedic surgeons, both of them, and they needed more money like I need three shoes. But that was part of it. And there's also—

15-00:19:42

Lage:

Did you feel that way, Roger, that proposing the housing development was a way of creating a risk that—

15-00:19:49

Samuelsen:

Oh, yes. And we always had to weigh how much of it was a bluff and how much was for real. But they filed with the county subdivision plans to cut up this 202 acres into forty-acre plots and the like. They also expressed interest in growing alfalfa, which would have required drilling wells and drawing down on the aquifer, which was of—

15-00:20:15

Pister:

Pesticide application.

15-00:20:17

Samuelsen:

—great concern. And pesticides. But also I knew we were in trouble at the get-go, when they told me that they both were graduates of Stanford University.

15-00:20:31

Pister:

No question that had a lot to do with it.

15-00:20:33

Samuelsen:

We ended up with a friendly relationship, but also one that was, at times, pretty heavy-handed, and other times was very light. I mean, we would make our bets before every Big Game, but on the other hand, there were times I had to say, “We just can’t do that.” My hope and expectation was to develop a trust level, so that if I said, “We are still working in good faith on the appraisal,” or later the withdrawal that required congressional action, or the exchange, that they would give us a little bit more time to get our ducks in line. It was a very complex situation.

15-00:21:17

Pister:

I’m still amazed that it did it, went through.

15-00:21:20

Samuelsen:

But I think also philosophically, while they understood what we were trying to do, they felt that there already was too much land off the tax rolls in Inyo and Mono counties because of LA Water and Power having so much of the land there. They philosophically just felt that the public had a right to buy private land, to develop it whatever way they want, and they made it very clear that they had connections with the planning commission. As Phil said, one of the doctors was the chairman of the planning commission. They also made it very clear to me that they were very close to the judge of Mono County, and that was kind of an implication that if we ever wanted to go a condemnation route, buyer beware. We were going to be in trouble.

I mean, it was just jockeying back and forth. And I don’t know, Phil, if you want to elaborate on this, but I also was mindful that Phil and his wife had a

history with these doctors because of surgery that one of the doctors had conducted not too successfully on Phil's wife.

15-00:22:33

Lage: Oh, Phil! I didn't know that.

15-00:22:33

Pister: Yeah. This is one of the reasons that I'm here by myself and without Martha. One of the doctors—they worked as a team. They were both in orthopedic surgery, but one of them primarily an anesthesiologist, and another was an orthopedic surgeon. Well, Martha's had just horrible back problems. So this one doctor, probably just as well not be named, said, "Oh, we can operate on you right here in Bishop. I know just what to do."

Well, he just botched the operation something terrible, to where she's now practically bedridden. And her neurosurgeon that she adopted later said, "If you ever want to take this to court on malpractice, I'll be *glad* to testify for you." But she didn't want to go through that, nor did I. Didn't want to go through all that rigmarole. It wasn't going to make her back any better. So that was all kind of sticking in the back of my mind—

15-00:23:28

Lage: I'll bet!

15-00:23:29

Pister: —as this guy was dragging me through sleepless nights over Fish Slough, and my wife in pain through his lousy surgery. Weren't they hooked up, too, with UC San Diego Med School?

15-00:23:42

Samuelson: I don't recall that, Phil.

15-00:23:43

Pister: I think maybe they were. Well, that's not here nor there.

15-00:23:46

Lage: So that part of the story is the story of getting the university involved, and then getting this transfer.

15-00:23:54

Samuelson: Well, this happened after the university was involved. Initially, the property was owned by a gentleman of the name of Ed Wilson. And we negotiated with him for a while. We both had appraisals. We offered him something based on our appraisal, but his appraisal was quite a bit over what we were offering, so we were not able to reach agreement. But one day, Phil called and said, "I have some bad news. We understand that Ed is going to sell the property to a couple of doctors by the name of Zack." They are both deceased now, so we can talk a little bit more openly than might otherwise be the case. And I don't know if I knew about the history that Phil just related at that moment, but at some stage he told me about his personal connection. And so we all of the

sudden were struck on both a practical side of the ledger and an emotional side of the ledger, the emotional being what he has just shared and maybe that's one of the many bases that led to Phil and my becoming such very close friends over the years, because I was sharing with him both the practical and the emotional side of this entire transaction.

So then we went through a period of negotiating with the Zacks. And frankly it started with my flying to Bishop and sitting down over dinner with them and trying to convince them, even at that stage, even though they had an agreement with Wilson to buy the property, to step aside in deference to the university. And I had to be careful that I wasn't going to step in the middle of a firm agreement. But we were then of a mind that we would increase our offer. Maybe not go as high as the Zack brothers, but increase our offer to make it worth Mr. Wilson's standpoint as well as the Zacks, if the Zacks—I think they still had some contingencies which would have allowed them to step away. While, again, a very pleasant dinner, that's when they became very clear about all the things I alluded to before, you know, be it the Stanford connection, or the right of private owners, or their feeling that, oh, well, you have enough property already. Why do you need 200 more acres? You know, the arguments go on and on.

15-00:26:22

Lage:

The story gets more and more interesting!

15-00:26:24

Pister:

Well, yeah. It does. I want to just record that it shows that in conservation biology, there are no short, quick answers to anything. And this is probably one of the more protracted ones. But I think back again to my work with golden trout, that's gone on now for nearly half a century, and it's still in progress. These things just drag on, and on, and on.

15-00:26:48

Lage:

And you've probably run across that in your other land deals, shall we call them, Roger, for the university?

15-00:26:55

Samuelsen:

Well, yes, but—

15-00:26:56

Lage:

Was this the most complicated?

15-00:26:56

Samuelsen:

—I'm not sure—yes. This was probably the most complicated of all.

15-00:27:02

Pister:

[laughter] Oh, jeez!

15-00:27:03

Samuelsen:

And the others—in fact, I can't think of anything quite as complicated as this. Or as prolonged. I mean, there may have been some complications, but to

have it prolonged this way—And also, when you're involving the number of parties, particularly as we became involved with the Bureau of Land Management in order to have the land exchange worked out, they have their own procedures. And they had to undergo an environmental assessment, which is—

15-00:27:39

Lage: Of the land they were going to—

15-00:27:41

Samuelsen: That's right, which is their equivalent to, say, a CEQA [California Environmental Quality Act] review here in California. Well, part of what we were trying to do behind the scenes was to encourage them to move a little faster on that assessment.

15-00:27:56

Pister: Got messy.

15-00:27:57

Samuelsen: To put the resources into it—

15-00:27:59

Pister: Wishful thinking!

15-00:27:59

Samuelsen: —that was required. And we'd make phone calls to the state director, or the local people. Whoever it would take. Offer our assistance, maybe throw in a little bit of money to encourage it. Because all the time, we were concerned that the Zack brothers might proceed with their development, might get approval of the county planners, might undo everything we were trying to do. Well, it all worked out in the end, but it was not without years and years of headache.

15-00:28:29

Lage: Did the land that the Zack brothers got, was it more amenable to development?

15-00:28:34

Pister: Oh, yeah.

15-00:28:35

Lage: Where was that?

15-00:28:36

Samuelsen: Yes. Well, it's off of Highway 6. There were a number of issues that had to be resolved on that. First of all, they had to identify land that they were willing to accept and agree to accept that if certain conditions were met. They needed to make sure there was access from Highway 6. But most importantly, they wanted to make sure there was a water supply there. Well, I can't tell you how long it took to work out an agreement. And again, the university stepped

forward and provided the money that was required. And first it was going to be \$15,000. Then it was \$25,000. I think ultimately it was \$38,000 we poured into just doing a test well that met certain specifications to allow the transaction to go forward.

In other words, the land exchange that Congress ultimately blessed was always subject to confirming there was water there to allow them to proceed in whatever way they were planning to proceed. And so that in itself took a long period of time. So again, we were trying to play a facilitation role, to keep the negotiations going, and act in the best faith that we could.

15-00:30:00

Lage: Now was the idea—once the land was exchanged, that meant BLM owned this previously private land around Fish Slough. Did the university then buy it?

15-00:30:11

Samuelsen: No.

15-00:30:12

Lage: Or the university doesn't own the land?

15-00:30:14

Samuelsen: The university does not own the land. At the outset, when Phil and I first talked about acquiring the 202 acres, and we had an appraisal, and we were going to use some of the private money I identified from the Ford Foundation matching grant, our hope was that the university would acquire land. And one of the reasons we wanted to do that, in addition to just preserving it, was we felt that by having an ownership interest, it would give us more standing vis-à-vis BLM and the Water and Power Department to jointly manage the property.

As it turned out, because we were not able to acquire it, we became a signatory to the joint management agreement without holding land. And indeed, technically speaking, the property never did become a component of the Natural Reserve System.

15-00:31:10

Lage: Oh, I see.

15-00:31:10

Samuelsen: However, Dan Dawson now serves—and Dan Dawson is the resident director of one of our other reserves in the Owen Valley, and we'll get to that a little bit later, the Sierra Nevada Research Laboratory, a component of the Valentine Reserve. And he serves on the Joint Management Committee. They meet, say, once a year. And so we have a role to play, insofar as management decisions. But I think the fact that we have not actually had ownership to that, plus we have not ever been completely comfortable—I am speaking “we” the Natural Reserve System. I'm now retired—with some of the management

practices that have been put in place there, insofar as grazing interest is concerned, some of the issues having to do with the public access. It doesn't quite square with some of our more restrictive policies of the Natural Reserve System. So it's a cooperative arrangement, but not technically a Natural Reserve.

15-00:32:14

Lage: And you only are one of several people on the management?

15-00:32:17

Samuelsen: That's right.

15-00:32:17

Pister: Yeah. There are probably a half-dozen.

15-00:32:19

Lage: I see. I wondered why I didn't find it on the Natural Reserve System listing.

15-00:32:24

Pister: That's the reason.

15-00:32:25

Samuelsen: But it's one of those experiences, and I would defend this on behalf of the Natural Reserve System, at least when I was director, where we collaborated with others, we continue to play a role, we facilitate the protection of a large piece of property, our students and faculty certainly have access to Fish Slough for research and teaching purposes.

15-00:32:53

Lage: And do they use it? Do they come out?

15-00:32:54

Samuelsen: And they use it. And so it's part of the overall effort that so many organizations and individuals are playing in protecting important segments of our natural heritage.

15-00:33:12

Pister: Ann, what I think we're talking about here for the last several days is the general role of the university in California affairs. Just, I think, in terms of land protection, this is just a marvelous example.

15-00:33:28

Lage: And less known, perhaps.

15-00:33:30

Pister: Yeah. Probably so. But Roger, and I, and the scientific community know that the land is protected, literally in perpetuity. And so that means an awful lot. They say the combined departments of biological sciences in the university, all ten campuses would be—there'd be no question at all that this was the best thing we could ever do with the Owens Valley property, particularly since this is the last known wetland up there. So it has just enormous value. And it's one

of these classical things. If people have to ask us why it's valuable, they probably won't understand the answer. [laughter]

15-00:34:19

Lage:

I've heard that! I want to ask Roger how you got drawn into the sense of how valuable it was. Here, you were a lawyer. You weren't in the natural sciences. How did you become a convert, either to this particular situation or just in general?

15-00:34:45

Samuelsen:

I've often asked myself that question. I come from a background as a backpacker, Scouts, hiker in the foothills behind my hometown of Pasadena, where I was raised. Then I think I was tremendously influenced by people like Phil Pister and Mildred Mathias, we've mentioned. The founder of the Natural Reserve System, Ken Norris, now deceased—

15-00:35:10

Pister:

Oh, yeah.

15-00:35:11

Samuelsen:

Well, I probably wouldn't be here today were it not for Ken Norris. I met him within weeks of my joining the Office of the President, in 1967, and he charmed me into taking a trip with him up to Sacramento, to meet with the Department of Parks and Recreation with regard to securing a long-term use agreement for the Año Nuevo Island off the San Mateo coast. And one thing led to another. Just like Phil. I put them into the same category. I put Mildred—all three of these are just people who—their passion just captures the imagination. They help you see through their eyes how important this is. So I just became a convert over night.

15-00:36:14

Pister:

Well, you had the background for it, you know. You'd been outside. You understood these things. It's a poignant story, this whole thing. My basic ethic that I learned here at Berkeley under Starker Leopold more than half a century ago was based on his father's land ethic, a corollary to it: that a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. Well, that put it very clearly what the right course of action was. To split that thing up into subdivision was not right. And I find that when you believe strongly in something and have a good reason from your own perspective and from your support from the scientific community, that's how you move. And you do everything in your power to succeed.

15-00:37:11

Lage:

When you got in touch with Roger, did you have to do some convincing? How did you—

15-00:37:18

Pister:

No! Roger was aboard immediately on this thing. But of course it wasn't only me. It was Ken, Ken Norris, and Mildred Matthias. Mildred passed away, didn't she?

15-00:37:29

Samuelsen:

Yes, she did. But I also think that the University of California is strongly dependent on consultation between the faculty, and the administration, and the students. And the system-wide advisory committee headed by Mildred Matthias, she being the second chair, Ken Norris being the first, I always really deferred to them in making initial judgments as to whether a project was worth pursuing. I was the administrator. It was my job to put together the various pieces that would be required once we decided that something was worthwhile. But I never pretended to be a scientist. I never pretended to have this outlook that Phil, and Mildred, and Ken, and others had.

So they would go through their formal review, they would write letters of confirmation, they would identify the issues they felt should be addressed, concerns they might have. That's all part of the record. And then, in effect, I was carrying out their desire. And ultimately, then I had to work out the formal agreements that would be approved by the president and the Board of Regents, which was part of my responsibility.

15-00:38:52

Lage:

Was that ever a difficult end of the task, to write the agreements?

15-00:38:55

Samuelsen:

Well, in the case of Fish Slough, we never went that far. And I had enough authority to authorize the expenditure of funds that I have described before for the test well, and the appraisals, and the like.

15-00:39:10

Lage:

And to get involved in the management committee?

15-00:39:12

Samuelsen:

Yes. Yes. But more often than not, if I would go to a negotiating session, I would take Mildred or a faculty member from one of the campuses along with me. That was just the way that I worked. So it was always a combined effort.

15-00:39:33

Lage:

And they were usually identified with the campus?

15-00:39:35

Samuelsen:

Yes.

15-00:39:36

Lage:

Or a particular program.

15-00:39:38

Samuelsen:

That's right.

15-00:39:39

Pister:

Well, see, both Ken and Mildred were giants in their fields. I mean, Mildred is a botanist, Ken is a marine biologist, primarily, but also an excellent naturalist. UC Santa Cruz, they have, they called it the Blue Whale, I think. It was an enormous bus that they load students in and take them all over the place. They would spend time at Fish Slough any number of times. And I often thought in retrospect that there is enormous strength in two things: truth and knowledge. They're kind of interrelated there. But where you know you're doing the right thing, and you have the scientific push to do this, which we had at Fish Slough. You have a lot going for you at that time, if you can pull the strings to do it. And that's what Roger was able to do as director.

15-00:40:27

Lage:

Now on your side, did you have to pull any strings to get the Fish and Game—?

15-00:40:31

Pister:

[laughter] Yeah, no. This is really funny. During the middle of this—I don't know if Roger is even aware of this—there was a group in Inyo County, kind of pushed by the board of supervisors. They wanted to turn Fish Slough into an artificial recreational reservoir by building a dam at the lower end, and let people water-ski, and fish, or do whatever they wanted to do.

15-00:40:56

Lage:

This is when it was already a sanctuary?

15-00:40:58

Pister:

Well, it wasn't there yet. But this was really funny. I went out there any number of times with the county administrator, just a couple of local supervisors et al, to talk about this. And I said, "You know, there are some real problems here. You better have somebody who really knows what they're doing evaluate this entire thing. There's a very limited water supply. It's not like you've got the entire river running into that, just a couple of springs that supply the water for Fish Slough. First off, you want to make sure that the inflow is greater than the evaporative loss, because in the summer time, you're just totally dry there. It is hot, over 100 degrees." And, okay. They kind of—

Well, the city of Los Angeles wields a big stick. They've got the resources. They've got the interest. They're very possessive of their water rights, and so on. So they hired a consulting geologist from Cal Tech to come, a seismologist actually, to come up and look at that whole area. They investigated it. Mean time, there are bulldozers out there digging down to see how far they have to get down to bedrock to put a dam in, and so on. Well, the city of LA, the consultant said, "According to all the data we have, that's probably the most seismically active area in the entire state of California. There's no place to build a dam." [laughter] And it just went boom. That was the end of it, right there.

Everybody loves it out there. Geologists, earth scientists, love it. The botanists, the biologists, the fish people, the bug people. There's something there for everybody in the field of scientific research. And we weren't going to have it if you turned it into a subdivision. But that was the most interesting thing about the local pressure, is to see what support I had to get from my department. My department's kind of wishy-washy on that sort of thing. It's before we had major land programs, a long time ago. We'll get into this, perhaps later, maybe tomorrow, Ann, but on the impact of the Endangered Species Act on all of the work that we're doing here. This would have entered into it back then, but remember, the Endangered Species Act didn't come around until December of '73. And all this other negotiation was after that, but not really related to the act per se.

15-00:43:22

Lage:

But you didn't have to get permission in order to—

15-00:43:25

Pister:

No. Oh, my department had some interest in it, because—

15-00:43:29

Lage:

They bought some land there, didn't they?

15-00:43:30

Pister:

Yeah, they did. But this was later on. We got through our Wildlife Conservation Board. So this is good. We have a very active project out there now for the Owens pupfish. There's one of the first species listed under the first Endangered Species Act, the Owens pupfish, as endangered. And all I can say now, some forty years later, the fish isn't a lot better off, but we understand the problems more, and what to do to overcome them. But the fish is still not in good shape. The land has been changed, the water systems have been changed, the evolutionary habitats for those creatures have been changed. So that was an interesting perspective on it, right there.

My department would have had an interest at all. It was probably along with the local county people, thinking, hey, that could be a great place to plant bass, and people can go fishing there! [laughter] And that's true! That's exactly—we hadn't evolved out of that yet.

15-00:44:31

Lage:

It just seems you were able to do quite a bit under the radar.

15-00:44:35

Pister:

Oh, yeah. Yeah. An awful lot under the radar.

15-00:44:38

Lage:

Would you report on your activities in relation to Fish Slough in a formal kind of way?

15-00:44:45

Pister:

I would do it *tactfully*. Let's put it that way. I wouldn't elaborate at great length on it. I'd say we did certain things out there. We built a little retaining dam. Fish Slough, that's where I held the species in the two buckets, you know. Nearly lost the species.

15-00:45:02

Lage:

And you had to create a refuge.

15-00:45:04

Pister:

Yeah. Yeah, we had to do that. And a lot of it was volunteer labor. I hauled in all the people I could find. There were wildlife people who were really upset with me, because they wanted to turn it into a waterfowl area.

15-00:45:16

Lage:

A waterfowl?

15-00:45:17

Pister:

Yeah, a waterfowl area. Ducks, whatever. And so they weren't happy at all when I was—

15-00:45:22

Lage:

So there was a little competition there for their attention?

15-00:45:24

Pister:

Oh, yeah, yeah. And there always has been and always will be. Aldo Leopold calls this his A-B dichotomy, that in resource management, the A types look at the overall resource as a means of consumptive use. The B type looks at it and does not disregard that, but looks at the system as something much deeper than that. And so I think now, and I feel really good. Like, the university's programs, we're producing nothing but B graduates now.

15-00:45:55

Lage:

Which means people that are being hired are changing the game.

15-00:45:59

Pister:

Oh, yeah. Yeah, most of them. There are a few of the others, and almost all—even Humboldt State, which has been one of the great producers of people in fish and wildlife management, their programs have become greatly much more sophisticated now. Where it used to be what—

15-00:46:12

Lage:

More concentrated in biology, or—

15-00:46:13

Pister:

Yeah. More ducks, more fish. You know, that kind of thing. And I think now, with the great production of PhDs from the university campus, and Stanford, they fit in there, too. Probably not quite as good. [laughter] But they're there. No, they have some good people at Stanford. But the graduates out of these schools are good. I've got a good friend back at Middlebury College in Vermont, just communicated with him the other day. He just did a big history

of George Perkins Marsh, who probably set up the whole environmental movement back in the 1850s and thereabouts. And I was communicating with him yesterday. I said, “You know, Steve, I really admire you for putting this book together, because it brings together all of Marsh’s teachings, which were one hundred years ahead of his time.” Like Leopold. Same idea.

15-00:47:03

Lage: Now, should we—I don’t want to cut off this discussion.

15-00:47:06

Pister: No. Can you think of anything more, Rog?

15-00:47:08

Lage: Is there more on Fish Slough, or should we get the context of SNARL and—

15-00:47:14

Samuelsen: White Mountain?

15-00:47:15

Lage: White Mountain.

15-00:47:16

Pister: Yeah, let’s not leave Fish Slough *completely* yet. Because in the local area, there’s an awful lot of A thinkers that like to drink beer and don’t really think much about bureaucratic restraints. One of our biggest problems out there: the guy that took over for me, a guy named Steve Parmenter, from Santa Cruz, UCSC guy, tells me that one of the biggest problems we have in keeping our refuges viable is to protect them from predacious fishes that people plant there illegally. So we’ve still got a lot of selling to do.

15-00:47:55

Lage: Why do they plant the—

15-00:47:55

Pister: Because it would make a good place to go fishing for them. We’ve tried to produce areas that they can fish in if they want to, tried to get some degree of understanding or sympathy from that local group. As I say, we’re gradually making progress. We’re doing good work in schools. Elementary schools have some really good programs. They take kids out to Fish Slough. The teachers go out there with them and explain. There are some great archeological stuff there, too. Indians used to live out there in great numbers. There are grinding holes in the rocks and things that the Indians used. It makes a great cultural experience for the children. And then, of course, they go into similar programs in high school. And I’d say that the ones who are still planting bass out there are going to die out, and new thinking will come. I think that’s—

15-00:48:45

Lage: And what do you do once you find bass out there? They eat the pupfish.

15-00:48:49

Pister:

Oh, yeah, they do. They love them. Bass with mouths, they call them bucketmouth bass, and they can view a pupfish as nothing but an hors d'oeuvre. So we net them out. We shoot spear guns at them. We've used chemicals to get rid of them. It's awfully hard to do. We think we have them pretty well cleared out of there now. It took a lot of work on Steve's part, Steve Parmenter.

Then on top of that, and this is classic plant succession in the Owens Valley, when you get water going through a thing, tules start to grow up through them, pretty soon, in the stream, like the Owens River. It blocks the stream flow, and it goes around, and it just keeps doing this, creating, [as seen] from the air plane, vermiculations, worm-like marks of the different stream channels through the earth. And Fish Slough is no exception to that. We have some major tule problems there, but Steve is on top of that too. He knows how to handle them now.

15-00:49:46

Lage:

So there's a lot of management?

15-00:49:48

Pister:

Yeah. There is. And I can see this too, in terms of the Department of Fish and Game. And we're getting close to this now. The time will come that we will have a whole branch of people, division of people, that do nothing but the maintenance of that type of habitat, in the long-term interests of the resource, which then becomes the long-term interest of the people of California. But if the people of California weren't here, we would do it anyway, because that's the right thing to do. It just comes down to that.

15-00:50:17

Lage:

There's a note that you sent me from your diary: "1988. Fish Slough Dilemma, UC Santa Barbara."

15-00:50:28

Pister:

Oh, yeah. Okay. What that was—well, Roger mentioned some of the—we had a guy there at UCSB. He's a botanist. His heart was indeed in the right place, but he was totally unrealistic politically. He wanted to get rid of the cows, which we all do. But their cattle lease is there from the city of Los Angeles to private cattle people. And granted, these things have no business being there at all, but the city of LA has no legal way to terminate those leases. Well, this guy gets so totally fed up he just pulled out of the advisory committee. That's what the dilemma was at that time.

15-00:51:09

Lage:

So are there cows grazing right now?

15-00:51:11

Pister:

Not the entire thing. There's just one lease at the northern end. BLM has the other leases, and they've kicked the cows off long ago.

- 15-00:51:19
Lage: Do you think it has an effect on the resource?
- 15-00:51:22
Pister: Oh, yeah. Yeah. The plants particularly. The cows don't do any good at all. This big paper just in press now on the golden trout stuff, that's been one of our big problems in golden trout is the impact of cattle on very fragile substrates.
- 15-00:51:36
Lage: You don't think it affects the water quality and—
- 15-00:51:38
Pister: Well, it does downstream from where the cattle are. You bet it does. Yeah. You bet, cattle droppings and all. Like the current, in the golden trout wilderness, you have to filter your water now because the cows are up there. Because they're up there, too. It's really a contradiction.
- 15-00:52:02
Lage: Now Roger, do you think there's more to the story?
- 15-00:52:16
Samuelsen: One other little sidelight that comes to mind has to do with the Ford Foundation campaign that I mentioned. And at one point, we went to Laurance Rockefeller and told him about the Fish Slough project. And we had heard that he was a great admirer of Horace Albright.
- 15-00:52:38
Pister: Oh, really! I didn't know that.
- 15-00:52:39
Samuelsen: Former director of the National Park Service. You undoubtedly have an oral history here somewhere of Horace. And as I recall, he was raised in the Bishop area?
- 15-00:52:50
Pister: Horace is a native of Bishop.
- 15-00:52:52
Samuelsen: Native of Bishop.
- 15-00:52:54
Lage: And UC class of '12.
- 15-00:52:56
Samuelsen: Class of '12, and—
- 15-00:52:58
Pister: Who knew my mom as an undergraduate.
- 15-00:53:00
Samuelsen: Oh, my gosh.

15-00:53:01
Pister: Yeah.

15-00:53:02
Samuelsen: Laurance Rockefeller pledged \$15,000 toward the acquisition of one of these inholdings we have described.

15-00:53:09
Pister: Oh, great.

15-00:53:10
Samuelsen: So among other things, over all these years, we had to keep Mr. Rockefeller up to date as to how we were coming along. And he was going to make due on that. I think he even sent the \$15,000, which we put into escrow or deposited. Ultimately, however, because we were not able to acquire the property and because of the land exchange, we did not need the money for that purpose. We had to turn the money back.

15-00:53:42
Lage: Oh, too bad!

15-00:53:43
Samuelsen: Which was a real disappointment, but—

15-00:53:45
Lage: You weren't able to convince him that you'd spent a lot of money effecting the land exchange?

15-00:53:48
Samuelsen: Well, we tried. We tried. We tried, but—

15-00:53:51
Pister: Say to him, "Laurance, Horace would have wanted you to do this, you know."

15-00:53:54
Samuelsen: But his goal was to, you know, actually have a piece of property that would be there. But one of our proposals, had we been able to work all this out, and had it become a natural reserve in the Natural Reserve System was to name it for Horace Albright. I—

15-00:54:12
Pister: Would have been ideal.

15-00:54:12
Samuelsen: I talked to the other parties at various stages about that, and people seemed to be comfortable with it, but as we've indicated, it didn't quite come out that way.

15-00:54:22
Lage: Well, that's too bad.

15-00:54:24
Samuelsen: And I think later, we even shifted our emphasis. Phil, you may not be aware of this, but we were also negotiating for some property down in Los Angeles County, and I think that I approached Mr. Rockefeller about the possibility of using his money for that acquisition and taking the Albright name with it. And he was amenable to do that. And you and I, and maybe others, talked about naming the Fish Slough project for Carl Hubbs.

15-00:54:58
Pister: Yeah. Well, that would have been perfect. Either one.

15-00:54:59
Samuelsen: Which also would have been perfect. I mean, we had alternatives. But as we say, it didn't quite work out.

15-00:55:05
Lage: But Fish Slough worked out.

15-00:55:06
Pister: Yeah, Fish Slough worked. And that's, of course, the bottom line in all of this. The other is frosting the cake, so to speak.

15-00:55:13
Samuelsen: That's right.

15-00:55:13
Pister: But you know, Ann, your idea of bringing Roger in here was a stroke of genius, because this has added so much to that very significant part of *my* work, thanks to Roger and the University of California.

15-00:55:26
Lage: That's great. I'm going to stop here, because it's almost time to switch to a new tape. Our next story is slightly—

15-00:55:36
Pister: Well, next story we're going to go just out of St. Louis, now heading up into Montana. [laughter]

[End Audio File 15]

[Begin Audio File 16 Pister_e_philip16_05-20-2008_Roger_.mp3]

16-00:00:08
Lage: Actually, here we are. And let me just say this is tape sixteen.

16-00:00:11
Pister: Okay.

16-00:00:12
Lage: And today is still May 20, and this is our session with Phil Pister and Roger Samuelsen, continuing session six.

16-00:00:20

Pister: Okay. Well, SNARL, from my perspective, goes back to when I was an undergraduate here at Berkeley.

16-00:00:28

Lage: First let's expand on SNARL. What does it mean?

16-00:00:32

Pister: Oh, Sierra Nevada Aquatic Research Laboratory. It's an acronym. And it's sometimes an attitude as well, but [laughter] that's primarily where it came from.

16-00:00:44

Lage: So it dates back that far?

16-00:00:46

Pister: Yeah, SNARL was started, built originally by the Forest Service in a joint venture with the US Fish and Wildlife Service before World War II, back into the thirties. The war comes along, and everything just kind of goes splat for a while, until we beat the bad guys. And so it starts up after World War II. One of the guys who had helped build the place back in the thirties was a fellow named Pete Nielson. Nielson was an aquatic biologist with the Fish and Wildlife Service who started in with the Forest Service back in the thirties. This was after the World War II, now. And so I had a very good friend, with whom I shared a lab desk in the Life Sciences Building in our different classes, a guy named Sam Reimers. Roger would have to be a good friend of Sam's, too.

16-00:01:44

Samuelson: Mm-hmm.

16-00:01:44

Pister: Sam had just come out of World War II in the Coast Guard. Had some really scary escapes when the kamikaze plane hit their tank landing ship, LST. And the kamikaze—he was in charge of a gun battery as these kamikazes are coming in. This guy hit the deck of the landing ship, and tore him in half. And Sam got the Japanese flag wrapped around his belly.

So at any rate, these guys were older than I was. When I was a freshman at Cal, I was only seventeen. And Sam is in his late twenties then, into his early thirties. So he would tell me about this great summer job he had, up at, at that time, the Convict Creek Experiment Station. And I just loved that part of California anyway, and I said, jeez, you know. And I was in biology, wildlife conservation then.

16-00:02:42

Samuelson: You might place exactly where that is, too.

16-00:02:44

Pister:

Okay. SNARL is located on the east slope of the Sierra. It's located not far from the Mammoth Lakes ski resort, which for all practical purposes is about 300 miles north of Los Angeles, about 200 miles south of Reno, about 170 miles south of Reno.

And it's up right off of Highway 395, which is the main thoroughfare; it's, in fact, the only road directly from Los Angeles to Reno. Then it goes clear on up into Washington and the Canadian border. But for our purposes, that's where it is. It's just in eastern California. If you want to plot it on the map, it's not too far south of the Mount Diablo base line. And so that's where. Elevation about 7,000 feet, maybe a little bit more than that. And Convict Creek, which drains the Convict Lake basin up above that, is where we did all of our graduate research.

16-00:04:02

Lage:

And you did tell us about that.

16-00:04:04

Pister:

Yeah, I think I went over that, yeah. Studied lake biology. So I said to Sam, "Is there any chance I could get a job like you have up there in the summertime?" If he hadn't done this, I wouldn't be here right now. My career would have gone somewhere else. And he says, "Well, I'll talk to Pete Nielson and see whether he has another position." He says, "Write him a letter." And I did. I've always asked that, too, of people applying for jobs with me. Tell a lot from a transcript and a letter, you know. You can tell a lot about that.

So I wrote Pete a letter. I've always been very meticulous in my sentence structure, and spelling, and things, you know, and such. And I got a call from him one day: "Phil, if you'd like a job with us, come over with Sam and we'll—" That was in late '49. I'd just come out of the service down at Fort Bliss at that time, in the Army. I was ready to start in again with my academic stuff.

So I went up to Convict Creek, and I just fell in love with the place. It is a spectacular place. Roger and I have backpacked with our gang up in that upper basin. It's probably one of the most gorgeous parts of the Sierra Nevada. So I went up there, and I even helped build much of the stuff that's there now. We were setting up experimental stream sections. Where Convict Creek would come down, we'd split it into two sections. It would come together again then, in kind of a figure eight, go downstream, where we could put different groups of fish in these four experimental stream sections. Well, I helped build part of the concrete for that.

This was really great. Starker Leopold was the ultimate pragmatist. He learned this from Aldo, his dad. So when I walked in up there with another guy, good friend, too, that's still in Bishop. A guy named John Maciolek. John went

back to Cornell. He got his master's at Berkeley with me and Sam, then went back to Cornell for a PhD. This part of the world gets under your skin, so he retired there too, just like Sam and I did. Sam's in Carson City. So—

16-00:06:15

Lage: [Discussion of trouble with microphone cords omitted.]

16-00:06:34

Pister: [laughter] So Starker says, "You know, what you've got to do is take off your white coats, and put away your microscopes, and learn how a place like this really works." He says, "First off, learn how to use a shovel and a paintbrush." So I don't know if this is coincidence or predesign, between Pete and Starker, because they were good friends. One of my first jobs there, along with Sam and John Maciolek, we had to dig an enormous hole for a septic tank. And up there, that's a moraine. It's full of boulders this big coming right out of the Convict Glacier, you know. So every time you'd hit down with your shovel, it would hit a rock the size—you'd have to wrestle it out. And this was about an eight by eight by eight foot cube. And you'd have to sling that rock up out of that pit. And boy, that's not easy if it's a big rock.

So we got our hole built. We put in the septic system, which is still used. Then he said, "Okay. Got that done. Now we're going to paint all the buildings."

[laughter] So we did that. But that was during the earlier part of the summer, and then after the lakes thawed out in the upper system, up we went. So I was able to spend, then—this was all through SNARL. But back then, [it was called] the Convict Creek Experiment Station. I think it became SNARL when you guys took over.

16-00:08:07

Samuelsen: No, it was a little before that.

16-00:08:08

Pister: It was before that?

16-00:08:09

Samuelsen: Mm-hmm.

16-00:08:12

Lage: So it was an experiment station of the Forest Service then?

16-00:08:15

Pister: US Fish and Wildlife Service, at that point. Forest Service had backed out of it by then, because it was logically run by the Fish and Wildlife Service. The Forest Service, even though they'd retained a strong interest in hydrology, and lakes, and all, it was more of a research endeavor of the—it was under the Division of Research of the US Fish and Wildlife Service.

16-00:08:36

Lage: Now was Starker actually up there, did you say?

16-00:08:38

Pister: Oh, he came up on occasion to visit, but he was here at Berkeley.

16-00:08:41

Lage: But he wasn't a fisheries guy.

16-00:08:43

Pister: No, he wasn't. But still, he was with a guy named Paul Needham. They were essentially the founding faculty of the wildlife conservation major here at Berkeley. I only took about two courses in aquatics. I went in that direction as a graduate student because the jobs were there. But most of my work just in plain ecology was with Starker.

16-00:09:10

Lage: I don't want to—I diverted you.

16-00:09:11

Pister: No, no. That's okay. That's good. There's no interview that's not enhanced by a good diversion. [laughter]

16-00:09:20

Lage: And then what happened?

16-00:09:21

Pister: So this was interesting, too. We got the station going quite well, under the direction of Sam Reimers, who had been there from the start. Sam, I think, probably held onto that for about twenty years, didn't he?

16-00:09:37

Samuelson: Mm-hmm. Mm-hmm.

16-00:09:38

Pister: Okay. So about that time—we've talked about budget cuts all day today. Our luncheon was essentially built around that, through university cuts in progress right now. The Fish and Wildlife in the Eisenhower administration, when he was president, had some tremendous cuts post-World War II, one of which was the elimination of all part-time appointments within the federal service, me being one of them. So I had to get a job somewhere. I had a wife. [laughter] That's a great story, though, because everything kind of ties together here.

Martha and I were married in September of 1952, and we spent our honeymoon there at SNARL, in a building not much different in size from this, the entire thing. Seventeen by seventeen feet. It was a perfect place for a young couple. It was all one room. The kitchen was there, little bath to the side. It was really great, but only as long as I had a job. I had to buy food, stuff like that. Rent was free. So the boss comes in one day and says, "We've got really bad news. There's a bit of a budget cut and you guys are out of a job." At that time, I was being funded through my graduate work at Cal as a

half-time GS-7 appointment. That's kind of their second step up on the federal pay scale and ranking scale.

So, what am I going to do? There's not many employment opportunities in that part of the world. So I came down to Bishop and went to the Fish and Game office, and a guy I [later] worked for there, a fellow named Ralph Beck, remained a very good friend until his recent death, I told him, I said, "I need a job. Can you give me a job of some sort?" "Yeah. We can give you a temporary job, but under state regulations, we can only hire you for the nine months, and then you have to have a three-month layoff period, and then we can hire you again."

This was in March of 1953. So I got my temporary job then. November of '53, six months later, whenever that worked out, my job was up. By great good luck, that day, one of the teachers in the Bishop Elementary School came to school drunk and got fired. And Martha got her job. So Martha, of course, is an *excellent* teacher. She went to UOP for her graduate degrees and stuff, and just is a natural teacher. So she was very successful there as a teacher, and also brought home enough money. So she'd go to work in the morning, I'd kiss her good-bye, and I'd vacuum the house, and cook dinner, and stuff, you know. And so it worked—

16-00:12:33

Lage: A modern man!

16-00:12:33

Pister: Yeah, really. We were way ahead of our time. [laughter] But then with Fish and Game, and I stayed with Fish and Game the rest of my career. But I retained, for obvious reasons, a strong interest with SNARL, which has so much history there.

16-00:12:51

Lage: When did it become SNARL?

16-00:12:53

Pister: Well, a little later on. It was Convict Creek for a number of years after that. But then in the late sixties, probably early seventies. I've got it in my notes somewhere. Reimers phoned me up. And he says, "You know, Phil, they're going to close SNARL. We're going to just dispose of everything here. Do you know of anyone who might be interested in acquiring this place?" Well, it took me about five seconds to think of the reserve system.

16-00:13:29

Lage: Because you'd already been—

16-00:13:30

Pister: Yeah. So I hung up the phone and literally phoned Roger about that within a minute after I talked to Sam. I said, "Roger, you've got to get ahold of this,

because this is too good to pass up. Here's a well-established research station, buildings and all, for nothing."

16-00:13:44

Lage: Sewage system in place.

16-00:13:46

Pister: Yeah, everything in place. And Roger then jumped onto it from there. And then we had to do some shenanigans to get the thing off the ground, but we did. And so UCSB—it's always been a part of the Santa Barbara set up. But it's been just a really great thing. The research they're continuing to do there is—Most of the reason Mono Lake got favorable decisions is because of the research scientists at SNARL that did their work there. Mainly on grant money. They're kind of adjunct professors at UCSB.

16-00:14:16

Lage: And they're the ones who provided some of the push for Mono Lake?

16-00:14:19

Pister: Oh, yeah. They did. Yeah. The research, when it went to the courts. They provided the research data, the information that the courts needed to make their decision.

16-00:14:29

Lage: Now should we bring Roger in from his point of view, when he got his call?

16-00:14:31

Pister: Yeah! Well, okay. Take over here, Captain Lewis.

16-00:14:36

Lage: You can make the corrections, now, to this story.

16-00:14:38

Samuelsen: [laughter] Well, I think this was about 1972, and the timing was fortuitous, because not only had we been working on the Fish Slough project, and so Phil and I had become acquainted in that regard, but at about that time, the university acquired a magnificent reserve in Mammoth Lakes, from the Valentine family. This was, I think, something like 136 acres, and it came with a \$500,000 endowment from the Valentine Foundation. So we had both the property, and we had a source of non-state funds to manage the property. And so when Phil called, we could immediately anticipate that perhaps if the university were able to acquire this surplus property, it could be managed in conjunction with the Valentine Reserve that we had just acquired.

16-00:15:34

Lage: How far apart are they?

16-00:15:37

Pister: Ten-minute drive? Fifteen?

16-00:15:38

Samuelsen: Ten, fifteen minute drive. Very close.

16-00:15:40

Pister: Oh, yeah. They're right next to each other. Well, relatively.

16-00:15:41

Samuelsen: And so we had already worked out the management structure for Valentine Reserve through the Santa Barbara campus, and so we could talk to the Santa Barbara folks, even as we were talking to the Fish and Wildlife Service about how to acquire the property that was declared excess. Now the land, the underlying land to SNARL, is owned by LA Water and Power. And so this is through a use agreement. They like to hold onto the property, because of, of course, their—

16-00:16:20

Lage: It's part of their watershed?

16-00:16:21

Pister: Yeah.

16-00:16:21

Samuelsen: It's part of their watershed, and—

16-00:16:23

Pister: Convict Creek water ends up in our aqueduct, ultimately. Yeah.

16-00:16:26

Samuelsen: So simultaneous with our discussions with Fish and Wildlife Service were our discussions with LA Water and Power about a new use agreement with them. And we ended up with a very favorable arrangement, which is basically a ten-year use agreement, renewable at the end of every year for one additional year, so you always have ten years of protection, up until, I think, something like a fifty-year maximum. And of course it can always be renegotiated.

16-00:16:58

Pister: And it would be. Yeah.

16-00:16:59

Samuelsen: And that was the deal that we negotiated at the time. The value of the surplus property, and here we're talking about the improvements on the property, the buildings, but also a considerable amount of laboratory equipment, was available to the university through the various governmental processes, for practically nothing. I don't remember the exact amount, but I mean, like a dollar or something very, very nominal. And that all worked out just absolutely beautifully, but it's because of the relationship that Phil had with the Natural Reserve System that he thought of us, and we immediately were able to jump into it. But it's also because we had some of the infrastructure already in place.

- 16-00:17:46
Pister: There's a lot to be said for being in the right place at the right time.
- 16-00:17:49
Lage: It was a perfect match.
- 16-00:17:52
Samuelsen: That's right. And then I think we were able to work out with Sam Reimers and some of the people there—was it Sam or somebody else?—to come onboard as university employees, because they were being laid off, and to provide a transition, which worked very, very well.
- 16-00:18:14
Lage: So now the UC Santa Barbara campus is the manager, is that correct?
- 16-00:18:20
Samuelsen: Yes.
- 16-00:18:21
Lage: Is it mainly UC Santa Barbara students that go there, or can they come from any of the campuses?
- 16-00:18:26
Samuelsen: Oh, they can come from *any* campus. In fact, one of the cornerstones of the Natural Reserve System is that the sites in the system are available to researchers and students from *any* institution of higher education—
- 16-00:18:42
Lage: Not just the UC—
- 16-00:18:42
Samuelsen: —public or private—
- 16-00:18:43
Pister: Worldwide!
- 16-00:18:43
Samuelsen: —public or private, worldwide. So that provides opportunities for a lot of collaborative research, and leads to opportunities for some of our faculty and students to perhaps use facilities of these other institutions as well.
- 16-00:19:02
Lage: So do they pay anything to the system?
- 16-00:19:04
Pister: Yeah. Well—
- 16-00:19:05
Samuelsen: Yes, well, and each reserve is a little bit different, but we have fairly reasonable charges for overnight stay, for use of laboratory space and the like. I am, of course, retired now, so I don't know what the exact situation is today, but that was always part of it. But we always were hopeful of keeping it in

such a reasonable state that it would not discourage people from other institutions from using it. There are use statistics, and we could provide that, as to how many at SNARL come from Santa Barbara, how many come from the University of California campuses, how many come from other institutions.

And then one of the other wonderful aspects of the university's Natural Reserve System over the years has been to encourage what I'll call environmental fieldtrips by K-through-twelve. These are led by docents or, in the case of SNARL and the other component, the Valentine Reserve, have been led by Leslie Dawson, the wife of the manager there now. And she's just developed a wonderful program over the years.

16-00:20:19

Pister:

Oh, it's been just great.

16-00:20:20

Samuelsen:

Which is a real model that the Natural Reserve System has tried to duplicate at other sites around the state.

16-00:20:29

Lage:

Did this come into being, this K-through-twelve, as part of an overall university program for K-through-twelve, or just—

16-00:20:34

Samuelsen:

No, my recollection was that it preceded some of the overall efforts of the university, largely through the initiative of Leslie Dawson. And I think of all the reserves, I believe it started there through the initiative that she took. So in summary, the Valentine Eastern Sierra Reserve now has two components. It has what we call Valentine Camp, which is the original 136 acres, and then it has SNARL.

I might just go back quickly to Fish Slough, and say that as we were going through all of the negotiations we talked about earlier, we also were trying to figure out, well, if this does come to the Natural Reserve System, which of the campuses should be the manager? And initially, we were thinking in terms of Berkeley, the reason being is that we thought that since Berkeley was then managing the White Mountain Research Station, and had people there, including people at the base station in Bishop, it would be an obvious choice to have them be also the manager of Fish Slough. You know, we're not that far from the base station of White Mountain Research Station. As years went on, the directorship of the White Mountain Research Station shifted to UCLA, and now it's in San Diego. That's just the way it kind of goes whenever the director is a faculty member.

And so in the latter part of our negotiation at Fish Slough, we switched emphasis to Santa Barbara, since they had the Valentine Eastern Sierra Reserve. And so then we had negotiations, and that's how Santa Barbara got

involved in Fish Slough in the later stages. And indeed now, as I said, I think I said earlier Dan Dawson serves on the management committee that has been developed.

16-00:22:35

Lage: I see. And he's the—

16-00:22:38

Samuelsen: And he's the resident director of the Valentine Eastern Sierra Reserve.

16-00:22:41

Pister: And Dan is also a member of our White Mountain advisory group.

16-00:22:44

Lage: So there's lots of—

16-00:22:45

Pister: Oh, yeah, there is. And with good reason. It makes a lot of sense. But getting back to SNARL, we have kind of a similar situation at the White Mountain Research Station, which you probably should mention here, because it all kind of fits together. White Mountain is an MRU, a multi-campus research unit, and that's directed by professors from each of the ten university campuses, either earth or life sciences. I serve on the committee, and I have for nearly twenty years now, simply because I'm onsite, and have always retained this deep interest and love for the university. But if you talk about—now I imagine the same thing holds true with Dan at SNARL, but last year we had, I think, visitors there and researchers from a hundred universities. A little bit more than that. If they want to stay there, they can stay at any of the three labs. They can go clear to the top, if they want to be up at 14,246 [feet], although that's rare. And we have a sliding scale rate. University of California students, and then other students. And of course UC students pay less. It's been just a really popular research unit.

I first saw that in 1952, when I was prowling around the White Mountains. I was still an undergraduate. Well, I was a graduate student then. And in '53, Martha, my wife, and I drove up as far as you could drive on the White Mountain road and climbed White Mountain peak. [laughter] And I've got this picture of Martha holding a sign somebody had laboriously hauled up from Death Valley, saying "Sea Level," when the peak is one of the higher ones in the Western United States, 14—

16-00:24:28

Samuelsen: So how far did you drive? Out to Barcroft [Laboratory]?

16-00:24:30

Pister: No, we could go out beyond that. We went up to the 13,000-foot level on the current road that's there now. That was in my 1948 Chevrolet. [laughter]

16-00:24:40

Samuelsen: Because I don't think you can go beyond Barcroft now, can you?

16-00:24:41

Pister: No, it's gated now. We open it up once a year to get *to* Barcroft. But usually after parking below Barcroft at the gate. And if people want to climb, they're welcome to climb. And I think they let them up during the open house, the first part of August. They can drive up to Barcroft and hike from there if they want. They're marvelous views, you can imagine. You can look *way*—you can almost see Utah from up there. It just goes forever.

16-00:25:09

Samuelsen: Now are you sure you walked, or did you have Bob Tanner take you up by—

16-00:25:13

Pister: [laughter] No, Tanner didn't have any horses up there. No, we walked. And I've walked up there any number of times since then, because I just love doing it. And Ann, when you come over, we'll have to take you up so you can see at least part of that. Plan a couple of days, anyway. Because you should look at the bristle-cone pine displays. Oh, yeah. Ann's coming over.

16-00:25:37

Samuelsen: I know.

16-00:25:37

Pister: Yeah. So this will work out really well. You can see all the stuff. You see why we work so hard to try to convince people that it's worthwhile.

16-00:25:50

Lage: Do you have to convince them that it's—

16-00:25:52

Pister: Well, some you do. The last director of research out of UCOP [University of California Office of the President] was a physicist, and they have a hard time understanding life processes, and things like geology. See, up at White Mountain, the upper lab, we have some very sophisticated research done by UCSB astronomers up there. He can see that. As far as people studying marmots and their social interrelationships, he wasn't too sure about that.

Last time we came down from Barcroft, we had dinner at Crooked Creek. The former director of research was Long, and he has a great propensity to talk on and on about nearly anything during dinner. I don't know how he ever ate anything. But I got, finally, to a point I couldn't take any more, Roger, so I pulled out my UC can opener, beer can opener [laughter] and right in the middle of one of his most profound statements, here came the Cal band. [laughter] [Editor's note: he refers to a can opener which plays the Cal Marching Band rendition of the Cal fight song.] Everybody just—they even applauded, you know? Ending up with, "Go Bears!"

16-00:27:05

Lage: What's your role as a member—you're a member of the advisory committee?

16-00:27:08

Pister:

Yeah. Well, my role, really, being there is that literally I can have a day-to-day contact with the place. The other advisory committee members, unless they're teaching there at the time, or have a professional research interest—There's another ad hoc member like I am, Gary Ernst. Gary is former chair of earth sciences at UCLA who is now dean of earth sciences at Stanford. He moved up there. But we're the only two, I'd say, off the normal rolls. But Gary is just a marvelous guy. Say a personnel problem comes up. I can deal with the onsite director, which is a guy named John Smiley, whom I met while he was at Santa Cruz. He had the Big Creek Reserve on the Big Sur coast, and it was instrumental getting John hired there, because he's just been a great addition to that place. So that was—

16-00:28:08

Lage:

So you really can take a—

16-00:28:10

Pister:

Oh, yeah. Day-to-day interest. See, the other ones are—you know how busy university professors are. The director is a guy named Frank Powell. He's a professor of physiology. He hooked up with the med school there at UC San Diego, but his field is high altitude research in physiology, so White Mountain just fits exactly what he does. And of course he retains a strong interest, too.

16-00:28:37

Lage:

And does he spend a lot of time there?

16-00:28:39

Pister:

Probably not as much as he'd like. Unfortunately, it's a long darn drive from San Diego to Bishop. It pushes 400 miles. So he doesn't get up there as much as he'd like. He's put there a fair amount in the summer. He's even got his own research going, up in the 12,500-foot lab. That's where we have this energy project going on now with Irvine. Gosh, that's working out just beautifully. With Roger's brother, yeah, [PP added in editing: Roger's brother, Scott, is director of the National Fuel Cell Research center at UC Irvine. He and his graduate students are engineering a self-sustaining electrical system at Barcroft.] You've been up to Barcroft Lab?

16-00:29:08

Samuelsen:

Oh, yes.

16-00:29:09

Pister:

Yeah, I thought you had. Yeah. You ever climbed the peak?

16-00:29:13

Samuelsen:

I've been on the peak, but I think I arrived by helicopter.

16-00:29:16

Pister:

[laughter] Jeez!

16-00:29:18

Samuelson: Which is a story in its own right. [laughter]

16-00:29:20

Pister: If we had one of those in *our* expeditions, it would help things. [laughter]
Gary Ernst of Stanford has an interest in the place, and is probably more in contact than even the ones on the UC faculty that are there. We have a guy from Berkeley, UCLA, Santa Cruz, everywhere. Each of the ten campuses. Merced. Each of the ten campuses is represented there. We have a great time, meet once a year at UCSD.

16-00:29:52

Lage: To discuss?

16-00:29:53

Pister: Yeah, to discuss problems, funding problems. How we're going to resolve them. There's always been a funding problem, like everything else in the university. But with us, beyond that, we can't even get money to buy a gallon of paint to paint the building.

16-00:30:09

Lage: The funding problem is immense, you would say?

16-00:30:12

Pister: Yeah. Yeah. Literally, we haven't been able to do anything with the infrastructure there in the last decade or so. We've had two directors, as Roger mentioned: Clarence Hall, who was an earth scientist at UCLA, just did wonders there. We've had a very good resident guy that was there before Smiley was there, and Dave Trydahl, who just did wonders building up the infrastructure there. And now for about the last, at least, ten years, it's been Frank Powell out of San Diego. It's been a really great experience. And Cathie Magowan represents UCOP in the whole thing.

16-00:30:58

Lage: Okay. Now, Roger, is there a story to tell about White Mountain in relation to the Natural Reserve System?

16-00:31:06

Samuelson: Oh, I think there *is*, and it goes back to about this same period of time, when we were dealing with Fish Slough and the Valentine Eastern Sierra Reserve. I was approached by then-Vice President Angus Taylor, who later became a chancellor of the Santa Cruz campus, preceding Phil's brother Karl as chancellor. He asked me to pursue the possibility of some kind of collaboration between the Natural Reserve System and the White Mountain Research Station. And the advisory committee at that time, the same committee on which Phil now sits, recommended that there be some kind of integration. And as I recall, there was a five-year review committee that also recommended some kind of integration. It was felt that many of the programs there at the White Mountain Research Station would be compatible with some of the objectives of the NRS. The model eventually might be akin to what

exists at the Bodega Marine Laboratory here in northern California, where the laboratory facilities are administered in one way, but the donut surrounding the laboratory is administered in accord with the policies and procedures of the Natural Reserve System.

16-00:32:53

Lage: So, the land.

16-00:32:55

Samuelsen: The land. So I became very deeply involved in negotiations with the US Forest Service and with the then-director of the White Mountain Research Station based here in Berkeley, by the name of Nello Pace, and with the Berkeley administration. The feeling was that because the Forest Service was somewhat unhappy with Dr. Pace and with some of the ways the research station had been administered, that they didn't feel there had been enough regard for the natural environment surrounding the physical facilities—

16-00:33:38

Pister: The Forest Service was right. [laughter]

16-00:33:40

Samuelsen: That's right.—felt that maybe the involvement of the Natural Reserve System and my own involvement might facilitate the extension of a use agreement in ways that would be comfortable to the university. As I recall, there was the involvement of the Navy, and the Navy had—

16-00:33:57

Pister: Office of Naval Research.

16-00:33:58

Samuelsen: Office of Naval Research.

16-00:33:59

Lage: They probably funded a lot of those research projects.

16-00:34:01

Samuelsen: Well, they did, and technically speaking, I think they had the existing use agreement with the Forest Service. But they were phasing out of their work. So then the question was, well, what's going to replace the use agreement that had been in place? How was the university going to be represented? And so forth. So there were a number of years there where I was involved in negotiating not only a new use agreement, but negotiating with both the university and the Forest Service what type of improvements might be made, how would some of the surplus property that Nello Pace had acquired over the years from the Army and other military establishments be, quote, "cleaned up"? Who was going to pay for this? What kind of structure might be played?

So it's somewhat like Fish Slough, where I think even though ultimately it did not become part of the Natural Reserve System, the Natural Reserve System

on behalf of the university, was able to play a role in extending the work that's being done there.

16-00:35:10

Lage: Did you play a role in getting more attention for the natural environment?

16-00:35:15

Samuelsen: Oh, I think so. I think so. And indeed, the US Forest Service established a rather significant scientific area, or some such—

16-00:35:27

Pister: Yes. The Barcroft Higher Research Area, yeah.

16-00:35:29

Samuelsen: Or Barcroft Research Area, with our encouragement. And I think maybe the bottom line was that the US Forest Service made such a commitment to set that aside and manage it that the people with the Natural Reserve System felt there wasn't the need for us to have it in the Reserve System or take on more management than was required. Ironically, I'm told that today, the possibility of integrating the White Mountain Research Station with the Natural Reserve System is being revisited, and some of this history may be useful to those folks who will want to make that decision.

16-00:36:08

Pister: Oh, yeah! It's a natural to me. It really is.

16-00:36:15

Lage: That's kind of ironic, isn't it?

16-00:36:16

Pister: See one thing we do at White Mountain that they don't do at SNARL or Valentine: we have dormitory facilities there that can accommodate good numbers of students. On-site classes are taught there. Like we have taught one there called the Super Course; it's a sixteen-unit courses where students come in from all over the university system. It's in conservation biology, basically. Everything considered, it would be a logical acquisition for the Reserve System.

16-00:36:49

Samuelsen: Sure.

16-00:36:50

Pister: Do you know if Alex Glazer feels about that at all, or—

16-00:36:52

Samuelsen: Oh, I think he's very supportive of it.

16-00:36:54

Pister: Oh, that's good.

16-00:36:54

Samuelsen:

Alex being the current director. I think it speaks, too, to the role of the Natural Reserve System in more than just the preservation of land. You also want to facilitate the use of that land by researchers and students. Otherwise, the University of California, it could be argued, doesn't have any business being in the business. So it's far more than preservation. It's making use, it's documenting that use, it's developing databases, and the like. So as years have gone on, there has been the desire to develop facilities, be they dorms, or laboratory space, or places for the resident manager to stay, that are done in a very discreet way, but that do allow students and faculty places where they can hang their hat, and then go out from there, either on the land itself that the university has acquired through a use agreement, or purchase, or gift; or, as in the case of White Mountain, to make use of the surrounding scientific area/research area.

In the case of SNARL, I mean, the basic land there on the use agreement, I think, is only about fifty acres, Phil, but—

16-00:38:21

Pister:

Not very much, no.

16-00:38:22

Samuelsen:

But from there, the opportunity presents itself to not only study—we talked about Mono Lake earlier, for instance—but that whole Convict Creek Basin, indeed, the whole eastern side of the Sierra, places that students go out to during the day and then they can come back, have a place to spend the night, or laboratory space to bring the specimens they study, or computers. I mean, there's a need for a place for computers to be plugged in.

16-00:38:52

Pister:

High speed connections. [laughter]

16-00:38:53

Samuelsen:

High speed connections to manipulate the data that they've collected during the day. And it's very exciting to see the evolution of the Natural Reserve System along those lines.

16-00:39:02

Lage:

Did you, or does the Reserve System, keep track of the scientific papers and publications that come out of the different—

16-00:39:11

Samuelsen:

Oh, more and more. Absolutely. Absolutely. There's quite a database. And that's one of the long-term values of the Reserve System. Some of the sites in the system, like the Hastings Natural History Reservation, go back to the thirties. And they have a tremendous database of work that's been done before. And then the researchers and students of today can build upon that and extend the knowledge base even further.

- 16-00:39:41
Pister: I'm convinced that if Roger Samuelsen had been hired by the State Department, we would no longer have a conflict in the Mideast. [laughter]
- 16-00:39:50
Lage: He's good at bringing people together?
- 16-00:39:52
Pister: Very good at that. He's a master at it. The Jews would no longer hate the Arabs, and vice versa.
- 16-00:39:57
Samuelsen: Well, I would say likewise with Phil. [laughter] Maybe that's why we make a good team. Because Phil is able to do the same and hopefully make it fun in the process.
- 16-00:40:06
Pister: Yeah, that's all part of it.
- 16-00:40:07
Samuelsen: Isn't that right, Clark?
- 16-00:40:08
Pister: That's right, Lewis.
- 16-00:40:09
Lage: Do you want to end this with just some background on how this serious mission you engaged in has led to the lighter side?
- 16-00:40:17
Pister: Oh. Well, yeah. I think so. Mutual respect. And every year, we try to get a little bit closer to the Pacific Ocean. And I think this year, we may be a little closer than we have before, really.
- 16-00:40:30
Lage: How is that?
- 16-00:40:31
Pister: Well, to this extent: we're going to be in the Upper San Joaquin River drainage, which drains west. We've been there before.
- 16-00:40:38
Lage: They're going to think he's crazy when they read this.
- 16-00:40:40
Samuelsen: You need to explain what the "we" is. Because I don't think you've yet explained that.
- 16-00:40:43
Pister: Okay. Here we go. I don't know what it was, whose brainchild. Maybe it was mine. I don't know. But we decided with our group—

- 16-00:40:52
Samuelsen: Well, let me back up and give a little preface here. [laughter]
- 16-00:40:56
Pister: He's got a better memory than I've got.
- 16-00:40:57
Lage: Could we have him come to all our sessions?
- 16-00:41:00
Pister: Yeah, right! [laughter]
- 16-00:41:01
Samuelsen: Let me back up a little further. For many, many years, maybe thirty-five years, my brother and I, together with others, have backpacked on the east side of the Sierra. When Phil and I developed a friendship through Fish Slough and all these projects we've talked about, I was very eager to have my brother and others meet Phil. And so we made it a practice to go over a day early and have dinner with Phil somewhere: Bishop, Mammoth Lakes, wherever we could find a cheap place, because we knew we were going to have to pick up the tab. And so Phil would have dinner with us, and some of these stories and the like. And it started early on. And we kept saying, "Phil, one of these years, you have to come with us." "Well, I just can't get away. I'm too busy." Et cetera, et cetera. There was always an excuse. Although I recall on one occasion, we got him to go up for just one night. And frankly that was all we could stand, so—
- 16-00:42:07
Pister: Feeling's mutual on that.
- 16-00:42:08
Samuelsen: We had him there for one night, and we turned around and sent him back down the trail to get back to work and represent the State of California with the Department of Fish and Game. So finally a couple years ago, after retirement, we convinced him to join us for the entire time. So that is the background, and now I'll turn over to Phil to explain.
- 16-00:42:26
Pister: Well, that's a logical transition point here. I met with these guys after they came out of a trip over a very significant geographic point called Alpine Col. They had come out of there. Here are all these guys in their sixties with huge backpacks. And that was such a traumatic thing they're almost snapping at each other. [laughter] And we were sitting at dinner and I said, "You know, there are easier ways to get into the backcountry. There are things called mules and horses that are not all that expensive, really. And you should think about that." So we did. Our next trip, then—that was in 2002—
- 16-00:43:14
Lage: It was just fairly recent!

16-00:43:15

Pister: Yeah! So in '03, we went into the Upper Convict Creek Basin with horses and mules. Or at least—no, we walked into that one. All of us. Yeah. And we walked into a three-day rainstorm, among other things. But since then, we've always packed in. And I think we're recognizing our physical limitations. But these guys this year will probably head out some place, and haul all their junk and break their necks, as they often are wont to do. And I'll stay in camp, and probably sleep and read Dave's Mark Twain stuff.

16-00:43:56

Lage: So you pack in—

16-00:43:58

Pister: Yeah, and ride horses in.

16-00:43:59

Pister: Well, some do.

16-00:44:00

Lage: Or walk in.

16-00:44:00

Pister: Like the last couple of times—well, the first, when we went in to Upper Big Pine Creek Basin, Scott rode. You rode too, didn't you?

16-00:44:05

Samuelsen: I rode in that one.

16-00:44:05

Pister: Yeah.

16-00:44:06

Samuelsen: Well, you needed company.

16-00:44:07

Pister: I did. I was lonely. So they thought they'd make me pay the price on this. So the year after, we went into the Upper San Joaquin, a place called Holcomb Lake. And time to go out. So we pile all of our junk in a big pile there, and the packer was going to come in and get me on a horse, and haul all of our stuff out.

16-00:44:29

Samuelsen: Meanwhile, the rest of us decided to get out of there early.

16-00:44:32

Pister: The reason being that Cal was playing Tennessee at the opening day—

16-00:44:36

Samuelsen: Opening game on—

16-00:44:36

Pister: Opening football game.

16-00:44:37
Samuelsen: On television.

16-00:44:37
Pister: And this guy just could not miss that game. So he took off, he and Frank Baldwin took off and hiked down to Scott's condo there in Mammoth, where they had a TV set.

16-00:44:49
Samuelsen: And some beer in the refrigerator.

16-00:44:50
Pister: Some beer in the refrigerator. Cold beer.

16-00:44:52
Lage: And you waited for the—

16-00:44:53
Pister: I waited, and he didn't show up. Waited and waited and waited. Finally it got—I began to put two and two together, realized if I was going to get out of there, it was with my feet and not on a horse. Turns out that my horse had gotten sick on the way in to get me on another route. So I said, "I'll sure run into these guys one place or another." So I took off, took the same route that these guys took. Kept thinking, well, I'm going to run into them pretty quick. And they never showed up. So I walked out all the way to the pack station with my backpack on, being attacked by lions and wolves and things like this.

16-00:45:31
Samuelsen: With a little flashlight.

16-00:45:32
Pister: And rattlesnakes. And a small flashlight.

16-00:45:34
Lage: And did it get late?

16-00:45:35
Pister: Oh, yeah! It was pitch dark.

16-00:45:36
Samuelsen: Oh, it was after dark!

16-00:45:37
Pister: Oh, yeah. And finally I, thank God, I had my light, and I could read the trail signs. Because it's really hard to find your way around in that place.

16-00:45:47
Lage: Even though you know the area.

16-00:45:48
Pister: Yeah, but not to that extent. We're in a heavily-traveled trail. There are signs pointing to these different things.

- 16-00:45:56
Samuelsen: Meanwhile, Frank and I were waiting in the car down at the pack station, and we were getting a little bit worried. We kept going over to—
- 16-00:46:02
Lage: I thought you were having your beer.
- 16-00:46:04
Samuelsen: Well, by this time—The game was a little one-sided, so we drank the beer fast. I'm not sure we stayed to the end. It was a very disappointing performance. It was a little embarrassing.
- 16-00:46:13
Pister: Tennessee just *blasted* Cal.
- 16-00:46:15
Samuelsen: So we went back. And the agreement had been we'd go back and meet Phil, and greet him and so forth. Well, my gosh. We were shining headlights out in the trail, and we kept going back. We were reassured, "Oh, no. I'm sure they're coming. Don't worry." And all the sudden—I mean, we're talking about 9:00 at night, or maybe later.
- 16-00:46:34
Pister: Yeah, it was pitch dark! September.
- 16-00:46:37
Samuelsen: This figure comes across. Unbelievable. We couldn't believe it.
- 16-00:46:41
Pister: With this enormous backpack and this flashlight. And I hear this voice from the Subaru station wagon parked over to the side: "Phil! Is that you?" And I said, "Yeah." And it was Frank, who had showed some compassion that luckily his companion didn't. And then I say, "Yes, it is I."
- 16-00:47:03
Lage: And you were the one who didn't want to backpack.
- 16-00:47:06
Pister: Well, that's true, but in this life, Ann, as you're well aware, you do what you've got to do. And this is a matter of survival. There was enough junk up there. I could have spent the night. But they wouldn't have known where I was, and the packer didn't—the packer finally showed up about ten minutes after we left the pack station with our junk.
- 16-00:47:24
Lage: So he did eventually get up there.
- 16-00:47:24
Pister: Yeah but we had to come back the next day and get our stuff.

- 16-00:47:29
Lage: Oh, the packer didn't bring—
- 16-00:47:31
Pister: Yeah, to the pack station.
- 16-00:47:32
Samuelsen: Well, I think they had to go back the next day to find the horse, because the horse was so ill they were not able to bring the horse down.
- 16-00:47:39
Pister: You can see how I rate with the packers. You've got the horse who was about ready to die. "We'll take it in for Phil to ride."
- 16-00:47:44
Samuelsen: Now I interrupted you when you were going to tell about the corps.
- 16-00:47:47
Pister: Oh, yeah. Okay. That was about the time the corps started, wasn't it? Or was it before then?
- 16-00:47:54
Samuelsen: Oh, I think before then.
- 16-00:47:56
Pister: Could be. It could have been the Convict Creek trip.
- 16-00:48:01
Samuelsen: Yeah.
- 16-00:48:03
Pister: For some reason I could draw an identity between our group and the Lewis and Clark expedition.
- 16-00:48:09
Lage: Uh-huh. But do you remember how?
- 16-00:48:11
Pister: Well, simply because here's a bunch of guys wandering around the wilderness. not really sure where they were! With the general objective of finding the Pacific Ocean. Not too different from Lewis and Clark. We didn't have grizzly bears. We didn't have to fight off the Indians. But we had some problems. So in setting up the administrative structure of this, it seemed only logical that Mr. Samuelsen here, with his great organizational ability and diplomatic perspective on things—
- 16-00:48:41
Samuelsen: Which is clearly needed with this group.
- 16-00:48:42
Pister: Oh, yeah. Yeah, yeah. It's just a people management thing, more than anything. That he should be Captain Meriwether Lewis. And I thought, well,

okay. I should probably be William Clark. So this became the Lewis and Clark Expedition. Well, with the rest—we're the only commissioned officers. The rest of them [laughter] have to work on—

16-00:49:02

Lage: Your idea!

16-00:49:04

Samuelsen: Well, that's right! And somebody has to take the lead.

16-00:49:07

Pister: And so the highest, probably next highest-ranking person is Roger's brother Scott. I don't know why he got—he's a sergeant. And so's Frank, of course.

16-00:49:19

Samuelsen: No. I think Frank's only a corporal.

16-00:49:21

Pister: Yeah. Okay.

16-00:49:21

Samuelsen: Unless he's been promoted in my absence.

16-00:49:23

Pister: And Dave's still a private. [laughter]

16-00:49:25

Lage: And your poor brother [Karl] becomes—

16-00:49:26

Pister: He would just be the wolf hanging around, eating what stuff we throw at him.

16-00:49:30

Samuelsen: Well, he has to prove himself.

16-00:49:32

Pister: Yeah! But he'd fit in really well, because we—

16-00:49:34

Lage: And you go into a base camp and then—

16-00:49:36

Pister: Yeah. Walk out from there.

16-00:49:37

Lage: —do day hikes.

16-00:49:38

Pister: Yeah. This way, except for some of those who are more masochistic than I, have to carry their stuff wherever they're going. Like they may make a trip out. I tried to send them stuff off of Google Earth, showing them how

backbreaking this idea is, but—There are some big fish up there. What did you think about that latest aquatic organism we spotted up there?

16-00:50:00

Samuelsen: Yeah. That's right. That's right. [laughter]

16-00:50:03

Lage: Do you go fishing?

16-00:50:03

Pister: Oh, yeah. Yeah.

16-00:50:04

Lage: Is it part of the trip?

16-00:50:05

Pister: Well, it is. It is.

16-00:50:06

Samuelsen: Not always, but several years ago since we have the world's expert with us, he taught Frank and me how to fish.

16-00:50:15

Pister: And shortly after that, they left me up there all by myself.

16-00:50:18

Samuelsen: Surely that was his reward.

16-00:50:19

Pister: Yeah. And the year after that, I took them to a place where the fishing wasn't very good. I think the entire time we were there, I caught one fish, which everybody sat around and ate off the griddle with a fork. You kind of passed it around. This time I think we're going to do better on fish.

16-00:50:36

Lage: Now, in all of this talk that we've had in the past, I don't believe we've ever talked about you as a fisherman. Are you a devoted fisherman?

16-00:50:46

Pister: Well, no. People ask me this now. They say, "Boy, I'll bet now that you're retired you fish all the time." Uh-uh. Starting as a grad student in the Upper Convict Basin, we'd go out and catch all the fish we could to get data from them. Like, we'd come back to camp with a bucket full of brook trout after dark, and with a Coleman lantern have to gut those things, measure them, weigh them, take scale samples, do our titrations with pH, take other kinds of measurements. And so that became a work thing.

When I then moved over to Fish and Game, it was a means of evaluating fish populations. Oh, yeah, it was going fishing. Well, in a sense it was. But yet that's the best way to find out what's in a lake: you cast a fly out there and see what grabs it. It made me strongly aware of the value of things like our

reserve system. You go to a lake or a pond, the first thing you look for is the little guys. The younger people, younger fish. They then grow into the big ones that everybody pride—That same metaphor applies really well to people, as well. You worry about the younger ones. If you get younger ones, you get good older ones.

So when people say do I still fish? Well, I do. I even force myself to buy a fishing license now and then, which I wouldn't have to do legally. But I do anyway. And last year they said, "Phil, we'd like to learn how to fly fish. And would you help us get fly fishing equipment?" Well, Cabela's, they have very good quality. All made in China, of course, like everything else, including everything we're wearing, most likely, and our shoes. And so I got both Frank and Roger very good fly fishing stuff.

16-00:52:32

Samuelsen:

Captain.

16-00:52:33

Pister:

Yeah, yeah. Captain Lewis, yeah.

16-00:52:34

Samuelsen:

Mm-hmm.

16-00:52:35

Pister:

Corporal Baldwin.

16-00:52:39

Samuelsen:

But I think Phil's approach to this speaks volumes about who he is. I really do.

16-00:52:45

Pister:

He's a real tightwad, eh?

16-00:52:46

Samuelsen:

No, no. I'm being serious. We find that he is an expert as a fisherman and he's taught us how to fish. And he can throw a rod out and he can talk to the fish. I mean it's really something.

16-00:53:01

Pister:

The fish whisperer. [laughter]

16-00:53:03

Samuelsen:

But in the several years we've been doing this, I don't think I've seen him take one bite out of the trout. But I have found that he takes great pleasure and satisfaction in watching Corporal Baldwin and me catch a fish, clean a fish, eat a fish, enjoy a fish, and pass on the lessons that he has taught. And so I find Phil able to take great pleasure in other people's pleasure. And maybe that's one of the reasons he and I enjoy each other so much, because—it goes to negotiating Fish Slough and so forth. It's not because our name is going to be on it or whatever, but we love to facilitate an outcome where others can

gain some satisfaction and pleasure. And the fishing, to me, is an example of how Phil does that.

16-00:54:07

Pister:

Yeah, I appreciate that. My essential life has been directed around one of Goethe's statements. He says this. He asks the question, "Who is the happiest of men?" Then he ends it this way by saying, "He,"—or she—"who values the merits of others, and in their pleasure takes joy, much as though it were his own." And I think we both feel that way. That's what I've taught as a teacher, you know. You have to see a bright smile out there. You think, hey, they picked that up.

But that's basically true. I think we basically look at life that way. That's why we make excellent officers in the Corps of Discovery. [laughter] Because even though we have a bunch of reprobates within the corps, we can see the good points [laughter] as few as they are. [laughter]

16-00:54:58

Lage:

I think that's a great place to—

16-00:55:00

Pister:

To stop! [laughter]

16-00:55:01

Lage:

—end our conversation.

[End Audio File 16]

[End of Interview]

Interview #7: 05-21-2008

[Begin Audio File 17 Pister_e_philip17_05-21-2008]

17-00:00:00

Pister: Is it okay if during the interview I have a sip of tea?

17-00:00:03

Lage: Sure! Okay. Today is May 21, 2008, and we're back with Phil Pister. This is session seven of our oral history, and tape seventeen.

17-00:00:21

Pister: Seventeen? Wow.

17-00:00:24

Lage: Yesterday we talked to Roger Samuelsen. *With* Roger Samuelsen. In the afternoon. But our morning discussion was kind of cut off in the middle. We were talking about the California Department of Fish and Game, how it changed over the years. We spent some time with the Reagan administration and Ray Arnett, and then had just gotten into Jerry Brown's administration, Claire Dedrick, and the choice of Charlie Fullerton [as director].

17-00:00:54

Pister: Yeah.

17-00:00:54

Lage: And I remember you said that one of your last remarks was—I'm trying to find my notes here—that Charlie Fullerton said, "I hope you're not going to talk about that stupid pupfish."

17-00:01:07

Pister: Yeah.

17-00:01:08

Lage: [laughter] Now tell us more about that attitude.

17-00:01:10

Pister: Okay. Well, this was kind of the prevailing attitude within the Department of Fish and Game, and with state fish and wildlife agencies all over. To a lesser extent with the federal agencies, which by their laws or whatever are just inherently more concerned over, say, a broad biota rather than the economically important species. Oftentimes, these guys were tongue in cheek on this stuff. You know, they really were. My good friend saying: "I found a great use for pupfish. They make good bass bait." You know, and that kind of thing. So I was just kind of used to that, It was funny. And of course I had some good comebacks normally, so it was kind of a tennis match, you know.

17-00:01:52

Lage: Right.

17-00:01:53

Pister: But in that period, that was in 1972, I believe, when Charlie made that statement. Did we get to the point of the meeting in San Diego, where Arnett came up and said, "You know, I think I see what you've been trying to tell me?"

17-00:02:11

Lage: You actually did tell that.

17-00:02:13

Pister: I thought I'd covered that. Yeah.

17-00:02:15

Lage: That was '78, and by then, the Endangered Species Law had passed.

17-00:02:20

Pister: Well, it had. And this had much to do with the change in philosophies, because with the act came funding.

17-00:02:28

Lage: Oh, that's what I wondered about.

17-00:02:30

Pister: Yeah. That was the big thing.

17-00:02:32

Lage: To the state agencies?

17-00:02:33

Pister: Yeah. Yeah. It's called Section VI funds, which under the act, under Section VI of the act, funds are made available for state endangered and non-endangered species for conservation programs.

17-00:02:44

Lage: I see.

17-00:02:46

Pister: So we staffed up under Section VI. And right away, this then removed one of the major stumbling blocks we have encountered with this sort of work with pupfish, or bugs, songbirds, whatever. See, the argument you get is that—the Department of Fish and Game was at that time largely funded by license sales. And people that buy licenses want to fish and hunt. And they don't care about pupfish, or blue jays, or whatever, you know. So what that removed, then, it removed much of the stigma that we operate under because we were being funded by license money.

17-00:03:29

Lage: So would you apply to a new division of your department? I noticed there was a Conservation Services, and Environmental Program in the roster there.

17-00:03:39

Pister:

Yeah, but I still was—this was under our staff organization in Sacramento, which was kind of like the UCOP [University of California Office of the President] and the campuses. About the same idea. And the regions, then, of which I was working for under one of the guys listed here, the one I told, “I’m going to do that job whether you like it or not.” [laughter] We’re good buddies still. The regions, then, would come up with programs in conjunction with the Section VI people in Sacramento, who would then make money available for the use in the regions to do conservation work.

17-00:04:19

Lage:

I see.

17-00:04:20

Pister:

So after this got going—These laws are always slow to be implemented. First you’ve got federal allotments. You have to fight through the federal budgetary process. It comes through the Department of Fish and Game, to a bunch of legislators that don’t really understand the Endangered Species Act, which they probably don’t like anyway. So right away, you have a number of just people things to overcome. Prejudices, whatever. Engrained prejudices. You see this now in the state of Idaho, where they’ve legalized wolf shooting again. It just kills my brother, being a wolf person, to have ranchers killing wolves, not because—because under the wolf law, federal wolf law, if a wolf kills a cow, they get paid market value for the cow that was killed. So they just do this mainly as a matter of principle. “We won’t let wolves around our cows.” So those are the things that are deep down—

17-00:05:18

Lage:

But would you apply for this Section VI funding for your Fish Slough work?

17-00:05:22

Pister:

Yeah. Yeah.

17-00:05:23

Lage:

And the golden trout work?

17-00:05:24

Pister:

Yeah. Mm-hmm. Indeed. Less so for the golden trout work than for the Fish Slough work, because there we had a game species, in the golden trout. It makes a difference there.

17-00:05:35

Lage:

But it was also kind of an endangered—

17-00:05:37

Pister:

Oh, yes. Yes. And right now it’s proposed for listing under the Endangered Species Act. It’s kind of considered threatened now, the golden trout. With good reason. And my paper that I just completed talks about that subject. The question mark right now is genetic. It’s a very big question. It’s an interesting thing in genetics. I’ve just been proposed for a big award by the American

Fisheries Society. The guy who wrote up the award is a former UC Davis PhD guy, back at the Virginia Institute of Marine Sciences. And he did much of the basic genetics for this whole thing. He's—

17-00:06:12

Lage: For the golden trout?

17-00:06:13

Pister: Yeah. So he's real interested in this.

17-00:06:15

Lage: Yeah.

17-00:06:15

Pister: And the lady doing the genetics now is the daughter—she just finished up her doctorate at Davis in animal science—of my counterpart over the hill, Stan Stephens, who was my great colleague in this whole project. And I guess his daughter just felt an obligation, she loves genetics anyway, to it. Did her dissertation on it..

17-00:06:36

Lage: So she did her dissertation on the genetics of the golden—

17-00:06:39

Pister: Yeah. Mm-hmm. May be other phases to it, too, but Molly did her work on that.

17-00:06:45

Lage: Now what's the award you're being proposed for?

17-00:06:47

Pister: Well, it's the President's Conservation Award by the American Fisheries Society. President of the American Fisheries—you know, they put up these things. I didn't even know about the award. I didn't know about it. I've received several awards from them already, and I kind of figured, hey, I've had my share of awards. In fact, I got one for a departed, a deceased administrator in AFS. I got this in 1996, down in Tampa, Florida. Of course, these people are fish-oriented. Everything they do is fish. They eat fish, they talk fish, they smoke them there. [laughter] I got a salmon, a salmon sculpture. And the darn thing weighs about fifty pounds. I could hardly move it. And it must have cost the society a *huge* amount of money to have that thing shipped from Tampa, Florida, to my front yard there in Bishop. But it's there in my front room. It's a beautiful sculpture.

17-00:07:46

Lage: Wow. That's—

17-00:07:47

Pister: What'll I ever do with that? I don't know if my kids are that far into fish or not. But there's others who are.

17-00:07:52

Lage: Well, that's a change also. I mean, it evidences a change in the American Fisheries Society.

17-00:07:58

Pister: See, when I got the award there in Tampa—it's called the Sully, named after Carl Sullivan, who was just a great administrator for AFS. He developed cancer and died very prematurely, very sadly. And so I made the statement when I got the award—it was just two, three, minutes, and I said that to me this was more an award to the society for recognizing why I got the award. For a broader perspective on fishery sciences. Now, in fact, in the society many of the articles published in their monthly journal, *Fisheries*, many of them relate to the things that we do in non-game and endangered species movement.

17-00:08:42

Lage: Whereas your article was the first in the early seventies?

17-00:08:45

Pister: Pretty much, yes. Yes. Uh-huh. Yeah, that was—

17-00:08:47

Lage: On a non-game species.

17-00:08:48

Pister: Yeah. "A Rationale for the Management of Non-Game Fish and Wildlife." That was in volume one, the first issue of that. And the editor, being a very good man, says, "You know, we've got to start the society thinking about things like this." And that was a rather popular article. It really was. I got all kinds of reprint requests for that.

17-00:09:08

Lage: So the timing was right, it seems, for it to come out.

17-00:09:10

Pister: Yeah, and again, as I mentioned yesterday, much of this is just being in the right place at the right time and recognizing the opportunities that exist therein. I will say, though, that my deep interestedness was primarily a result of my training here at—I shouldn't say training—education here at Berkeley. There's a big difference between education and training.

17-00:09:30

Lage: Right. Well, I think you have said that. Now let's go back to the department.

17-00:09:35

Pister: Okay.

17-00:09:36

Lage: Do you think the Jerry Brown administration itself affected the department?

17-00:09:42

Pister: Yes. Yeah.

17-00:09:43

Lage: Like, first you had Claire Dedrick as secretary for resources, and then Huey Johnson.

17-00:09:49

Pister: Yeah. Well, there's a major—well, I wouldn't say. No, Claire, see, she's a very well-educated woman, a very smart woman. So she would have no problem with that. And I want to say, too, to perhaps exonerate Charlie Fullerton if I have made any pejorative statements relative to him, he turned out to be very supportive. And we remain, today, very good friends. He comes over. We usually have dinner together and so on and so forth, talk about the old days. He was an excellent director, in retrospect, very well respected within the department. Not only within the law enforcement end, which of course he was deeply interested in.

Because one time I got a phone call. "Phil, come over to Sacramento. I want to talk to you." Well, fine. When the director says, "Go over there," I go. And this kind of reflects this change in attitudes. He says, "Do you want to go to Mexico?" I went over there, met him in the resources building. I said, "What's up with Mexico?" "Well, there's Carlos Yruretagoyena down there in Ensenada, who's really interested in a trout population in the San Pedro Martir Mountains just south and east of Ensenada." These are big mountains. Picacho del Diablo there is over 11,000 feet. You don't think of stuff like that in Mexico. So I said, "Jeez, yes. I'll walk down there if I have to." He said, "No, we'll get you down there okay."

So I worked with the Mexicans. I was going to bring this up later on. But it was thanks to Charlie and our friendship. Of course, I probably was the preeminent trout person in California, so I was selected go down there. This was just a great experience. This kind of kicked off—I'd been working with Mexicans ever since about the beginning of the Desert Fishes Council—

17-00:11:39

Lage: Right. You were in—

17-00:11:39

Pister: Me and my counterparts who were south of the border. Gave me deep respect for those guys. You know, they're every bit as smart as we are here. They don't have the support, economically or physically. They're developing their own NSF [National Science Foundation] now—you know, their counterpart of it and so on—so they can start getting grants for good research. We work strongly with them through our research component in Desert Fishes south of the border. That's been a gratifying thing too.

17-00:12:08

Lage: Is there cooperative research between American scientists and Mexican?

17-00:12:11

Pister: Yeah. Right now some of my best buddies from both nations are in the state of Chihuahua doing native trout work there. People in the Fish and Wildlife Service, the Mexico Game and Fish, two Mexican universities—*three* Mexican universities. One of the Mexican universities is headed up by a guy, I was on his doctoral committee. A guy, Paco de León. I don't really know where he is.

17-00:12:35

Lage: On his doctoral committee in a Mexican university?

17-00:12:38

Pister: Yeah. Yeah.

17-00:12:38

Lage: Ah!

17-00:12:39

Pister: Which they're a little bit more flexible there. Here, if you don't have a PhD, you don't make a PhD committee, but down there they are willing to waive that.

17-00:12:48

Lage: They're willing to go on your actual knowledge?

17-00:12:51

Pister: Sure. It's kind of typical of the academia, I think. Down there, they're far more pragmatic than we are here. It's kind of like—I don't know if I mentioned this yesterday or not. This cartoon that Karl has on his door, of a cocktail party? And these two guys are sitting with their cocktails, and a third one is walking toward them. And they turn and say, "Unless you're a PhD, *scram!*" [laughter] So he had this on his office door the other day at McLaughlin Hall.

17-00:13:19

Lage: Oh, that's good! [laughter] Okay. So it must have been during that period of time with Jerry Brown that a lot of these conservation programs got their start.

17-00:13:28

Pister: Yes. Yes, they did. Because Huey Johnson, of course, was *strongly* behind them. Brown himself had a good broad education and it showed up. His dad Pat was not all bad, but things hadn't really politically caught up to a point where he could begin strongly endorsing this kind of stuff. And besides, that wasn't his job to do that. And our secretary for resources under Brown, Bill Warne, it was kind of out of his league. And he probably could not understand that either. But Warne, he had people he trusted, like myself. And I had no problems working with him at all. He was a good guy.

17-00:14:07

Lage: Did Huey Johnson come on any of your field trips?

17-00:14:10

Pister:

Yeah. Yeah, he did. He came along on our usual governor's trip, which came down to the secretary's trip. Yeah, he was a great guy to be with in the back country. We'd have other people come along on that. Like the guy that just left the Nature Conservancy. He was in California for many years, Steve McCormick. Yeah, Steve would come on those. I don't think Roger ever came along, although he would have been very welcome if he had wanted to.

17-00:14:33

Lage:

But was this an opportunity—did you talk business, or just kind of cement relationships?

17-00:14:38

Pister:

Oh, both. You did both. It's a good place for politicking. Like on the trip we made down—this was just before Ike Livermore took Ronald Reagan down to kill the trans-Sierra highway. We went up to Holcomb Lake, a lake I was at just two years ago with Roger and his brother and stuff. Our main target there was a regional forester out of San Francisco, Jack Deinema was his name. And there was also Ed Wayburn, president of the Sierra Club. And a guy high up in Caltrans. It might have been the state highway engineer. I don't know. And people like that. So we could get on horses—everybody rode everywhere. And I can understand that. They're up in the—

17-00:15:30

Lage:

You mean rather than hiking?

17-00:15:31

Pister:

Yeah. Because there's a lot of uphill stuff there at 9,000 feet or better.

17-00:15:36

Lage:

And was that again looking at the roads?

17-00:15:38

Pister:

Yeah. We went to a place called Lion Point, down toward—well, just below Iron Mountain, not too far from the Minarets, actually, just south of the Minarets. So we went down and looked down this *gorgeous* canyon. And the guy, the packer, a fellow named Arch Mahan, who was a Stanford grad, really a sharp guy. Arch was on the four horseman team that Stanford had way back in football days, with Dick Hyland, who for many years wrote the Hyland Fling in the *LA Times*. So Arch took it on and said, "You know what's the main issue here? It's, of course, we don't want the road. Roads are just a bad scene in wilderness. You just don't want them." Of course it's since been incorporated into wilderness, so forget it. Back then, we're trying to get this designation. He said, "This is one of the most heavily snow-prone areas in the entire Sierra Nevada." He said, "Storms come up and go up around Mammoth Mountain, and you'll get up there in a good winter fifteen to twenty feet of snow on the level." And so Arch said, Arch Mahan is his name. He said, "You know, if you build a road here, you're going to have nothing but snowplows, and the minute they finish up, they're going to have to start in again." And he

says, “Besides that, it’s just a philosophical thing.” And of course Ed Wayburn said, “Yeah, yeah.” [laughter]

You know Ed’s still alive?

17-00:17:03

Lage: I know!

17-00:17:04

Pister: And living in San Francisco.

17-00:17:05

Lage: I know.

17-00:17:06

Pister: Good friend of my judge friend there, Bill Alsup. They live close together there.

So this was an interesting thing, to be able to go out, and in those circumstances. It wasn’t roughing it in *any* sense of the word. There was one table, about the size of this table here, just covered with anything, any alcoholic beverages any of these guys wanted to drink. That’s when I had to drive my state truck up to a liquor store and load the stuff into the back end, and hope nobody would see my diamond E license plate.

17-00:17:41

Lage: [laughter] That was part of your—

17-00:17:43

Pister: Yeah! Because, see, I had to handle all the logistics on this. Make sure that the cook—We had a very good cook, a guy from Fish and Game, named George Warner.

17-00:17:52

Lage: Who actually worked for Fish and Game?

17-00:17:53

Pister: Yeah, he was in fisheries just out of Sacramento, in our Region 2 office there in Rancho Cordova. And so he came out and he took in on wheels this enormous grate so they could cook steaks, you know. That wasn’t backpacking. We didn’t have ice cream, but—

17-00:18:13

Lage: Did you have philosophical discussions? Like would Ed Wayburn—?

17-00:18:16

Pister: Oh, yeah, yeah. And around the campfire, we had some really good philosophical discussions. And the regional forester, of course, this was—I should bring this up, because federal agencies, conservation agencies, are bound by law to be multi-use agencies. This involves transportation, it

involves energy, it involves recreation. It involves about everything, and they're not necessarily compatible—like grazing—compatible with the things that we deem necessary in Fish and Game work. Or, say, the people working in the Forest Service recreation [divisions]. They didn't like this either. So this has been subtly overcome. We've been lucky. We've been unilateral in our direction: we're there to preserve fish and wildlife and their habitats. And our job is to work with Forest Service people and get their acceptance. Because there's ways under the law you could incorporate these things.

One of the things we're doing with the golden trout now is a direct result of this. The Forest Service has just eliminated grazing in much of that golden trout country, on a ten-year review basis. It'll come up again in a couple years. But I don't think there's any doubt that the cows will stay out of there. Because in my paper, the one that's being published now, the photographic evidence is just incredible, what cows do to a stream. They've turned it into a habitat more favorable to the fish we're trying to get rid of—the brown trout.

17-00:19:43

Lage: Was this a period of time when Fish and Game was called to comment, or to present their point of view—

17-00:19:51

Pister: Oh, yeah.

17-00:19:51

Lage: —in terms of—

17-00:19:52

Pister: Yeah, see we were—indeed. And under CEQA and the whole thing. Strongly under NEPA [National Environmental Policy Act] because—I was involved in the review process on the golden trout wilderness.

17-00:20:08

Lage: In kind of a formal way?

17-00:20:10

Pister: Yeah. This was their environmental assessment of the whole thing. It didn't go to a full EIR [Environmental Impact Report] there, because it really didn't need to. We could do the same thing with a less formal document. But the guy running this from the Forest Service, I said, "You know, Ernie—" Ernie Degraff. I said, "Ernie, this is an ideal time to get rid of those blasted cows who are turning this into {inaudible}." He says, "No. Cows are part of our mandate, the Forest Service." The old Forest people are pretty engrained in this.

Did I mention Leopold's A/B dichotomy? I think I did?

17-00:20:46

Lage: You have, but tell about that again.

17-00:20:47

Pister:

This is a classic example. Aldo Leopold said, “There are two types of resource managers,” to paraphrase him a little bit here. “The A types view a resource as a means of commodity production: fish you can catch, timber you can harvest, sell to the private sector, whatever, power companies, phone companies.” He said, “The B trained or educated conservationists will not necessarily say you can’t do that, they say “We have to take an overall look at this and see what the big picture impact is going to be on that resource.” If you leave cows. If you build a power line through a sensitive corridor, whatever. If you don’t keep the spotted owls in mind in your logging permits.

17-00:21:41

Lage:

It would appear that Leopold didn’t find economic activity *verboten*?

17-00:21:48

Pister:

No, no!

17-00:21:49

Lage:

He wasn’t a strict preservationist—

17-00:21:50

Pister:

No, he wasn’t. Leopold, toward the end of his life—he died in ’48—he began to see this. And some of his writings point out very clearly that—one of Leopold’s big things was wildlife on private land. He worked really hard in Wisconsin to get private landowners, and from there, throughout his philosophical area, which is worldwide now, to be good stewards of their land. And I think good stewards now see that. To preserve the habitat, if you’ve got cows on there, you have good grass, it helps the sage grouse, it helps the cows, it helps everything. So the good ones see this. You still have the ones that like to shoot wolves. It’s going to be a long time, probably the next generation, before they pull out of that.

17-00:22:39

Lage:

But you must have encountered in the Forest Service some of the same attitudes of the old guard Fish and Game.

17-00:22:44

Pister:

Oh, very much so. Very much so. And we had to just work around these people. But that’s one of the reasons we wanted to go to the regional forester in Sacramento, or in San Francisco at that time. Because if the regional forester takes a position on something, that goes throughout his region. All of the national forests in California, then, are directed by his philosophies on this. So that was a big help, getting that. And we have much better laws, much better regulation up there in the golden trout country and throughout the entire Forest Service.

One of the regional foresters that came along after him—Yeah, I guess it was after. Charlie Connaughton. His son ended up with a PhD in forestry up in Cal, and has risen up nearly to the top of the Forest Service himself. He may

end up being chief of the Forest Service. Guy worked for me for about seven or eight years while he was a student here.

17-00:23:44

Lage: This Charlie Connaughton?

17-00:23:46

Pister: The son, Kent. Just a marvelous kid, you know. One of these super Eagle Scout types. [laughter]

17-00:23:54

Lage: One of the groups you haven't mentioned that I've wondered about their role is the Fish and Game Commission. How did you relate to them, or—

17-00:24:04

Pister: The Fish and Game Commission, interesting too. Ike Livermore used to be a member of the commission.

17-00:24:08

Lage: Right.

17-00:24:08

Pister: I think before he became director.

17-00:24:09

Lage: No, after.

17-00:24:10

Pister: Was it after?

17-00:24:11

Lage: Yeah. After he left [as secretary for resources].

17-00:24:18

Pister: Okay. I'm trying to think when Ike left as—

17-00:24:24

Lage: He left as secretary, probably, '74.

17-00:24:27

Pister: That early?

17-00:24:28

Lage: When Jerry Brown came in.

17-00:24:29

Pister: Oh, I guess he did. Yeah. That's when—yeah, we changed directors.

17-00:24:33

Lage: Jerry Brown came in '75 to '83.

- 17-00:24:36
Pister: My only gripe about Jerry Brown was he said we couldn't buy new file cabinets.
- 17-00:24:41
Lage: Well, tell us more! [laughter]
- 17-00:24:44
Pister: Yeah. So we're supposed to throw out old data. Well, in my business, data's never old. It's always there for reference, what you have to do. Now I guess we could put it online. But back then, we just had to find a place to put new file cabinets. Because we were constantly getting data, and good data. All with 8½ x 11 sheets, you know? So—
- 17-00:25:06
Lage: And the word came down from Sacramento?
- 17-00:25:08
Pister: Yeah. No more file cabinets. So what we did then, we started looking around for other agencies maybe being dis—I shouldn't say disorganized. Dismembered, or dismantled? So we got a fair number of file cabinets, yeah.
- 17-00:25:21
Lage: Discarded file cabinets?
- 17-00:25:22
Pister: Yeah, they had all over them the designations of the recent agencies that they were used by.
- 17-00:25:30
Lage: Well, were the people in Fish and Game happy with Brown? I mean, did he—
- 17-00:25:34
Pister: I think overall.
- 17-00:25:35
Lage: Did his name come into your conversations?
- 17-00:25:38
Pister: Yeah. You know, you'd get a fair amount of this covered in moonbeam stuff that I guess he'd heard all his life. But I think overall, because Brown, even though he was a maverick governor, certainly—remains that as attorney general. He's doing a good job there. Jerry, I think—I never met him. Knew his dad a lot better than I did him.
- 17-00:26:06
Lage: He didn't come on the trips?
- 17-00:26:07
Pister: No, no. Well, only the first one.

17-00:26:09
Lage: Oh, he *did* come on one of these?

17-00:26:10
Pister: Yeah. He came on the inaugural trip.

17-00:26:14
Lage: His *dad*.

17-00:26:15
Pister: Yeah.

17-00:26:15
Lage: No, but I mean Jerry.

17-00:26:16
Pister: No, Jerry didn't, no.

17-00:26:18
Lage: You did tell about Pat Brown's trip.

17-00:26:19
Pister: I did find out later, though, some of the later trips that I was not involved in, was that Jerry came along as, maybe, a teenager and was just totally obnoxious. [laughter] At least to the people there on the trip. He may not have been all that bad, but they didn't—I guess he expected deference, whatever, you know, and they didn't give him that.

17-00:26:38
Lage: Oh, interesting!

17-00:26:39
Pister: Yeah. But I did think I mentioned—

17-00:26:41
Lage: So back to Fish and Game now, the Fish and Game Commission. Did they come along on the trips?

17-00:26:46
Pister: Yes. Normally—not all of time. But there would always be two or three, perhaps.

17-00:26:52
Lage: And how involved did they get in—I mean, they had to approve—

17-00:26:56
Pister: The commission policy is very strong in the direction of the department.

17-00:27:02
Lage: How did you understand their role in the direction of the department?

17-00:27:06

Pister:

Well, it's a highly political thing, of course. And it was very important you have good commissioners. We've had some—I'd say most of them have been pretty good. There have been some that were out of industry that were strongly oriented toward industry. And I guess in the sense of a state commission, that's okay. All interests are represented. We've had some just—Livermore would be a good example of an *excellent* commissioner. And he came out of, see, a background there with the Resources Agency and so on. And he was just really good. And others along the line, a fellow named Rans Pearman, a wealthy guy out of Southern California.

17-00:27:47

Lage:

Say his name again?

17-00:27:49

Pister:

Rans Pearman. P-E-A-R-M-A-N. Another one, I'm trying to think of the name. It was Doheny. Tim Doheny. With Doheny Eye Institute there, out in UCLA in southern California. He was from that family. Broad thinkers, you know. They weren't guys you dragged out of the brush off of a bar stool.

17-00:28:09

Lage:

Now was this over the entire time period that you're talking about?

17-00:28:12

Pister:

Pretty much. I think it got better in more recent years.

17-00:28:17

Lage:

But they really have a significant role, do you think, in setting the policy?

17-00:28:20

Pister:

Well, I think so. Because a lot of our things are commission policy. And commission policy pretty well dictates what you do or don't do. This fits right into my work: commission policy directs that you will not plant foreign species into a golden trout population. Certain lakes will be designated as golden trout lakes and they're *sanctum sanctorum*.

17-00:28:47

Lage:

So that's policy?

17-00:28:48

Pister:

And that's a commission policy.

17-00:28:50

Lage:

I notice that they approved the refuge—the sanctuary at Fish Slough.

17-00:28:54

Pister:

Yes. Yes. And that's another one. I went down to one of their meetings in San Diego to lobby for that, and they said, "Hey, no problem with that." Your department will have—it'll remain in the ownership of the city of Los Angeles, on one of these one-year leases. It's a lot like SNARL in a way, you know. It's a public service type lease, which the city of LA is very amenable

to. And so once we got that under, I think, an {inaudible} type thing, it's just—we do all of the management there.

17-00:29:22

Lage: But you didn't have trouble convincing that commission back in the seventies?

17-00:29:26

Pister: No, no. I'm trying to think of what year that was. It would be during the seventies somewhere.

17-00:29:29

Lage: Seventy-two or so, I think.

17-00:29:31

Pister: Yeah. Because it was early, because we built the dam there to create the sanctuary or reserve area about that time. We built that with inmate labor out of the—it was a conservation camp just north of Bishop run by the Department of Corrections and the Division of Forestry. Did all of that kind of physical work, and they did really good work.

17-00:29:56

Lage: I would think having those gentlemen, or women, if the case may be—

17-00:30:00

Pister: I'm not sure if they have women there or not. I don't—

17-00:30:03

Lage: —on your trip would be a good opportunity to sort of—

17-00:30:05

Pister: Oh, the commissioners!

17-00:30:06

Lage: Yeah, the commissioners.

17-00:30:07

Pister: Oh, yeah. Oh, no, like I mentioned—what the heck was her name? She was an outstanding commissioner. Well, I'll think of it. She was one of Charlie Fullerton's favorites. [Elizabeth ("Pooh") Venrick]

17-00:30:22

Lage: Is she on that list there [roster of Fish and Game Commissioners]?

17-00:30:32

Pister: No, this just tells what it is. "The Fish and Game Commission establishes policies for the guidance of the department, prescribes the terms and conditions under which permits or licenses may be issued by the department, promulgates regulations—" This is one of the big things. They set the regulations that set bag limits, things of this sort. That's done by the commission, of course with strong input from the department. Our de—

- 17-00:31:00
Lage: But they don't have the names there?
- 17-00:30:02
Pister: No. Oh, here! Yeah, yeah, they do. Yes, she's from Cardiff. I guess that's in southern California?
- 17-00:31:10
Lage: Yeah. By the beach.
- 17-00:31:11
Pister: Elizabeth Venrick. She, I think, was at Stanford. Okay, let me go through these.
- 17-00:31:21
Lage: This [the roster] was in '81.
- 17-00:31:22
Pister: The first one I don't know, Abel Galletti, the president. Then Ray Dasmann, prof at UC Santa Cruz, and one of the really great conservationists of—
- 17-00:31:38
Lage: And a wildlife biologist, was he not?
- 17-00:31:39
Pister: Yes, exactly. That's right. We kind of overlapped when I was a student. He was in his doctoral program under Starker at that time when I was an undergraduate. Next one is Sherman Chickering. This is the San Francisco Chickering family. He came along on a number of our trips.
- 17-00:31:56
Lage: And what was his orientation?
- 17-00:31:58
Pister: Well, it was very amenable to good conservation practice. We went into the golden trout country on one of these trips. He'd had two hip replacements, that early, in 1981. And he climbed Trail Peak, which is a pretty good climb, with his new hips, to see if he could do it. And so Sherman, he was great. That was an interesting trip, too, because Livermore was along on that. He set the whole thing up. And he wanted me to give a slideshow on golden trout. So we flew in a generator, because there's no commercial power anywhere up there, you know? And luckily it wasn't yet a wilderness, so we could bring in motors, whatever. We flew in a slide projector and a screen, and hauled them down to where we were holding our camp, our meeting. So it's probably one of the few slideshows ever given in the backcountry that way, and—
- 17-00:32:57
Lage: That is wonderful!
- 17-00:32:58
Pister: Isn't it beautiful? I love that.

- 17-00:33:00
Lage: And did that have an impact? Do you remember?
- 17-00:33:02
Pister: Oh, I think it did. Oh, yeah.
- 17-00:33:03
Lage: So that was something Ike Livermore as commissioner set up?
- 17-00:33:06
Pister: Yes. Ray wasn't on that trip. Sherman was. Livermore was. But what I did—see, they trusted me, you know? They did. This guy's sound, he's done good work, good academics with Starker, because they all knew Leopold. But it helped. Visual images are terribly impressive. The old Chinese adage is very appropriate there. They are worth a thousand words, or more. And so showing the need for the preservation of pure golden trout there. Because, see, I was well into my study at that point, which I started in 1965. It was good. And Ike, he was smart enough to say, "This fits right in with commission policy," so on and so forth. Well, that was a big thing right there. Because commission policy on golden trout had been established long before that. So that was good.
- But going down this list here again, there was a Ms.—Dr. Venrick, Ike Livermore—
- 17-00:34:11
Lage: Now Dr. Venrick was the woman?
- 17-00:34:13
Pister: Yeah. Yeah.
- 17-00:34:14
Lage: And what was her—? You didn't really tell too much about her.
- 17-00:34:16
Pister: Well, I don't know. Didn't know that much about her, but she was really a bright gal. I think she was with Stanford, another Stanford person.
- 17-00:34:24
Lage: But you say Charlie Fullerton particularly liked her?
- 17-00:34:27
Pister: Yeah, I don't know. It was a good rapport, I guess, between the two of them. And her nickname was Pooh Venrick. It could have been from—
- 17-00:34:38
Lage: Did she come along on that trip too? Do you remember?
- 17-00:34:41
Pister: I don't believe she was on that trip, no.

17-00:34:44

Lage: There weren't that many women involved.

17-00:34:46

Pister: No. We had another one later, who was a state legislator. I don't think she was a commissioner. I've been out of the loop enough now that I couldn't name the current commission. And the last guy here, one, two, three, four, five, six: Hal Cribbs, executive secretary. The executive secretary of the commission kind of acts as their ombudsman. He tears around and he makes sure that all the arrangements are made for the transportation and whatever. Hal was a professional wildlife biologist, and of course that helped. And they've always had good executive secretaries for the commission.

And it's really a good setup. You mostly don't have to fight your way. One of these guys might be—this is a good example—might be representing the commercial fisherman. Might have been pulled into the commission to represent them, because a lot of legislators push to appoint commissioners. And you can imagine what that commissioner would face with the salmon situation now, where there's just no more salmon fishing. Well, he's a guy makes a living off of salmon fishing, and they also vote for politicians that regulate these things.

17-00:36:08

Lage: So this commission, of course, their purview was so much broader than Sierra Nevada lakes. And they had game as well as fish.

17-00:36:17

Pister: Oh, sure. Game, fish. Fish and Game Commission. And so their purview was essentially, if you want to broaden it out, I'm sure this was the intent by our legislators way back, maybe as early as 1870 about the time the department was formed.

17-00:36:34

Lage: Is that when it was formed?

17-00:36:35

Pister: I believe it was about that time. I'm sure that the thinkers at that time, which were good ones, guys like George Perkins Marsh, and Thoreau, would say, "We've got a broad mandate here." Because you look at the constitution of the state, it's not to provide fishing and hunting, but to provide for the fish and wildlife resources of the state of California for its residents and for their different uses.

17-00:36:58

Lage: I see. That's the actual mandate of the department.

17-00:37:01

Pister: But then politics enters in, and that mandate becomes skewed to address political interests and concerns. So that's how the commission works. Overall, I'd say it's a good, successful way to run things. It provides another series of

checks and balances. It even helps, say, preserve things like pupfish, because they come out with a good commission policy on non-game organisms, which I believe they've done now, and those in the department that may not like it, it may go against their philosophical direction, are pretty much mandated because of the commission to pay attention to what they say.

17-00:37:41

Lage: Now speaking of politics, let's look at—if you can remember, and I don't have a list for the later period, but—when George Deukmejian came in, was there a shift in departmental leadership, and—

17-00:37:57

Pister: Well, yeah there was. I'm trying to—there was a fellow named Pete Bontadelli. Whether he was there—

17-00:38:04

Lage: Would he have been the director?

17-00:38:05

Pister: Director or, during the Wilson administration [actually during the Deukmejian administration, replaced as director by Wilson in 1991—ed.]. Maybe both. I don't know. Pete was a good man. His family came to California back in the 1600s, you know? It was way back. On the coast way, way back. But he was a good director. We were good friends too.

17-00:38:22

Lage: But *you* had left by the time of the Wilson administration. So was Bontadelli director when you were still working?

17-00:38:30

Pister: Yes. Yes. I think when I left the department, he was director. Because I got a, it was kind of like a gold watch type thing. A certificate, you know, for—

17-00:38:40

Lage: What about Mike McCollum? That was a name I came up with as deputy director of Fish and Game under Deukmejian.

17-00:38:47

Pister: Him I did not have any contact with.

17-00:38:51

Lage: Did you sense—the Deukmejian administration is not known for being environmentally friendly.

17-00:38:57

Pister: Well, see, well, no. But see this is one of—

17-00:38:59

Lage: Did you see a shift then?

17-00:39:00

Pister:

This is one the values of the commission, because it tends to transcend politics. The governor will always have the opportunity and the mandate to appoint commissioners. But they're on something like seven-year appointments, something like that. Renewable appointments. So just through the way they exist there have less, say, direction from the governor's office than, say, a department would have.

17-00:39:29

Lage:

So they might provide more continuity?

17-00:39:33

Pister:

Mm-hmm. And again, we looked at this commission here, the one with Livermore and Dasmann on it, and Chickering, as the ideal commission for us. Because these guys were broad enough in their thinking, smart enough, and their backgrounds were such to address the things that we felt were really important, and to equate things like the game, the economic species, with the—You know, Leopold said this as well. He said, "We fancy the game species support us, forgetting all about what supports game species." You know, the broader biota does that. The critters that these guys might laugh at for us managing, the things that they like to shoot, eat these things, so—
[laughter]

17-00:40:17

Lage:

But you didn't have a sense of big change under Deukmejian? I mean you retired in 1990. Were you getting more frustrated with the department, or was it just time to retire?

17-00:40:28

Pister:

Well, I learned long ago to—I could pretty much do what I wanted to do. You just were careful about how you do it. The only thing, you had to get the approval of your supervisor. In a way, it's like the Montgomery statement I read yesterday. He says, speaking to Arnett, "What this guy does in his own time at his own expense is his business. It's not yours or mine." So I could—

17-00:40:55

Lage:

You could do things on your own?

17-00:40:55

Pister:

I could go through the gray zone there and do things that might not have the wild applause from the department that they would like, but I did them anyway.

17-00:41:08

Lage:

Well, let me point out one instance that we went over last time. But as I reviewed it, it really is an instance where you did more than just be under the radar. And that was the Slinkard Creek—

17-00:41:28

Pister:

Oh, Slinkard Creek. Oh, yeah.

17-00:41:29
Lage: —where you wrote this letter, which is reproduced here in *Intelligent Courage*. I'm going to give you this. You wrote that to—it just said, "To Region 5."

17-00:41:39
Pister: I wrote it to Region 5 for that reason.

17-00:41:42
Lage: For what reason?

17-00:41:43
Pister: Did not want to, necessarily, impugn the people that were against me doing this.

17-00:41:49
Lage: You didn't mention a name.

17-00:41:50
Pister: Which turned out to be only one individual.

17-00:41:53
Lage: Oh, really?

17-00:41:53
Pister: Yeah. Who, I might add here, is one of the regional managers.

17-00:41:57
Lage: Was he a Region 5 manager?

17-00:41:59
Pister: Yeah. He was for many years.

17-00:42:01
Lage: Was that Mr. Montgomery?

17-00:42:03
Pister: No, Montgomery was gone by then.

17-00:42:04
Lage: Oh, I see.

17-00:42:05
Pister: No, he was—he succeeded Mr. Montgomery. A fellow named Fred Worthley.

17-00:42:09
Lage: I see. And he was opposed to the—

17-00:42:10
Pister: Yeah, he was opposed because—no. The reason he was opposed—

17-00:42:16
Lage: Maybe just give a slight background. Not the whole story, because—

17-00:42:25

Lage: I'm going to stop this for a minute.

17-00:42:37

Lage: Okay, we're back on. Slinkard Creek. You told the story, so we don't need to do the whole thing, but just two sentences to set it up, and then tell about that letter.

17-00:42:49

Pister: Okay. Well, what happened on Slinkard Creek is that one of our endangered, or surely severely threatened, cutthroat trout subspecies is the Lahontan cutthroat trout. Couple up in our area. See, in the Great Basin from the Sierra to the Rockies has a marvelous complex of subspecies of cutthroat trout, many of them. We have two of them right there in our backyard. They are remnants of the Pleistocene Pyramid Lake. It had big populations of these fish at that time and they had spread all over the Walker River system, clear up into the headwaters of the West Walker. East Walker the same way. So okay. The Department of Fish and Game purchased private land in Slinkard Valley to get the whole thing, mainly for deer range. Very popular deer area. Well, we looked at this, said, "Jeez. The department owns that whole drainage. What a great place to do some fish recovery work." So my assistant—

17-00:44:04

Lage: When you say "we"?

17-00:44:05

Pister: We, the people in fisheries in Bishop who had the legal responsibility for that area—

17-00:44:13

Lage: You and your staff.

17-00:44:14

Pister: Yeah. Mainly a guy named Darrell Wong. Darrell remains as probably one of the most competent guys I've ever worked with, and smartest, too. Did we get into small hydroelectric?

17-00:44:27

Lage: We did. But keep with this story about the letter!

17-00:44:29

Pister: Oh, okay. We're dendriting here.

17-00:44:31

Lage: Right!

17-00:44:32

Pister: Okay. So we built a big barrier dam to keep bad fish from swimming back up into Slinkard Creek, that we wanted to use for a refuge. And in the true sense,

that would be a refugium. Refugium differs from a refuge. A refugium's a natural thing; a refuge is something people build.

17-00:44:53

Lage: So this would be a refuge.

17-00:44:54

Pister: Well, in a way. But the upper end would be more of a refugium, because that would be the native species that was there at that time. Okay. The problem was that some of the brass in our department loved to come over there and fish for brook trout in that stream.

17-00:45:11

Lage: And they had kind of a set-up there?

17-00:45:13

Pister: Oh, yes! They had buildings. Dorms that they could sleep in and cooking facilities. It was kind of a little motel in the backcountry, really. And Fred hated to lose that, because he could make a lot of political points bringing over politicians and stuff. "Come on over to brookies! Do some brookie fishing here at Slinkard."

17-00:45:32

Lage: Now Fred was your regional—

17-00:45:33

Pister: Yeah. And I could understand that. But we saw it as probably our only opportunity to save this Lahontan cutthroat. *Salmo*—or, at that time *Salmo*. It's *Oncorhynchus* now—*clarki henshawi*. *Clarki* is a species of cutthroat trout. The others go beyond that, the subspecies. So that's when I sent my proposal down to do this, because it was going to be a rather significant project. Word comes back: "Uh-uh. You're not going to do that project." So I thought, okay, Phil. You've got to leave some kind of a legacy here. So that's when I wrote this letter. We're going to do it anyway.

17-00:46:10

Lage: And that was '86?

17-00:46:11

Pister: Eighty-six. And if you want to ca—

17-00:46:14

Lage: And had you ever done anything that direct before?

17-00:46:16

Pister: Probably not that dramatic. I'd done plenty of things that the department didn't approve of, but they didn't know about it. But this one here, yeah. They had to know about this, because we had to file a number of legal documents. Water Quality Board, for instance. You just didn't go dumping rotenone on

the stream anymore. You've got to get approval from the Water Quality people. And everything related to that. So when the word came back, "No"—

17-00:46:43

Lage: And did they say why, or did you just know why?

17-00:46:48

Pister: Well, *they* knew why.

17-00:46:49

Lage: But did they tell *you* why? Why the no?

17-00:46:51

Pister: Oh, no. No, this is implicit. [laughter] So strong in my mind was the Leopold ethic: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It's wrong when it tends otherwise." To keep those fish that should have remained in the eastern United States, they're not native there, in that stream that should have cutthroat trout in it was *not* in the benefit of the biota. This was for a very selfish purpose, really. So I figured, okay, fine. I knew darn well, Ann, if I was hauled in on this, like in a personnel hearing or something, I'd win!

17-00:47:34

Lage: Because—

17-00:47:35

Pister: Because of that very fact. Because what I was doing was what the department was there for. There might have been one on the—whatever commission makes these decisions, but I was going to win that. And my region—

17-00:47:48

Lage: And would you have been able to point to the sort of selfish—

17-00:47:52

Pister: Oh, yeah!

17-00:47:53

Lage: —reason—

17-00:47:53

Pister: Oh, yeah. I made a good point of that. As opposed to, say, it would maintain the natural biota there. Interesting part of that whole area, too. Slinkard Creek is loaded with rattlesnakes. We had to be really careful what we were doing there. You'd see these snakes trying to get out of the way. They're shy. They don't like to sit around and bite people. They'd hear us coming their way, they'd go slithering across the ground. That was the—

17-00:48:15

Lage: Did you suffer any consequences from that kind of direct letter?

17-00:48:18

Pister: No.

17-00:48:19

Lage: Or get an answer?

17-00:48:20

Pister: Never did, no. I think that they went, “Okay. We got beat on this one.”

My boss—see, there’s a level between me and the regional manager. The guy that said no is the regional manager. My boss was kind of stuck in the middle. He saw both points. So he never said a word either. I think Keith—Keith Anderson. He’s a great guy. Retired now, Monterey or Carmel, somewhere there. He saw the value of what we were trying to do, and I think he could see the legal aspects of it too. We’d win if it went into a hearing.

17-00:48:53

Lage: So I want to ask you a few more things here, if I can find my notes.

17-00:49:00

Pister: That was red-letter day, though. When I put that letter in the mail, before e-mail, I thought, okay. Into thine hands I commend my spirit. [laughter]

17-00:49:11

Lage: You mentioned at some point—now I can’t find my note on it. But another perk that the higher-ups liked were the planes used for planting fish.

17-00:49:23

Pister: Oh, yeah, yeah. Okay. I mentioned this meeting in Portland, the one that got me in hot water with the director.

17-00:49:28

Lage: You said something about how they liked to plant fish because that gave them these planes?

17-00:49:33

Pister: Oh, yes, yes, yes.

17-00:49:35

Lage: Tell me about that.

17-00:49:35

Pister: You don’t buy a Beechcraft King Air for peanuts. The plane that we bought to continue, we used a surplus World War II Beechcraft until they bought the Beech—I would guess maybe early eighties, somewhere in there. And right away, budget hawks, the legislature, department, they were all saying, “Hey jeez, that’s a million and a half bucks! We don’t have that kind of money.” But then the lobbyists, our pilots, and some of the people in the department would say, “Yeah, but that’s the way we plant fish.” Oh! And planting fish has always been something of a holy thing in the department. And we’re finding out now it was being directed—

17-00:50:21

Lage: Were you suspecting that part of the reason they liked to plant the fish was so they'd have access to these planes?

17-00:50:27

Pister: A good way to put that was after we—and I'll have to cover that too. On our transplant of cutthroat trout back to Colorado, my counterpart back in the US Fish and Wildlife Service in Golden, Colorado, he was out with us for this whole thing and flew back with the fish that we took back to Colorado. We co-wrote a paper on what we did there. He put it this way. He says, "During the short time that the Beechcraft was not being used to haul fish, it was utilized as an aerial limousine for department brass," which is exactly what it was. They flew commissioners to commission meetings, which were held all over the state. Not bad things, but they justified it. Because you can always come back and say, "Southwest does that, and a lot cheaper." [laughter]

17-00:51:22

Lage: Interesting. Let's see. We talked about the influence of the new laws. I'm just running through a checklist here of things I wanted to do. And we talked about increased financing for endangered species' habitat restoration. Another thing I felt came across was the fact that there were falling revenues from licenses.

17-00:51:47

Pister: Yes.

17-00:51:47

Lage: What was the story there?

17-00:51:51

Pister: I don't have the hunting data, but they are probably somewhere. This was highly significant. I'm awfully glad you brought this up. It brings up another point. California sold more angling licenses in 1960 than they did in the year 2000. During that same period, the trout population in California nearly tripled. So we see a social demand for, say, sport fishing going shooooo. Way off the chart. Still sell a number of licenses, but less than we sold forty years ago. Nearly fifty now.

17-00:52:26

Lage: I mean, that has something to do with the department's shifting priorities.

17-00:52:29

Pister: Well, it does. And I've often asked myself why. I say there's any number of reasons. Prior to and shortly after World War II, there was a huge demand for that type of recreation. Now we have other things. Families are doing Little League. That's a good example. Where kids are tied up in Little League until August, and then many of these families that used to come up as family units and go fishing are hooked there at home in San Marino, or LA, or wherever they are. Sacramento, Bay Area. And along with that, I think another part of

that population increase has been Hispanics and Southeast Asians, and sport fishing isn't part of their culture. Before—

17-00:53:13

Lage: Although fishing for food—

17-00:53:15

Pister: That's a different thing.

17-00:53:16

Lage: —especially the Asian community.

17-00:53:17

Pister: That's a different thing. Yeah. But the Asian community, they're not used to adhering to laws, either. So our wardens have had a terrible time. You get some old guy from Vietnam or something with a bunch a fish in the bottom of his boat. "Where's your license?" "License? What is that?" [laughter]

17-00:53:40

Lage: It's foreign to their understanding.

17-00:53:40

Pister: Yeah. It's just totally. And he's just feeding his family, primarily. Probably sell a few to make a few bucks with his neighbors and so on. So that's been one of the big problems. Hispanics, about the same, I guess. But the Mexicans are deep into deep-water fishing. They have big tuna programs in *Ciencias Marinas*—Marine Sciences—which is one of their big majors there at the University of Baja Norte in Ensenada. My friend, in fact, is a professor there in that field. Good publically funded government programs on that, but trout? No. Trout's not part of that. And so—

17-00:54:21

Lage: So you just don't have as much mountain fishing now?

17-00:54:24

Pister: Well, no. There's not a great deal of that. And somehow, even though there's good trout fishing within, say, two hours of a city of nearly a million people in Ensenada, nobody goes up there and goes fishing. When I first went up there, my first trip, and this is interesting. I went up with my friend Carlos, a conservationist from Ensenada. They have—maybe something like LBL [Lawrence Berkeley National Laboratory], kind of some of the adjunct groups we've got here at Berkeley—they call CICESE [*Científica y de Educación Superior de Ensenada*, Center for Scientific Research and Higher Education of Ensenada]. CICESE is defined as Scientific Investigations for the Government at Ensenada, something like that, or for Baja California. And a couple of graduate students were up from that, too, and they wanted to catch some fish. I wanted to take some back for genetic work, mainly, at Davis.

Interesting thing was I had my fly rod and some very, very good flies that I'd tied. These guys had big reels of copper wire, as you might use on an AM

radio antenna. Thick copper wire with great big hooks. They did have salmon eggs, and they just took—but the fish were only this long. And they'd wind up these things—there was a big pool right in front of our camp. It's pretty good fish in it. And they'd wind up and this enormous lead sinker, and it would go crack. The fish would just totally disappear.

17-00:56:01

Lage: And you were with your little fly?

17-00:56:02

Pister: Oh, I would say, "Hey, you can keep trying here." And I think the first ten casts, I got trout on each one and brought them back. They viewed me as a great white god that could miraculously pull fish out of the stream. So before I left there, I made several trips down there. They were taking up fly-fishing. So it was much more effective.

17-00:56:22

Lage: So you're a pretty good fly fisherman?

17-00:56:23

Pister: Well, I mean through the years, I'd *had* to be. Because this was probably the most efficient way to sample the lake. What's in there? Well, *phew!*

17-00:56:30

Lage: But is it something that's a joy to you?

17-00:56:33

Pister: Well, up to a point. People ask me, "Now, Phil, I bet you do a lot of fishing now that you're retired." Uh-uh. I still fish with Roger and his gang, the Corps of Discovery, mainly to feed them. But about a year ago, I went to Cabela's and bought fishing gear for these guys. And they're really into this now. I got some great pictures.

17-00:57:04

Lage: So you teach them how to fly fish?

17-00:57:05

Pister: Yeah. And it comes to you rather quickly. But, yes, I've—

17-00:57:10

Lage: But Roger mentioned that you don't eat the fish.

17-00:57:13

Pister: Well, I would eat them, say, if we were really short of food.

17-00:57:18

Lage: Is it you don't like it, or—

17-00:57:19

Pister: Well, it's okay, but I just don't sit there—I'm not, say, a gourmet trout eater. [laughter] They are.

17-00:57:26

Lage: Now, one of the changes in fishing is more interest in catch and release.

17-00:57:35

Pister: Oh, yeah. You're right. The department has big programs, now, with strong support from the public, or private, groups. They're quasi-private. Like California Trout, which is a big outfit. And Trout Unlimited, a national organization. These are top-flight organizations, and they've been *hugely* helpful to us in things like getting the cows kicked off the golden trout country. These people, it would be blasphemy for them to catch a fish and eat it. I'm not that—

17-00:58:07

Lage: Now why is that?

17-00:58:08

Pister: Well, because the fish should be recycled, that kind of concept.

17-00:58:12

Lage: If you do that, you don't have to plant so many fish.

17-00:58:15

Pister: Well, that's true. And we're finding too, this is an interesting point, getting back to our airplane, the whole thing? Way back in my career, maybe twenty years ago—well, I retired twenty years ago. Maybe thirty. I thought it would be a good thing to see what is the impact of planting trout on the trout population in that lake? So I drew up a big research program I wanted to conduct out of Bishop. Well, it wasn't going to get through unless it was funded. So I wrote this up, and I sent it over through my region up to the chief of fisheries, a good friend, George McCammon. George was a top-flight guy. And he said, "You know, Phil, I know what you're trying to do, and I certainly agree with it, but there's no chance in hell that you're going to get the department to stop planting fish."

Well, so then comes a graduate student at Davis, a guy named Trip Armstrong. And for his dissertation, he ran a study with marked fish and the whole thing: does it actually do any good in the lake to dump in, say, 1,000 fingerling trout this long? This was my concern, because I could see these lakes already had all the fish that they could support, and to plant more in was just dumping water into a full bucket, basically. That's what I wanted to find out. But he went in from the outside, like a university researcher, and proved statistically what I had long known myself. Now, how the department accepts that, I really don't know.

17-00:59:44

Lage: You don't know if they accepted—

17-00:59:46

Pister: Yeah. And implementing that. But we seem to see one—

17-00:59:50
Lage: I have to cut you off here because there's—

17-00:59:51
Pister: Okay. Go ahead. We'll talk about—

[End Audio File 17]

[Begin Audio File 18 Pister_e_philip18_05-21-2008.mp3]

18-00:00:04
Lage: Okay. We're onto tape eighteen, continuing our session with Phil Pister, who is yawning.

18-00:00:13
Pister: I just gave a big yawn.

18-00:00:14
Lage: Okay! Now continue the story about fish planting, which we may have covered already, but—

18-00:00:21
Pister: Well, I don't—there might be some parts here we haven't covered.

18-00:00:23
Lage: Yeah, I think so.

18-00:00:27
Pister: In the mid-seventies, the National Park Service began to ask the same questions that I had been asking myself for many years. Two things: is this doing any good? And secondly, is this within the purview of the Park Service to be planting an alien predator in these pristine lakes throughout the national park system? They're in our area, in Yosemite, and Sequoia-Kings [Canyon National Park]. So they assembled a task force. You always have to do that. [laughter] Karl had a thing on his door once that said, "The reason they establish committees and task forces is so that they can't point the blame at any one person." [laughter]

But so okay. So we held this meeting in the Park Service headquarters, here in San Francisco, that used to be on Van Ness. And I went over. And my input was to say, "I agree with the Park Service. I don't see any real reason to do this or not." They had just enough of the A types in the department saying, "Well, we don't agree with that."

18-00:01:31
Lage: In the Park Service, or in—

18-00:01:33
Pister: Oh, no. Fish and Game. I was just one of the, I think, two or three that were there from Fish and Game. Because there are two things there. State agencies

have always taken great delight in their autonomy to manage fish and wildlife resources as they see fit, and the hell with the Forest Service or—

18-00:01:49

Lage: Or the Park Service?

18-00:01:51

Pister: Federal agency, yeah. Yeah. The Park Service—

18-00:01:53

Lage: That's an interesting dynamic in itself.

18-00:01:55

Pister: Well, it is. It is. And so Park Service guy said, "We don't agree either." They brought in the Fish and Wildlife Service, my good friend John Maciolek. He and I were grad students here at Berkeley, working on master's here at the time. He went on to Cornell, got his PhD. But he was a very good aquatic biologist. He was a limnologist, limnology being defined as fresh-water oceanography. That's as close as you can come to it. And so [coughs]—Excuse me. John says, "I agree with Phil." So the Park Service said, "Okay. No more fish planting in the park."

18-00:02:36

Lage: And they're entitled to say that? Fish and Game—

18-00:02:38

Pister: Sure, we could only plant at their agreement or direction, one of the two.

18-00:02:46

Lage: When was this, now?

18-00:02:47

Pister: This would have been mid-seventies. So I made up a great slide that I used in [laughter] in my lectures. Showed the old fish planting. We had a twenty-mule team they'd load fish cans on, haul them all over the Sierra Nevada. Interestingly, this was started by Will Colby, who took over from John Muir in the Sierra Club. He loved to plant fish. So Colby would move fish all over the place. And I so showed that, showed our current [practice], went back to more recent mule planting, then to the airplane. And I had a picture I'd taken myself and done some doctoring work on it, showing the plane coming, or the big plume of spray come out from beneath it, with a big string of question marks dropping down toward the lake. Kind of an eloquent statement there. We didn't know what we were doing. We were taking these little pure, pristine bathtubs of water, and taking water out of a fish hatchery. We had no idea what diseases we might be dumping, or anything else.

And so my slide that I made to follow that showed a World War II anti-aircraft gun right on one of the eastern borders of Sequoia-Kings, which would be Kearsarge Pass. Yeah, Sequoia-Kings. Literally with an "NPS"

inscribed on the anti-aircraft gun. So you bring your airplane over here to plant fish, we're going to shoot it down! [laughter] So—

18-00:04:22

Lage: Now what did you make the slides for?

18-00:04:26

Pister: Just for general use, because—

18-00:04:28

Lage: To show at the Rotary Club, or—

18-00:04:30

Pister: Yeah, I could do that. Yeah. Rotary, some of those. See, I've given lots of talks to fishing clubs, so on, so forth. Universities are interested in this too. Most of my lectures, you may have picked up, have been to universities. Well, many of them. I think I'm at eighty.

18-00:04:46

Lage: But this particular one, to sort of demonstrate—

18-00:04:48

Pister: Yeah, well, I just wanted to bring out that in my job as a fish manager, which I had talked about, that you do many things that you need good research to justify. Because I would pick up on programs where—with bureaucracy, you turn the crank. You'd done it the same way year after year after year, and you don't want to change, because people like it. The legislature likes it. People buy licenses because of this, and so on. But to me, that's not a good justification. You should be biologically sound. Because you get into ethics. I've never found a program that was biologically sound that wasn't also ethically sound. Because it comes to Leopold's statement again.

But again, okay, in the more recent years, we've had these tremendous depletions of frogs. And amphibians, salamanders, toads, too, throughout our high lakes. High lakes in the forest, over the hill from Sequoia-Kings and Yosemite, which are westward drainages, of course. So some research started there by some good old UCSB students that work out of SNARL, that we talked about yesterday. Roland Knapp. Roland got his doctorate at Santa Barbara, and is probably the preeminent authority on all of this High Sierra Lake management and biology. Roland is just really a top-flight guy. And so he did some studies, and he found by his own observations—see, one of the problems with the mountain yellow-legged frog, they spend three years as larvae. Most other frogs, like bullfrogs and stuff, they're out in a year. But here these frogs are subject to being preyed upon by very hungry brook trout, mainly, throughout the High Sierra. So he right away pointed the finger as one of the causes of these amphibian depletions.

I've always felt, and Roland agrees now—at first he didn't—that there are many other facts involved too. We've got global warming that's involved,

we've got pesticide applications in the southern San Joaquin Valley that blow up over through—the wind funnels go right up over Sequoia Park, some of the most heavily-impacted. So there's pesticides. They're finding stuff now that just a part, couple of parts per billion will make major changes in the reproductive systems, and so on. Then on top of that, we have this very scary fungus. I'm not going into the taxonomy of it, but it's a fungus. We don't know how it got here. It could be airborne. But it's highly lethal to amphibians in their larval stages.

18-00:07:23

Lage: And is that considered to be one of the—

18-00:07:25

Pister: Yeah. So it would be, probably, a multi-pronged problem. They're trying to work out of it, but fish are just kind of the *coup de grâce*, so to speak.

18-00:07:34

Lage: They add to it.

18-00:07:34

Pister: Yeah.

18-00:07:35

Lage: But then the planting of fish has gone on for so long, and the amphibian decline is more recent.

18-00:07:40

Pister: Oh, yes. Yes. The planting of fish goes on now probably for close to 150 years. It kind of underscores Stephen Jay Gould's observation, "We're trapped in the ignorance of our own generation." I think we used that before. But fish planting is *exactly* just a good example of that. Because we did it. We've always done it. "We've always planted fish. Why should we stop? We've always done it," they say, without asking the ultimate question: but is it helping? Is it doing any good? Or is it actually harmful?

I've got a good friend, born and raised just south of Bishop in a place called Independence, the county seat of Inyo County. He's a prof up at UBC, the University of British Columbia. And because he was raised in that part of the country, down in the southern Sierra, he retained this really great degree of interest. He put one of his PhD students up there at UBC, studying brook trout populations, right there out of my backyard over in Bishop Creek. And Don turned out really a good dissertation.

Literally, those darn things are so highly productive, so prolific, that he would set nets night after night after night at one lake. It was just like you were thinning peaches on a tree, and they'd all grow back the next night.

18-00:09:02

Lage: Wow. What kind of trout do we get from the hatcheries and the fish market?

18-00:09:06

Pister:

Well, they're primarily rainbow trout. Like you go down—fresh rainbow trout. There are a number of commercial trout raisers throughout the west. There's a couple in California. They raise catfish in southern California. It's a big thing down there. Tilapia from Africa. We've found, like most introductions, that these things are not good for natural populations.

18-00:09:33

Lage:

Yeah.

18-00:09:35

Pister:

So we've found the people who like to backpack through the high country and like to fish, they're not suffering at all, because there's plenty of fish up there without planting fish. What do you do if the lakes are already full of fish?

18-00:09:48

Lage:

Especially if people are catching and releasing.

18-00:09:51

Pister:

If they're doing that. A lot of backpackers—like Karl and a good friend of ours spent—we went out on one trip in 1948, out of Independence, went up over Kearsarge Pass. We were out for three weeks without replenishing our food. And that's before the days of freeze-dried stuff. You had to—

18-00:10:11

Lage:

Existing on the fish?

18-00:10:13

Pister:

That largely. But we'd also take along these Kraft dinners. You get powdered milk, you could get dried potatoes back then. Take a couple loaves of sheepherder bread out of Bishop, which lasts forever. But trout were one of the big things. If we hadn't had trout to eat, we couldn't have made it through the weeks. But the country back then, right after World War II—see the lakes had not been hit very hard, either, by fishermen during the war, because they were doing other things, winning wars and things. So the populations were high back then. Of course that's what got me here talking to you, is this background on these things.

Karl and I were talking about this last night. There was a hardware salesman, fishing tackle salesman, in San Francisco at Roos Brothers [department store], a guy named Charles McDermant. And McDermant was also a backpacker, fisherman, and he loved to fish with flies. So his books, for a couple of kids like Karl and me, jeez, we would read these things. And as I mentioned yesterday coming back from the cafeteria, or the faculty club, I'd walk over Strawberry Creek, and I could almost see, in my mind's eye, golden trout behind each of those rocks. And you just couldn't wait to get up there again. [laughter]

18-00:11:33

Lage:

So you were fly fishing then, also?

- 18-00:11:35
Pister: Yeah. Oh, yeah. Yeah, I started tying my own flies when I was in high school. My dad was also a bait fisherman, but Karl and I, we—I'd tie all the flies, and Karl would use all the ones I would tie.
- 18-00:11:46
Lage: Oh. Really? That sounds like a great—
- 18-00:11:49
Pister: And so it was a fun thing.
- 18-00:11:50
Lage: Yeah. Now I want to finish up with the agency, and then we'll move on to something after lunch.
- 18-00:11:55
Pister: Okay. Sure.
- 18-00:11:59
Lage: Did you see any increase in women and minorities in the Fish and Game Agency?
- 18-00:12:03
Pister: Oh, yes! Yes, yes, yes.
- 18-00:12:06
Lage: When and what impact might that have had?
- 18-00:12:07
Pister: Well, okay.
- 18-00:12:09
Lage: Was there an effort made?
- 18-00:12:10
Pister: To make sure that I don't forget to say this, it was *highly* positive when women came into the organization. Women were not a problem of meeting affirmative action quotas. It was the minority groups, the Hispanics and the blacks. Very hard. I put it this way: the reason it was hard to get them, they had other causes. The environment was not a big thing with them. Social acceptance, particularly with the black folks.
- I was back at Delaware State last April. Delaware State, the student body there is well over half black. And I was very impressed in talking with master's students there in fish work that are blacks. I just wish I could get those kids to come out here. Most of them, they've got their roots there in the DC area and they don't want to leave. But then—
- 18-00:13:04
Lage: But there were affirmative action quotas that you—

- 18-00:13:07
Pister: Yeah. We tried our best to get them, and if—
- 18-00:13:10
Lage: And what about women?
- 18-00:13:12
Pister: Well, women, okay, that was—
- 18-00:13:12
Lage: Was it a friendly enough atmosphere for them?
- 18-00:13:15
Pister: Well, I'll tell you. When I was an undergrad here in wildlife conservation with Starker, Shirley Powell was the only lady in that whole curriculum. You go into courses, say, in forestry, maybe just out of a lecture hall of a hundred people, there might have been three or four. It was that way throughout resource management. *Now*, it's, I would say—when did that start? I'd say probably in the late seventies, early eighties, where ladies started to come in looking for summer jobs. Great! We'll hire you. I don't think I've sent you this yet, but in a paper I wrote relative to a meeting I attended in North Carolina in 1992 called "Bright Spots on the Horizon," it talked about the highly positive impact of ladies, women, in the work that we do.
- 18-00:14:15
Lage: Now what did you observe?
- 18-00:14:18
Pister: Well, two things. First off, I think women—this is part of the key to it. Women are vastly more perceptive than men are. And I think—
- 18-00:14:28
Lage: Can you give an example?
- 18-00:14:30
Pister: Well, just with my wife, when we walk through a house, I'll walk out of there, I'll know that the roof's not leaking and I didn't trip on anything in the floor, but she will tell me the color of the drapes, the rugs, what the kitchen's shape was in, and so on. And I'll be totally oblivious to that.
- 18-00:14:44
Lage: But did you notice it in your work—
- 18-00:14:45
Pister: Oh, yeah. Yeah.
- 18-00:14:46
Lage: —working with women?

18-00:14:46

Pister:

Yeah. Women would come back, and they'd have much better notes. Much more complete. I think there's another factor too, Ann. I should toss this in. Women, I think, are just inherently more responsible than men are. You set a deadline for a woman to write a report, it's there. They're not out getting drunk the night before, by and large. With some exceptions. Generally. And in my paper, the paper that I'm having published on golden trout now, most of the appendix material in it was written by gals back in the seventies. That kind of dates it, too.

18-00:15:26

Lage:

Doing scientific studies?

18-00:15:28

Pister:

Yeah. One was a grad student out of Oregon State, studying the impact of the chemicals we're using on invertebrate organisms. We're just getting into that at that point. Another one came back to Berkeley working with Vince Resh in entomology, got her doctoral degree here. She's with the Fish and Wildlife Service now. And I think back, I wish I had the office send that to you. Did I send you a Word file on that paper?

18-00:15:59

Lage:

Yes. On the paper on the golden trout?

18-00:16:01

Pister:

Yeah.

18-00:16:01

Lage:

Right.

18-00:16:02

Pister:

Because in the first section, it's called, I think, "Main Text," something like that, it lists in the acknowledgements, about half of them are women.

18-00:16:11

Lage:

Now what about in the department? More women came into the department—

18-00:16:15

Pister:

Oh, yes!

18-00:16:16

Lage:

Did they move up or was there a glass ceiling?

18-00:16:17

Pister:

Well, there's still kind of a glass ceiling there, but less so.

18-00:16:21

Lage:

Were they any regional managers during your time?

18-00:16:24

Pister:

No. About the time, one of our regional managers Patty Wolf, took over our Marine Region, down in southern California. Around that, we had some of our staff people in Sacramento, in the resources building, at higher levels. Our director of conservation education, Sandy Wolf, is one. So two wolves. Yeah, Patty and Sandy. Two wolves there. How do you like that?

But we had, thinking of the other regional managers, no. Some of our technological staff, like out at our Fish and Game Laboratory out in Rancho Cordova, yeah. There are very good people, say, in toxicology. With mainly PhDs. Out of the UC system, Davis.

18-00:17:12

Lage:

I remember hearing that Claire Dedrick, for instance, when she became secretary for resources, which would have been '75, that she was in an agency that was just almost hostile to women, it was so male.

18-00:17:28

Pister:

This had to almost kill Ray Arnett, when they brought in as his successor Claire Dedrick. [laughter] Because Arnett was—I'm sure that he felt that women should stay tied to a tree, or to the stove, and just have babies, and—

18-00:17:47

Lage:

So he didn't encourage women in the department?

18-00:17:49

Pister:

Not that I'm aware of. Of course, there was a fair gap between him and me in departmental structure. But those of us in the regions, I've always been highly commending to ladies as colleagues. Right now our fish biologist on the Inyo Forest is Lisa Sims. And you look at the forest biologists: Melanie McFarland, up in the Lassen Forest, another one of my former students. I think that this is because, as the old saying goes, even the most inadequate mind can detect the obvious. I think managers, male and female, are seeing the value of women going into this. I can carry this too far in our discussions, but yeah, it's been highly positive. I can give many examples of that. And they can do anything that the men can.

I remember one of my good friends who's now with the Idaho Fish and Game came up for an interview. She left California for a long time, married a guy from the Forest Service back there, Ellen Gleason. And Gleason went to an interview in our Region 2, which at that time was pretty macho. "So, two questions. First, Ellen, what are we going to do if you're out in the field somewhere and you have a flat tire?" "I'll change it." [laughter] "Well, can you lift it?" "Oh, I think I can manage that." "Well, you've got a fifty-five gallon drum of rotenone, and how are you going to load that in the back?" Rotenone was the name of a fish toxicant. "How are you going to load that in the back of your pickup?" She said, "Well, I'll probably get a block and tackle like you guys would, because you couldn't lift one either. It's going to be

about 500 pounds.” And she shot them down in all cases. She didn’t get the job, but she made a good—

18-00:19:28

Lage: Oh, she did *not* get the job?

18-00:19:29

Pister: No. But she was one of our better biologists.

18-00:19:33

Lage: Now, who was interviewing her?

18-00:19:36

Pister: The top machos in that region: the regional manager, the fish guy who was very much—.

18-00:19:46

Lage: When would that have been, do you think? I mean, that definitely shows a certain—

18-00:19:48

Pister: I’m trying to think of when Ellen left here. I think probably early eighties. We were just kind of moving in that direction at that time.

18-00:19:56

Lage: Yeah. A lot of changes.

18-00:19:58

Pister: Yeah. Karl, of course, my brother, has been strongly pushing. His main assistant, Billie Green in Santa Cruz, was just totally invaluable to him down there, and his staff the same way. They just loved him. [laughter]

18-00:20:13

Lage: Okay. I think it’s a good time to break. We’ve pretty well mined the department.

18-00:20:20

Pister: Okay, let’s shut it off for now.

[pause in recording]

18-00:20:21

Lage: Okay, Phil. We are continuing an interview from before lunch, and we had pretty much finished talking about your career with the Department of Fish and Game, and changes that you saw in the department, which was—

18-00:20:38

Pister: Yeah. Mm-hmm.

18-00:20:40

Lage: And then we didn’t actually get to why you retired when you did.

18-00:20:44

Pister:

Well, that's a good point. I'm glad you brought this up. All of a sudden, being very pragmatic myself, I realized, hey, you're only on this planet once. And you'd like to do the most good that you can while you're here. And I said, "Continuing on with the bureaucratic constraints that you have to live under, working for the state, I think I'll just quit." Because I had plenty of time in. I had something like thirty-seven, thirty-eight years. And I could get a good enough retirement to stay alive on. Never did have Social Security, so I don't have Medicare.

18-00:21:18

Lage:

Oh, no!

18-00:21:20

Pister:

Yeah.

18-00:21:20

Lage:

So it wasn't covered by the state?

18-00:21:24

Pister:

I had my own plan through the state employees' retirement system. It's been excellent. So it's not like I didn't have any insurance. Okay. So I decided, maybe now's a good time to retire. Said to Martha, "What do you think? Should I retire?" And she said, "Yeah, I know you well enough you'll be hanging around the house driving me crazy..." So she said, "The first thing you better do is go in the backyard." We've got a twenty by thirty building back there. The guy I bought the house from was a taxidermist. Gordon Wiltsie. He's a very famous climbing photographer. It was his parents that had the place. And he had the taxidermy thing.

She said, "First thing you better do, though, is to build yourself an office back there." So I did. A guy up the way is an electrician. I did the carpentry, and he did the other stuff. So with that, I figured, you know, I can continue doing the work that I feel is really valuable, unconstrained by bureaucratic constraints. So I decided, well, heck, fine. I'm going to retire soon. Karl was amazed when I retired. Here he is—

18-00:22:43

Lage:

How old were you?

18-00:22:45

Pister:

Sixty, right on.

18-00:22:46

Lage:

Ah-hah.

18-00:22:49

Pister:

Within a few weeks. And here was Karl, sixty-five, and he couldn't imagine why his brother was retiring. He was glad I did. So that was what led up to the retirement, was—

18-00:23:04

Lage: There was no enormous incident that—

18-00:23:08

Pister: No, I wasn't kicked out or anything. No, there's no epiphany, so to speak. But it's interesting that when I did retire, I did feel that relief of not having to go down to the office every day. Among other things, I've never been an early riser. This way, except on Sundays when I sleep until 9:00, I'm up every morning at 8:00, if the alarm clock works. I'm never up at—I guess I'm missing some of the best times of the day. When I do get up early, it's fine. I'm glad. I go out with my binoculars, and look at birds and stuff.

One of the problems is I have chronic low blood pressure, which is better than high blood pressure, but it takes me a while to get going in the morning. Takes me a cup of strong coffee to get things working right.

18-00:23:58

Lage: So it would appear from looking at your resume that you've spent a lot of your retirement time on the Desert Fishes Council?

18-00:24:08

Pister: Yes.

18-00:24:08

Lage: And on teaching and lecturing on environmental ethics.

18-00:24:14

Pister: Pretty much, yeah. See, what I like to—

18-00:24:16

Lage: And writing.

18-00:24:16

Pister: Yeah. Yeah. What I like to, both in my writing and lecturing, is to bring to the attention of students at that stage of their thinking the necessity for them to be ethically aware of what they do.

18-00:24:30

Lage: That, I'd like to talk about now.

18-00:24:31

Pister: Okay.

18-00:24:33

Lage: Environmental ethics, how you got involved. You've told about Aldo Leopold, and your interest in him, and the A and B dichotomy, and—

18-00:24:42

Pister: Yeah, all that.

18-00:24:43

Lage:

A lot of things that have shaped you. But in the later years, there's been sort of a field of environmental ethics that has grown up. Maybe tell about how you're related to that trend.

18-00:24:55

Pister:

Well, let's put it this way. When I published my paper in 1979 in the journal *Environmental Ethics*, literally you could count the available literature in environmental ethics on two hands. Now you call up on Google or whatever ISEE. If you get your way past the International Society of Electrical Engineers, you can get the International Society of Environmental Ethics. Bibliography is almost huge. It kind of shows how the profession—well, not profession, the discipline or the thinking processes of Americans, and world-wide—have just gone like this. So there are several journals now, all kinds of books. It's taught now in many—there was not an environmental ethics program anywhere in the nation when I got going, in the universities. But now, I'm not sure what Cal has, but professors will bring it in perhaps as a sideline, without having a professional faculty member come in on it, just to bring out these points. You read *Sand County Almanac*, you've made a big start to that, because it gets you thinking in that mode.

18-00:26:10

Lage:

It integrates it into the science—

18-00:26:12

Pister:

Yes. And Leopold did that so well, because he was a hunter and fisherman himself. Aldo Leopold. His son Starker is the same.

18-00:26:22

Lage:

Now, how did you find out about the *Journal of Environmental Ethics*?

18-00:26:25

Pister:

I don't know exactly. I think I was looking at one of the other journals. I take several. *Conservation Biology* didn't exist yet. It could have been, say, *Journal of the American Fisheries Society*, something of that sort. And it just mentioned this: environmental ethics. And right away I was taken by that, because I said, you know, this is great. So when I got ahold of Gene Hargrove, who was in New Mexico then—

18-00:26:55

Lage:

Now who's Hargrove?

18-00:26:56

Pister:

He was the one who started the whole thing. The publisher of the journal, professor at North Texas, who had been professor at several other universities until the professional philosophers dumped him. As I mentioned at lunch, he was just thrilled to death to find somebody working in the field who saw a value that, of course, he saw very clearly, as almost the founder in the modern world, picking up largely on Leopold's writings and incorporating them into his—He's a speleologist, one of these guys who crawls in caves, which

terrifies me. Living in earthquake country, it's not a good thing to be in a cave when you have an earth tremor. [laughter]

18-00:27:39

Lage: Does he have a background in biology or any of the sciences?

18-00:27:43

Pister: I think he got his PhD at the University of Missouri, and where he went from there I don't know. But what his background is, I don't know.

18-00:28:00

Lage: You did mention at lunch that he—and maybe others, I'm not sure—wasn't well accepted by traditional philosophy departments.

18-00:28:08

Pister: No, no. You're right. Because most of them are, quote, "pure philosophers." They work on theory. They don't want to apply it, which to me—of course I'm not a philosopher. I love philosophy, reading a book now on the trial of Socrates, which is great. But in any event, he then wanted to pull this into a more usable form.

18-00:28:36

Lage: So he wants to have something that will apply to conservation biologists, or beyond that?

18-00:28:41

Pister: Well, to conservation generally, but to conservation biologists, it's one of the really big things. And I had him autograph his book, *Foundations of Environmental Ethics*, and what he wrote in there was meaningful. He says, "To Phil: one of the most important people in environmental ethics now." Because of this kind of bridge I would create between him and guys out in the field saving fish and whatever. So that has been a great relationship. Same as Holmes, when I gave the Sigma Xi lecture at Colorado State.

18-00:29:12

Lage: Now what was that? Tell—

18-00:29:14

Pister: That was about 1984. I was asked to give the Sigma Xi lecture at Colorado State. Of course, they post all these things. It was before the Internet really got going. There would be posters around the department offices and things. And I gave the lecture. It seemed to be well received.

18-00:29:33

Lage: And tell me again what Sigma Xi is.

18-00:29:36

Pister: Oh, that's the Research Society of America. They put out a journal, *American Scientist*.

18-00:29:42

Lage: So it's not something keyed into environmental ethics?

18-00:29:45

Pister: No, no, no, no. No. In fact, I don't know why I was even asked to come back there. I think it was on desert fish, is what I talked about. And—

18-00:29:57

Lage: So that was your topic? Desert fish?

18-00:30:00

Pister: Yeah. Conservation of desert fishes. Of course it's very different say, on the eastern front of the Rockies than it is from Death Valley. Very different thing. Very different resource problems. They were impressed by the fact that my job went from the top of Mount Whitney, the highest point in the contiguous forty-eight states—"You guys have got lots of big peaks, but ours is the highest." [laughter]—and down to the floor of Death Valley. Just that alone. Some of them knew this, and they already had been there. A lot of them were field scientists, and they'd been all over the west. But after the talk, here came this guy. Holmes Rolston at that time was maybe fifty years old.

18-00:30:36

Lage: Holmes?

18-00:30:38

Pister: Holmes Rolston. Wearing a pair of Levis and a flannel shirt. This was in the winter time. It could be colder than heck in Fort Collins. And he wanted to talk to me. So I went to his office there in the—I think that may be called Evans Hall. It's the philosophy people, natural philosophy people in Fort Collins. And so we talked about things. And it turns out that this guy, he's the world-class epitome of environmental philosophy. He's lectured on environmental philosophy on every continent on the planet, even Antarctica. He went down there, got the people in McMurdo Sound, whatever. And he's written a number of things: *Philosophy Gone Wild*, which you see the connection there. Another book, big book, just called *Environmental Ethics*. And he's got a big list of publications. Getting back to Callicott, do you want to do that?

18-00:31:46

Lage: But did you finish the story of Holmes Rolston?

18-00:31:49

Pister: Well, only to this extent: this opened the door. And a year later in 1985, Eugene Hargrove, down at Athens, put on kind of a symposium on environmental ethics, brought in all kinds of people, including Baird Callicott, who was then a professor at Stevens Point, University of Wisconsin-Stevens Point. So Eugene Hargrove, I knew him. I knew Holmes Rolston. Asked Holmes who might give a good talk there, at their symposium. So I was able to give their keynote talk—

- 18-00:32:31
Lage: So they asked you to do the keynote talk?
- 18-00:32:35
Pister: Yeah, they did.
- 18-00:32:36
Lage: And what did you—
- 18-00:32:37
Pister: Well, I spoke on the early version of what I talk about now: how I've applied ethics in the real world of conservation. Of course, that's just what they wanted to hear.
- 18-00:32:47
Lage: Did that become a published paper?
- 18-00:32:49
Pister: I believe it did. I have to look through my stuff, but I think I did publish that. So then—
- 18-00:32:57
Lage: And that was well received?
- 18-00:32:58
Pister: Yes. And following the talk, within a few minutes after the talk, Callicott came up to me and says, "Could I entice you to come up to Stevens Point for Earth Day Celebration?" So I said, "Yeah. Sure. I'll even pay my own way. I'd love to do that."
- 18-00:33:16
Lage: And that's Wisconsin?
- 18-00:33:17
Pister: Yeah. Stevens Point. Wausau/Stevens Point is the airport, but it's north, of course, Madison quite a ways. So I went up there and shared the podium with really a well-known—You may not have heard of him. A guy named Hugh Iltis. Iltis was the guy that discovered the perennial corn in Mexico, *Zea diploperennis*. I think he's a Czech. But he's a real dynamic kind of a guy. Wears his feelings on his sleeve, you know. So he gave a talk before mine. I gave the last one. And it was really good. He talked about activism in environmental stuff. I noticed he had a stack of little poster things, like this. They all had captions on them. And he says, "What do you do if you run across people who just won't listen to reason when you've got a good case for the environment?" He pulls up one of his posters: "Sue the bastards!" [laughter] Iltis is just an amazing guy. And I've kept in touch with him ever since then. He's been quite active in the Society for Conservation Biology.

And not too long after that, we went together down in Mexico, in Guadalajara, to a meeting of the society. Very good talk there. That was right after I wrote my paper called, “Species in a Bucket.” And he—

18-00:34:44

Lage: When you went to Stevens Point, Wisconsin, was that when you visited the shack?

18-00:34:51

Pister: Yes.

18-00:34:52

Lage: Would you tell about that?

18-00:34:52

Pister: Okay. I came back there much on my own. They paid some of the stuff, but they couldn't pay an honorarium. I didn't care about that. I just wanted to get back and see things. So Baird says, “You know, we can't pay an honorarium, but I've gotten ahold of Nina Leopold, and we can go out to the shack and have a barbecue.” Of course they lived right near there, on the reserve. Her husband at that time, he's dead now—can't think of his name right off. A retired geology professor from Montana State University.

18-00:35:27

Lage: Nina's husband?

18-00:35:27

Pister: Yeah. They were just were the neatest guys. So we went out there and right into the shack, and sat there at the table where Aldo sat and had our barbecue. Cooking our stuff in the full fireplace. Along with that, I've got another really good friend that did his dissertation research right there on the reserve. He wasn't there at the time. A guy named Rick Knight, who's a professor at Colorado State. In fact, when I get back Friday at the end of the week, he'll be out for Mule Days from Fort Collins. He loves mules.

18-00:36:03

Lage: Now, the shack is in a sand county, where Aldo Leopold restored land. Is that right?

18-00:36:11

Pister: Yes. I think they probably moved there from New Mexico, and he took a job—Leopold did some weird stuff. Like he was the head of a chamber of commerce somewhere. And things that seem kind of un-Leopold-like. But he was brought to Madison to set up a curriculum. Of course Leopold had no PhD. Back then I think they were a little more pragmatic, perhaps a little less pompous, if you want to use that term, than we are now. And so he went there and set up this program. And his students, my gosh, as they came out of Madison have staffed just about every—there's a marvelous publication called *Wyoming Wildlife*. It's just unbelievable. A place like Wyoming, to come up with something like that. It's very broad in its perspective, all the way from

people shooting elk to preserving bugs. So at some meeting, I met this guy again, Chris Madson. And I said, “Chris, I’m really impressed.” Because he always starts, on his editorial page is the land ethic, and he takes something on from there. Said, “You’ve got to be a Leopold man.” He says, “Yeah. I got my degrees at Madison.”

18-00:37:25

Lage:

Did he get his degree under Leopold, or just the tradition continues?

18-00:37:27

Pister:

No. Chris is young enough he could not have. Leopold would have been dead by then.

18-00:37:32

Lage:

Now in the field of environmental ethics, are the leading figures as much—do they grow out of the Leopold thinking as much as you have indicated you have?

18-00:37:43

Pister:

I would say largely yes. I have not seen, say, a compendium of environmental articles—there are several of them entitled *Environmental Ethics* where they have all of the well-known papers. *Sand County Almanac* is always in there, or “The Land Ethic.” And like at this meeting I went to in Athens in 1984, this was a major reference. Of course, then we didn’t have deep ecology back then, which we do now. But these were the formative people. A guy named Max Katz at Princeton was there. They got into this discussion, much of which went immediately above my head. So I would start asking common questions: “Hey, look. I’m a fish biologist working for the state of California in endangered species and things. How does what you’re talking about here apply to what I’m doing?” So I got some really good feedback from those guys.

18-00:38:41

Lage:

Anything that challenged the way you’d been thinking about environmental ethics?

18-00:38:44

Pister:

Not really. I use that less as a challenge and simply a motivation, an impetus. Because it really helped me a lot, too, to know that these really great thinkers, and deep thinkers, as philosophers are—it was kind of like sitting on the steps of the Parthenon, talking to Plato and those people. Because I kind of view them in the same way. Here we were in a lecture hall there at Athens, Georgia. (Athens fit that, too.) And just being taught by these people who were so good at what they did. Based upon that meeting, and the work that I had done there with Baird at Stevens Point, he put together another volume, which I may have sent you, called *Companion to A Sand County Almanac*, where I wrote an essay in there called “The Pilgrim’s Progress from Point A to Point B.”

18-00:39:37

Lage: Oh, yes. You did send that in.

18-00:39:39

Pister: Yeah. And I described this trip to the shack in that article. It was almost like—

18-00:39:47

Lage: And you think of it as a pilgrimage.

18-00:39:50

Pister: Well, it was! Indeed. I think that was Baird's title, but it fit really well. Leopold, in his writings, referred to the great oak, where it fell, and they split this into logs and shakes to be burned in their fire. It was right near there. And I look at that stump, where they have a plaque now: "This is the Great Oak that fell." And I break into tears. It was that—

18-00:40:15

Lage: So it was—

18-00:40:17

Pister: Oh, yeah. I've been there since, too, a couple of times. Because of my good friend there with the International Crane Foundation, right there at Baraboo, Curt Meine. He's taken me there a couple of more times. And I'm on the Aldo Leopold Foundation. They just built a great new educational facility right there.

18-00:43:36

Lage: What does the Aldo Leopold Foundation do?

18-00:40:41

Pister: It promotes Leopold philosophies. They hold seminars there. They bring in lecturers. I've lectured there myself at one time. Nina knew about me, particularly because her older brother whom she adored, I was his student. And we're becoming fewer and fewer as time goes on. Starker's been dead now since 1983, so that's another quarter-century.

So she came there, and we had a pretty good turnout just from the staff there at the Crane Foundation. That's a marvelous place. You walk around there, you see virtually every species of crane on the planet. They've got their learning about them, studying them, doing their physiology, and whatever. So that's all part of the foundation, is that activity.

18-00:41:28

Lage: So there's another post-retirement involvement that you can—

18-00:41:32

Pister: Sure, oh, yeah. Indeed. So all of these things. There are three of my diaries, my calendars, I couldn't find. When I retired, I stopped my daily calendar and just put them on a monthly appointment calendar sort of thing. But all of the significant things are on there, because whenever I go somewhere, I have to

keep Martha informed, because we have to bring somebody in to help her, so that's something I have to do. She says, "Bring me a list of your lectures for 2008." So, okay, I write them all down.

18-00:42:11

Lage: What kinds of experiences have you had in the classroom? When you're lecturing to the new generation of students?

18-00:42:18

Pister: You mean like in Wisconsin?

18-00:42:19

Lage: Wherever, because you've lectured on a lot of college campuses.

18-00:42:27

Pister: They're kind of like I was. Students and graduate students are kind of like I was back in the seventies, in many ways. They're eager for information. And of course at that age, most of them are strong environmentalists. They're all B thinkers. Most of the curricula now we have are strongly directed that way. And so there's kind of like this grasping for information. They're thrilled to death. And they can see from what I lecture on, like at Devils Hole and the court hearing, how ethics fit into that, into the shift in agencies, because of a greater awareness of ethics, the graduate programs now available in environmental ethics. This is all just tremendously interesting to these kids.

18-00:43:14

Lage: So you give a little history of how ethics has become more prominent in the field?

18-00:43:20

Pister: Yeah, I go back a ways into the history of it, very briefly: the impact of early philosophers on this. Go back into the times of Charles Darwin and Alfred Russel Wallace, who are the early greats. And even when it wasn't presented as ethics, Wallace—did I talk about this yesterday?

18-00:43:40

Lage: You did talk about this yesterday.

18-00:43:42

Pister: I thought I did, yeah. He wrote things that were strong ethical implications there. So it's not new in that sense. St. Francis, of course.

18-00:43:51

Lage: Maybe it's something that was kind of forgotten for a time.

18-00:43:54

Pister: Well, it could have been, in our development as a society. And in our country particularly, we've gotten so darned materialistic on things that it's good to know that there are these people in universities that can kind of bring us back and set our compass straight again, as they tend to do.

18-00:44:11

Lage: Do you think that to really do right by the land and the biota that there have to be major changes in our social structure, our economic structure?

18-00:44:28

Pister: Probably so. To what extent? Major, of course, is kind of an open-ended thing. We have to—

18-00:44:41

Lage: You mentioned being so materialistic, and—

18-00:44:43

Pister: Yeah. Of course I've often thought this, being a realist, too. This is an interesting point. It deserves mentioning here, very strongly: there's a strong effort now within the field of conservation biology. They're getting petitions signed, position statements written, on the need to go from a growth economy to a steady-state economy. Because we can see, being biologists and realists, that we can't continue forever to have a growth economy. We're going to run out of gas. So this is quite a thing. They've got quite a website on this.

18-00:45:26

Lage: Now is this through the Society of Conservation Biologists?

18-00:45:27

Pister: Well, it's started by one guy, a friend of mine from the US Fish and Wildlife Service who got a PhD in economics from the University of Arizona, a guy named Brian Czech, just like the guy out of Prague. And Brian, he did his dissertation on this and wrote a really good book called *Shoveling Fuel for a Runaway Train*. And I reviewed this for a journal. It was very favorable. And he got ahold of me, says, "You know, I think we think a lot alike." Since then we've been in touch a lot. But he's the one that got it going. Because it's such an obvious thing.

I say, "Okay. This sounds good to us. We're sitting here, all pretty much preaching to each other as members of the choir. The next time you're downtown at a news rack, pick up a major newspaper and look at the stock quotations in there, and think of thousands of corporations that don't want a steady-state economy. They think in terms of short-term profit. Their stockholders think that way. And of course these are the guys that elect politicians. So we've got to be realistic about this. We're not going to have everybody jumping on the bandwagon." I say, "And think of it from your own perspective. You've probably owned some stocks. We all have retirement incomes, much of which is invested in the stock market." So this is going to take some really strong leadership. It's not likely to come from Washington. It's got to come from the grassroots somehow. But that's the—

18-00:47:03

Lage: So is that incorporated into your environmental perspective?

18-00:47:07

Pister: Oh, yeah. Yeah. And Brian himself is a member—[telephone rings]

18-00:47:14

Lage: Let's pause just for a second here.

We're back on, and we were talking about whether you'd incorporated this idea that we have to make major change in how we do business.

18-00:47:29

Pister: Yeah, okay. Because this goes into another subject that I've developed. What the heck is the title of this? Something to this effect: "Conservation and Economic Growth: An Unacceptable Oxymoron?" And I've given this at a number of professional societies. And I use as an example here, which is if the Lord wanted to create a bad example of resource use and values, it's Las Vegas. So I talk about the growth of Las Vegas, their need for water, and what this does to desert ecosystems, which I work on, arid land ecosystems.

And I've got some marvelous graphics and stuff to illustrate this point. What Las Vegas is doing now, they've applied for water rights several hundred miles north in Nevada to pipe water in an aqueduct to Las Vegas. Las Vegas right now is growing at the rate of 7,000 people per month. 100,000 a year, 1 million in a decade. And yet they're out of water. Along the same point, it's a very interesting thing, hydrologists and hydrographers at Scripps, UCSD, have predicted with their computer models that inside of twenty years, Lake Mead will no longer serve as a reservoir. You may have read that. And so to increase the population from two million, which it is now, to three million in ten years is just totally ridiculous. But how do you go to the people that run Las Vegas and the people that come there and say, "You can't do this any more?" That is a real bunch of hot potatoes there.

So I said, "This is essentially the problem." Then I talk about Devils Hole. See, that's what got us going on the Devils Hole thing, was the extraction of water from that area, which was ultimately destined for Las Vegas. We found this out later, from some of the reports that were written. So these—

18-00:49:43

Lage: So it seems like it does require kind of a shake-up in the—

18-00:49:47

Pister: Well, it does! But how do you accom—

18-00:49:49

Lage: —the system. The capitalist system, perhaps?

18-00:49:51

Pister: It does. I've got a book at home, it was written by a guy back at the State University of New York, called *Is Capitalism Sustainable?* Very interesting question. Uh-uh. It can't be, not as we know it. You can't help but worry

about China becoming more of a capitalist nation, because everybody's aspiring to our standard of living here in the US. You can't blame them for that. Yet we don't have the resource base to do it. I can't help but feel, is there something that we're not understanding here? Some greater force? Of course, you read this in the Old Testament, about things like the earthquakes in China, typhoons in Myanmar. Is this a natural recurrence to reduce population, because they're basically getting out of hand? Easy for us to say this. We can get in our cars, and drive, and buy food, and whatever.

Karl and I were talking about this last night. He has this beautiful home in Lafayette. Top of a hill, there's no neighbors, he looks out across the valley there, across Lafayette. And here we are sitting there, he and his wife Rita. Rita's an equally sensitive person. She says, "You know what? It just doesn't seem right. Here we are with absolutely everything we need, beautiful view, when there are people that actually are starving to death on the planet." That's not ethical at all. It can't be. But what mechanisms can we use? Do we end up being a planet of communists, where all of the wealth goes into a pot and then it's redistributed? How does this work?

18-00:51:30

Lage:

Is that something that the journals and the profession of environmental ethics deal with? In a formal way?

18-00:51:35

Pister:

Well, to some extent. Certainly *Conservation Biology* does, that journal. But yes, it's brought up. The editor of this is a very good friend. I've known him ever since undergrad. He lives now in Vermont.

18-00:51:46

Lage:

The editor of—

18-00:51:47

Pister:

Editor of the journal *Conservation Biology*. *CB*, *Conservation Biology*. Very good biologist himself, and he selects his articles very, very well and maturely. There's a great philosopher and conservation professor at Oberlin in Ohio, David Orr, O-double R. And he's written some top-flight stuff on that subject. He also took—

18-00:52:12

Lage:

On the subject of major change?

18-00:52:14

Pister:

Yeah. He also took my brother on when Karl was at Santa Cruz as chancellor and there was talk of selling the redwood grove there. [laughter] He said, "It's a typical abuse of academic power, that you're going to do that." I told Karl about this. He said, "Get ahold of your friend Orr." He says, "I'd like to trade him for a few weeks so that he could be a chancellor of the University of California Santa Cruz. He'd look at things very differently." So I sent this

back to David, and I said, “Here’s another perspective on this.” He said, “Yeah, I guess he’s got a point.” [laughter]

18-00:52:44

Lage: Now, we haven’t even mentioned the words “global warming,” which is on everybody’s list—

18-00:52:52

Pister: Oh, yeah. Yeah.

18-00:52:53

Lage: —who’s concerned with—

18-00:52:55

Pister: Critters.

18-00:52:56

Lage: —conservation biology?

18-00:52:57

Pister: Oh, yeah. Yeah, this is—

18-00:52:58

Lage: Human and non-human.

18-00:52:59

Pister: This is widely hit, say, in the *Journal of Conservation Biology*. You’ve probably read of this [research] being conducted right out of the museum here at Berkeley, the MVZ [Museum of Vertebrate Zoology]. Jim Patton, he’s taking up for Joe Grinnell, who back in the early 1900s made these inventories of critters up through Yosemite. Their distributions, their elevations, whatever. Now Patton’s coming on behind him a hundred years later and noticing how they’re all moving up now to stay cool—

18-00:53:32

Lage: Yeah, moving to higher elevations.

18-00:53:35

Pister: And we look at Las Vegas, with global warming. That’s not going to do their water supply any good at all.

18-00:53:39

Lage: Well, what about looking at your pupfish?

18-00:53:42

Pister: Well, see this is a whole point—

18-00:53:43

Lage: When you’re trying to save endangered species—

18-00:53:44

Pister:

Is this an unacceptable oxymoron? Economic growth and desert spring preservation? Yeah. It's totally unacceptable. Because we've already had fish go extinct, pupfishes. There's a place just between, say, Death Valley and Las Vegas, called Pahrump Valley. P-A-H-R-U-M-P. I don't know if you've been there, heard of it. But it's a bedroom community from Las Vegas. There's no runoff there. They're going entirely on pumped water.

18-00:54:17

Lage:

Pumped from the underground?

18-00:54:19

Pister:

Yeah. When they started this, Manse Spring—which is the type locality or the major habitat for the Pahrump pupfish, *Empetrichthys latos*—at what was formerly a spring there, the water table is now forty feet below that. And so this is going to become general throughout the Southwest, as far as these little populations go. So how do you then take the electorate of the United States, who will make these decisions one way or another, and tell them that a little fish this long is more important than people coming to Las Vegas? That's a tough order. Probably changing our way of living and values is one of the most difficult things we can think of doing.

18-00:55:02

Lage:

Now, some people accuse environmentalists of leaving humans out of the equation.

18-00:55:10

Pister:

Mm-hmm. That's a good point.

18-00:55:14

Lage:

How do you see Leopold doing that? How do you see your own thinking?

18-00:55:19

Pister:

Well, it's based on what Leopold talked about. And he edged into this. He died in '48, so he didn't get up to where we are now, sixty years later. He pointed out some of the possible problems there. And he hit it a couple of ways, one of which was we can't save everything, but we can always save enough to maintain remnants, and let's say a natural museum. Like the Arizona-Sonora Desert Museum in Tucson, and so on. My way of looking at it is to say I have no problem with economic growth, as long as it preserves necessary creatures, which is going to be difficult to do.

18-00:56:05

Lage:

But what if it conflicts altogether?

18-00:56:08

Pister:

Well, yeah. Then I say as long as the goal of growth is simply to make money, which is basically what it is, then I'll take strong exception to this. Who needs more money? When you think of other parts of the world—we're talking about mainly North America here. Mainly north of the Mexican border, really.

When you think of our standard of living and everything else, we could cut way, way, way back. But you notice what happens when we try to do this, and, say, get better mileage standards for cars? The lobbyists from Detroit come in and say, “We don’t want that. We don’t make money off these little cars.” I’ve got a friend, my good friend there in Florence, Italy, says, “I don’t want to hear you squawking one bit about gas prices in the United States.”

18-00:56:58

Lage:

Right. But what did you tell me, you only spent eight dollars driving over here from Bishop?

18-00:57:01

Pister:

Yeah. So, yeah, my little car—it would be more than that. It was eight gallons, so it would be thirty-two bucks. But even that, next to this guy ahead of me driving this enormous bus-sized motor home van, towing a Ford Escapade, or Escalade, or something like that. Ford Expedition. I’ll bet he wasn’t getting more than five or six miles a gallon, going up a hill, particularly. That was just not—huge pile of gas going out those things. So we’re going to have to dump that sort of thing without question. I think that already the SUV sales in Detroit have shown what’s coming there, because those are way down. Big cars, big sedans, they’re going way down. The smaller cars, like the little Honda Fit and my little car, Toyota Yaris or Echo. Sales on those are going to go way, way up.

18-00:58:07

Lage:

When you look at the prospect of global warming, does it make you feel like some of the endangered species work is for naught, almost?

18-00:58:19

Pister:

Yeah, that’s brought up another interesting point. I’ll say yeah. Yeah. What you have to do is maybe be a little bit stupid, and you have to be highly optimistic. You have to think there is a way. Of course, if they’re gone, you don’t try any more, because they’re gone. It’s like this fish there in Pahrump Valley. You don’t try to save that any more, because it’s gone. So—

18-00:58:43

Lage:

But you may have to modify your refuges?

18-00:58:48

Pister:

Well, this is true. Yeah. Yeah. We might have to do that.

18-00:58:53

Lage:

Or even make them even more artificial, pumped-in water, and—

18-00:58:58

Pister:

You know, another interesting perspective: at our White Mountain Research Station, we have a resident geologist there who works on Pleistocene and Pliocene lake levels. She’s a USGS [United States Geological Survey] employee. And we have an afternoon beer session at one of the local watering holes, and about half a dozen of us go down there, and we drink a microbrew

and do whatever, and talk about things. It mostly comes back to what I'm talking about. Angela Jayko, she says, "You know, I see what you're talking about. But to a geologist, it's really kind of far out, because we deal in such huge timescales, it's hard to think about a species that evolved in the last 10,000 years. We're talking back hundreds of millions of years."

18-00:59:45

Lage: Where many, many things have gone extinct.

18-00:59:47

Pister: Yes, indeed. Indeed. Through natural processes.

18-00:59:50

Lage: Does that mean she wouldn't fight as hard to preserve something?

18-00:59:53

Pister: Well, I think she might, because she's a good Sierra Club member or whatever. I think she would probably do that. But she would always have in the back of her mind that, hey, this is short-term stuff compared to what I do. Not back in the Jurassic.

18-01:00:05

Lage: I need to stop you there.

18-01:00:06

Pister: Okay.

[End Audio File 18]

[Begin Audio File 19 Pister_e_philip19_05-21-2008.mp3]

19-00:00:00

Lage: We just put tape nineteen in, and we're continuing our interview with Phil Pister. Phil, we were talking about environmental ethics, both your teaching of it, but also I want you to think a little bit about it. We talked about how you fit global warming into this whole scheme of things affecting the endangered species.

19-00:00:30

Pister: Yeah. That's right. We were talking about that, yeah, and the MVZ's work.

19-00:00:35

Lage: One thing that I hear a lot—I don't know if this fits under environmental ethics, but people sometimes are critical of environmentalists because they say they leave humans out of the environment.

19-00:00:47

Pister: Right. That is, of course, a good point. And I'll say I think back to the Tellico Dam situation, where the snail darter was, at that time they thought, going to be rendered extinct by that dam. And yet the politics were strongly in favor of

the dam. Senator Howard Baker from Tennessee was pushing it really hard, as were the congresspeople from that area, and so on. All of the analyses showed that the cost/benefit ratio was a negative one. It's going to cost more than the benefits derived from it.

19-00:01:27

Lage: So it didn't really help the humans.

19-00:01:29

Pister: Well, this is true. But they went around and got the bill passed. I wrote to Jimmy Carter, who was president then. I said, "You know what, President Carter? This seems like the wrong thing." Of course he never saw the letter. But whoever answered it put it this way. He said, "The reason we acquiesced on that was that we were right in the middle of getting the Panama Treaty passed, and we saw we were going to lose that if we pushed too hard on a couple of items like Tellico Dam and the snail darter." And I could understand that. But it turns out, though, the dam was pushed really hard. This came out during the Supreme Court hearings on the Tellico project, where they found that many of the Tennessee congressional delegation had bought property all around the high point of the new reservoir that would be created. This was kind of a self-centered sort of thing, which you can understand, but you don't like it. So when you lose species, it's not people who are suffering, it's the greed of people that's going to suffer. And I would say in not, maybe, *most* but certainly *many* cases, this is true.

19-00:02:46

Lage: This is a slightly different focus. Many preservationists are also criticized for looking at nature as something apart from humanity. And others say, "Humans are a part of nature." It seems to me that Leopold recognized that. That he didn't treat them apart.

19-00:03:11

Pister: Leopold did. No, he didn't. Leopold was very reasonable that way. And back when Leopold was around, there might be six million people in California. Now we've got forty. Nation the same way, basically. And so people were nowhere near the social and political force that they are now. But Leopold recognized that. Then he went on to say, as I think I quoted just a few minutes ago, that we have to make acquiescence to certain of these things, but we can always find a place for them to exist in their natural habitat.

Well, of course carried to an extreme, that means that every species is in a refuge somewhere. If we ever got to that point, I wonder how it would affect human beings. I don't know. We've got a very conservative friend there at home in Bishop. We're at the post office one day talking about some of these issues. I said, "We've got a real population problem." "Oh, nuts!" he says, "You can put all the people in the world on a one-eighth of an acre plot in Texas and you could fit everybody in the state of Texas." I came back, I said, "Do you ever think of how stupid a statement that is? Who in hell wants to

spend their life on an eighth of an acre in Texas?” Of course he could come back and say, “Well, you spread that worldwide, you’ve got a lot more territory.” But not all of our land is arable. A very small percentage of it is, really.

19-00:04:42

Lage: So what is your own feeling about population as a problem?

19-00:04:46

Pister: Well, I view it as a huge problem in the big picture, because, again, our resources are limited. Along with that population growth, much of which is out of here. It’s in other parts of the world: Southeast Asia, wherever. If we can keep them from adopting our standard of living, we probably can continue to exist okay. But I have to—

19-00:05:12

Lage: But there’s an ethical issue in that, too.

19-00:05:15

Pister: Well, there is. It too sure is! We’ve got ours, heck with you guys kind of thing. When you look at a mud hut in the middle of the Congo somewhere and the guy’s got a TV antenna sticking out of the top of it, you know the word’s getting out there that those guys have got stuff that we’d like to have.

19-00:05:31

Lage: Well, do these kinds of social justice considerations come into the environmental ethic field?

19-00:05:36

Pister: Yes. Uh-huh.

19-00:05:37

Lage: Are they written up in the journals?

19-00:05:38

Pister: Yeah, they’re in the journals. Nothing comes immediately to mind. There was a, dead now, guy named Garrett Hardin at UCSB. He wrote this paper, a landmark paper, in the journal *Science*, called “The Tragedy of the Commons,” where sort of like on the Kern Plateau, you’ve got a common resource that belongs to everybody, and when one person—commercial fishing is the same way—as long as we’re making money for the next decade, we don’t care if in the next decade after that the people starve to death. That’s just too doggone bad.

19-00:06:25

Lage: Well, does that seem to be more of a problem than population growth, would you say? This sort of attitude?

19-00:06:29

Pister:

Well, see, it's a reflection of population growth. The demand for those products makes this. If the demand weren't there, we'd get people to stop eating fish, well, then they'd stop catching them. But the more people on the planet, and particularly the southeastern part of the world, like in Southeast Asia, China, whatever, fish are a major part of their diet. Japan, Norway, the northern part of our continent. So these are what I call major dilemmas.

I'm trying to think, Goethe had a quote on that. I'm trying to think of what it was. It kind of comes into this. It leaves it in very much of a limbo, and I think it's one of the quotes that you read that I published: "Every person has only enough strength to do those things of which he or she is fully convinced of their importance, and will direct their efforts accordingly." So I guess the answer comes down to, Ann, how do we convince the people of the world, many of whom are illiterate, that we need to make these sacrifices? Many things I can see answers to, but I don't see that yet.

19-00:07:59

Lage:

Well, one thing that comes to mind, that I think a lot of people bring up, is how can we even argue along those lines when we live with such a high use of resources?

19-00:08:13

Pister:

It's the ultimate hypocrisy. It really is. We got ours, the heck with you guys. We do make efforts. Like we send wheat to Somalia, things of this nature. But it's a minor sacrifice. Most of which is produced by super-wealthy corporate farms under the farm bill, you know? God, it's terrible!

19-00:08:32

Lage:

With their subsidies? Oh, my! Okay. Well, maybe that's enough on those issues. You wanted to mention some of your teaching especially at the university here.

19-00:08:47

Pister:

Well, yeah. This is another way of spreading the word, so to speak. What I like to do, the groups I talk to, like university seminars, whatever, those people don't need to be convinced. They know this is right. What I can do, then, is give them ammunition to use on their own. Give them ideas, perspectives, rationales that I found have worked in convincing people. To carry that, and it's because I dearly love teaching. You know, curiously, Ann, I'm the only person in my whole immediate family that's not a professional teacher, yet I do a lot of that. My wife, my son, both of my parents were teachers. Going to Karl's side of the family, several of his kids are teachers. Of course, he's kind of the consummate teacher himself. Rita, his wife, is also a teacher.

19-00:09:36

Lage:

Oh, really? So you—

19-00:09:37

Pister:

So, yeah, I just come from a huge bunch of teachers. But so okay. So here comes how can I do more things before I am hauled up, or down, wherever I'm going to go [laughter] in eternity. Okay. So I thought one thing I can do, that would be really good locally, is put together a class with local participation on the natural history of the Owens Valley and Inyo National Forest, which is right there. And so I set up a curriculum for that.

In 1914, there was a very successful academician who was born just north of Bishop a few miles, a guy named Tully Knowles. He became chancellor of the University of the Pacific at Stockton, where my wife is an alumna. And he made the comment back then, 1914, that the Owens Valley for some reason attracted an unusually intellectual component of people. We've got them there now. Lot of retired people, retired professors, USGS employees, Fish and Wildlife employees. So there's a big resource of very talented people there. So I pulled a bunch of them in to teach things like range management. I taught all the fish stuff, of course. And entomology, birds.

19-00:10:55

Lage:

And where did you teach? Under what auspices?

19-00:10:57

Pister:

Oh, right in the library of the high school.

19-00:11:01

Lage:

But I mean under what institutional auspices?

19-00:11:03

Pister:

Well, this was by myself.

19-00:11:05

Lage:

You just organize these classes on your own?

19-00:11:06

Pister:

Yeah. I did that strictly on my own. [PP added in editing: "I have also organized and taught natural history/ethics courses under the extension divisions of UC Berkeley, UCLA, and UC Riverside. Same with the Interior Department's National Conservation Training Center in West Virginia."]

19-00:11:08

Lage:

Oh, okay.

19-00:11:09

Pister:

And of course with the strong support of the teaching community there, because they want to do it themselves. And so that got me thinking—how the heck did this start? Oh, I know how it started. The guy, Roger mentioned him, Nello Pace. Nello was a physiology prof here from Cal. One of his graduate students ended up as onsite director of the White Mountain Research Station. And he and I were talking one day. Dwayne Blume; Dwayne began his doctorate here. "You know, we could put together a pretty good class here.

We ought to do that.” Well, Dwayne got tied up in a bunch of stuff, and I dropped a whole bunch of other things I was doing, because I really believe in that. So we advertised it locally, word of mouth. And, gosh, we ran that three years in a row. It was really popular, even in a—

19-00:12:03

Lage: When was this?

19-00:12:04

Pister: This would have been in the mid-seventies.

19-00:12:06

Lage: This is all while you’re still working.

19-00:12:08

Pister: Oh, oh, yeah. But I took a broad view of my job. It was going well beyond making fishing better and preserving pupfish. Bigger thing than that.

19-00:12:18

Lage: But did you see this as a mission of some kind?

19-00:12:21

Pister: Yeah. For public education. It comes back to Leopold again: “To promote perception is the only true contribution we can make to recreational engineering.” And that’s promoting perception. We bring in these really good people, take them out on field trips.

19-00:12:36

Lage: So it was *nature*-oriented?

19-00:12:39

Pister: Yeah. It was a natural history—

19-00:12:40

Lage: Oh, okay.

19-00:12:42

Pister: —of the Owens Valley and Inyo National Forest. And, boy, that place is loaded with natural history, all the way from the geology to the—everything. The hydrology, the birds.

19-00:12:50

Lage: Did you have anything to do with Genny Schumacher’s book?

19-00:12:53

Pister: Yes. Yeah, Genny and I are good buddies. I wrote the fish part—

19-00:12:55

Lage: And she’s from Bishop, right?

19-00:12:57

Pister: Pardon?

19-00:12:58

Lage: Is she from Bishop?

19-00:12:59

Pister: No. She's from Cupertino.

19-00:13:01

Lage: Oh! I thought she was from that area.

19-00:13:03

Pister: No, her husband—she was Genny Schumacher-Smith. I think she divorced Schumacher and married Ward Smith, who's a geologist at Stanford, and with USGS. Lot of overlap there. They're just a great couple. [PP added in editing: "Ward is dead now."] But when she put together her *Deepest Valley*, which—have you got that book?

19-00:13:26

Lage: I do.

19-00:13:28

Pister: Yeah, well, you can get some good start on your trip over there by reading parts of that. When she put that together, she asked me if I'd like to write a chapter on fish. I said, "Sure!" Genny really is a great gal. She also watches her pocketbook very carefully. I spent about two weeks writing this thing, and she gave me fifty bucks for doing it! [laughter] And it had to be a pretty successful book. There have been several printings on it. And then there's a revision I just took care of not too long ago. And the revision itself reflected a lot of the changes in thinking that people have gone through, my section on fishes.

And so then with that sort of thing, the natural history, which was kind of our guide for the course, Dwayne Blume and I, then, for White Mountain Research Station said, "You know, I've got some connection to Riverside." So we put together a field class from UCR. It was very successful. On about the same subject, really.

19-00:14:33

Lage: Through the university extension?

19-00:14:35

Pister: UCR Extension, yeah. About that same time again, we got a call from extension people at UCLA: "We'd like to put together something on the biology of lakes and streams up there." So we did that. X433. That was "Biology of the Lakes and Streams of the High Sierra."

19-00:14:56

Lage: And people—

19-00:14:57

Pister: From all over the place!

19-00:14:57

Lage:

—went around with you taking field studies?

19-00:14:59

Pister:

Oh, yeah, yeah. See what we did, we held orientation sessions at the universities. As you can imagine, most of the people in our courses were from down there. A couple of locals. And I had to make them work for this a bit, because to get into the Convict Basin, you've got to hike. It's a long haul. One gal got about halfway up the mountain, said, "This is too much for me," and just went back home on the bus. [laughter] They just thoroughly enjoyed it. You know this old saying, you never want to talk about floods because Noah's going to be in the audience? There was one guy that didn't say much. I didn't know him at that point. And he'd sit back and listen. And we got all done with the course, he came and introduced himself. A guy named Mike Horn, who's a PhD ichthyologist from Harvard teaching at Cal State Fullerton. [laughter] I thought, well, I'm glad I didn't go too much into his field, you know? But I've been there at Fullerton several times lecturing in his classes.

But the last one was probably my favorite. I did this with Berkeley extension, with a very famous herpetologist, Bob Stebbins, at the [MZV] museum. Bob's in his nineties now. He still comes in there regularly. (Good for my professors. Two botany profs I had, they died in their nineties, I think.) And so he phoned up one day. He says, "Nate Cohen," who handled the extension for UCB, "would like to put on something for desert things." He said, "We know you've done a lot of work on the desert. Would you like to teach with us on this?" I said, "Sure. That would be great." I said, "Could I bring along a couple of my assistants there that could help with the logistics of the camp, like making meals and stuff, and just give them free tuition?" "Oh, sure. That would be fine." So we did that.

We go up to Fish Slough. I tell them all about the fishes out there, you know. Then we head over to the Deep Springs Valley. We talk about the toads. Stebbins would tell—this guy's a genius—about how you can get two different locations and listen for the toads to be peeping at night, and both groups gradually going toward the peep. And when they got together, they're where the toads were. And it works. And we teach them fun things like that. And then we went down to the desert. Stebbins's real strength is with reptiles. So we'd go down. We got lizards, and snakes, and all this other stuff. We're out for a full week, and it was just a marvelous experience.

19-00:17:36

Lage:

That sounds like a great experience.

19-00:17:37

Pister:

Oh, yeah. And the cost per student was low, too. Just enough to break even, I guess. So that was the teaching stuff. But I've—

- 19-00:17:47
Lage: And now was that also back in the seventies, eighties?
- 19-00:17:50
Pister: Yeah. Yeah. And I looked at my notes here, this was '74, '5, and '6 and through there.
- 19-00:17:57
Lage: You were a busy man these years.
- 19-00:17:58
Pister: Gosh! Yeah, really. I wonder how I did all that stuff. We kind of had fun—
- 19-00:18:04
Lage: And you were also getting the Desert Fishes Council going.
- 19-00:18:06
Pister: Oh, yeah, yeah. I did all that myself. I'm the only member living, obviously, who has been to all of the meetings. All forty. This year will be our fortieth.
- 19-00:18:17
Lage: And you organized a lot of those meetings.
- 19-00:18:19
Pister: Yeah. Just about all of them, yeah. At the start, anyway. We've kind of subdivided much of the work now.
- 19-00:18:25
Lage: Now who prepared the *Proceedings* and all that?
- 19-00:18:29
Pister: Phew!
- 19-00:18:29
Lage: You also did that?
- 19-00:18:30
Pister: At the start. I put out maybe the first twenty years. It's all online now. In fact, you can just go to desertfishes.org and find anything that's come out of the Desert Fishes Council.
- 19-00:18:42
Lage: Yeah, it's amazing. Have you done that also, or did someone do the website?
- 19-00:18:47
Pister: My great friend and highly talented guy, Dean Hendrickson, at UT Austin has handled all of the web work. He's a computer genius. Right now, he's flying today from Austin to LA to Sydney, Australia. He's going to be teaching research to SCUBA divers on the Great Barrier Reef down there for the next month. [laughter]

19-00:19:17

Lage: Not a bad gig.

19-00:19:18

Pister: Good deal! But Dean's just a great guy. But we've got people like that. The whole council is just really good people or they wouldn't do it. We share values. And to me, one of the real delights of life is to be with a bunch of people with whom you share values. Right away, we kick out all the Republicans. [laughter]

19-00:19:38

Lage: Now, in organizations, let's take the Desert Fishes Council, that you've been involved in so closely, have there been any major conflicts? Or—

19-00:19:47

Pister: Yes. We had one. In that forty years, we had one blow-up. This was interesting. It's probably worth relating, here, to this thing. It didn't destroy the council. We lost four or five members, is all. What this was, mainly derived from Arizona State University and a couple of agencies: the Bureau of Reclamation down there. They were just totally fed up with the Arizona Game and Fish Department. They thought their programs were just exclusively for the economic benefit, and to heck with the native fishes of Arizona. Well, I knew, but they wouldn't admit, that Arizona was developing, and has now, the best state program in this type of thing.

19-00:20:37

Lage: You knew they were, but these people thought they—

19-00:20:40

Pister: Well, they didn't want to acknowledge it.

19-00:20:41

Lage: I see.

19-00:20:41

Pister: See what they did, they drew up a big petition to the governor of Arizona, just excoriating the Arizona Game and Fish Department, and I knew their people! They had good people. These were personality conflicts, is what it came down to.

19-00:20:57

Lage: Were the people academics, who were excoriating?

19-00:21:00

Pister: Most of them, yes, they were. And so they couldn't quite see it. Those of us kind of in the middle, the government here and academia here—did I mention that the first meeting of the Desert Fishes Council that said it so well, when the two groups were just split apart?

19-00:21:17

Lage: Yeah, and you were trying to bring them together. That's why I asked.

19-00:21:21

Pister: It's been very successful that way. But okay. So this comes up at our business meeting in Death Valley in 2003. And by our constitution and bylaws, anything like that that's going out of the council has to be agreed upon by the membership.

19-00:21:40

Lage: Like writing the letter?

19-00:21:42

Pister: Yeah. And sending the letter, particularly. We write the letter. But to do that and disseminate the letter to the governor's office, to the agencies, and so on—

19-00:21:50

Lage: In the name of Desert Fishes?

19-00:21:51

Pister: Yeah. It was all in the name of the Desert Fishes Council. So we felt that if that letter were sent, it would do us far more harm than good, looking way out, saying, "What's best in the long run for the desert fishes," or the aquatic arid ecosystems? There was one guy, the president of the council at that time. This was in December, November and December of 2003, and he was just about ready to leave his position there. His term was up at the end of 2003. And he was adamant that that letter be sent.

The membership was probably about equally split on it. We in the executive committee felt that this would be a major mistake, politically, ethically, and every other way, to do this when we knew that Arizona was developing an excellent program, which they do have.

19-00:22:46

Lage: Now or then?

19-00:22:48

Pister: Well, then! They were developing it then. And some of their key people gave excellent talks here in Death Valley.

19-00:22:55

Lage: I don't want to break the flow, but was there a particular thing that had happened that caused the—

19-00:23:04

Pister: That kind of precipitated the letter? Probably nothing by itself, but one guy there felt that he was not getting grants from the Bureau of Reclamation because people in Reclamation didn't like him, from Arizona, too. From the Bureau of Reclamation in Arizona, also the Arizona Game and Fish Department. He felt they wanted to get rid of him. There were a couple of other instances kind of like that that were personal grudges, more than they were legitimate complaints.

19-00:23:45

Lage: I see. So that—

19-00:23:45

Pister: Now they would argue that, still, that they were right and we were wrong. So what we did, under our by-laws, the president says, “Okay, the university is closed down now,” he was a prof at ASU, “And I won’t be able to get in until after January 1. The buildings are locked,” which they weren’t. Any life science building, you’ve got people going in there feeding rats and everything else under the sun, you know. We knew that was a big scam. So he says, “I’m going to send out the letter right now.” We said, “You’re not going to get it signed by us, too.” I turned out to be the real bad guy in this. Under our by-laws, it says, “In the event that the president of the organization fails to or refuses to support the will of the council that his duties will be performed by the executive secretary,” which is me. I’ve always been the executive secretary. I’ve got a friend who writes to me as the executive secretary for life. [laughter] Which may be true. So this guy just exploded at him for that.

19-00:25:57

Lage: He was the president?

19-00:24:58

Pister: Yeah.

19-00:24:59

Lage: So you were basically saying, “The council has overruled you.”

19-00:25:01

Pister: Yes. It was like overriding a veto, that kind of thing. And for just about nearly over three years, this guy wouldn’t speak to me or any of the executive committee. A couple of the other people on his group, and I think there were four, really, that strongly pushed this thing, because they felt they just wanted to show somebody they were mad, more than anything else. Janet Napolitano was the governor of Arizona and she’s a good one. What we did, we sent a letter and then retracted much of the letter.

19-00:25:43

Lage: Oh, I see.

19-00:25:43

Pister: Yeah. See, that’s how this whole thing went about. He sent the letter by himself, just unilaterally. So we sent a letter and said, “What you received here was not necessarily the will of the Desert Fishes Council.” And that’s what he got really upset about. I can understand that. He’s a good man, really a good man, and a very strongly principled guy. But we looked at it in the long run very differently. So that’s the only real war we’ve ever had, that one thing. The ice is finally beginning to break a little bit, now. This fellow, this professor guy, had a very good student give a paper at our last meeting. He hasn’t come by himself, but he sends his students. He feels strongly that we do good work.

So we do. We have, like the *Proceedings*. We have a very informal venue there where students can give their first paper. You know, it kind of breaks the ice for them. Mainly graduate students. And so this has been a real valuable thing. So he sends his students there. One of his students gave a really great paper last year. It was an event down at Camarillo, Cal State Channel Islands. So I wrote to my friend down there. I said, “You know, I’ve got to commend you on Brian. He just did a superb job on this. You should know that as his prof.” So he e-mailed me back. First time. Broke the ice, though, and said, “Thanks. I really appreciate your comments, Phil.” So this was the first time.

So I’m hoping that maybe time heals all wounds, and might help here. Because we can get along fine without these three or four people, but it’s just the principle of it. You don’t like to have that type sort of thing. Kind of like Samuelsen. If that happened to Roger, Roger would have gone and jumped off a cliff somewhere. [laughter]

19-00:27:31

Lage:

It’s not a philosophical—well, it *is* philosophical in the sense of how do you deal with the agencies, and how strong the staff is.

19-00:27:39

Pister:

Mm-hmm. But see the Desert Fishes Council does not regulate how they manage fish in Arizona. The Arizona Game and Fish Department does that. They would welcome our advice, but they make the decisions. So—

19-00:27:55

Lage:

Did you have any evidence that they were doing a job that was worse than any other Fish and Game?

19-00:28:00

Pister:

No, no. No. In fact, they’re better than most of the states.

19-00:28:02

Lage:

Isn’t that interesting?

19-00:28:03

Pister:

Better than California’s. When this one fellow was giving a talk during that part of the program—this is the guy that took over for me when I left—tapped me on the shoulder. He was sitting in back of me. He said, “Boy, Phil. I wish we had a program like that in California.” Because they’re really doing good work. They’re building refuges. They’re planting, establishing populations all over the place. Now, if Phoenix continues to grow like it is, then they may suck all the water out of these things. But at this point, they’re doing very good work.

19-00:28:32

Lage:

Okay. Well, anything else related to what we’ve been talking about?

19-00:28:38

Pister:

No, I’m wound up here.

19-00:28:42

Lage: Okay. I'm going to shut this off.

[End Audio File 19]

[End of Interview]

Interview #8: 05-22-2008

[Begin Audio File 20 Pister_e_philip20_05-22-2008.mp3]

20-00:00:05

Lage: We will note that this is our eighth session of the interview with Phil Pister. And today is May 22, 2008. We're on our twentieth tape, Phil.

20-00:00:18

Pister: Oh, good.

20-00:00:19

Lage: You talk a lot! [laughter]

20-00:00:22

Pister: I don't shut up.

20-00:00:24

Lage: Okay. We're really sort of winding things up here. And a few minutes ago, off the tape, you got into the topic of religion, and I'm thinking religion and nature. I want you to tell me about your, sort of, religious journey, if we can call it that.

20-00:00:42

Pister: Okay. This is interesting. I've always, as a philosopher and ethicist, been interested in that first part of Genesis where man or human beings are given the stewardship over the earth and all of its fishes, and fowls, and whatever. Well, okay. I was raised—first, start this way. Religion, just by definition, is a very personal thing. Pretty hard to generalize on religion, except to say that probably, overall, it's a good thing. We might wonder about the impact of organized religion on world politics, but we don't need to get into that now.

So my wife and I, both from Stockton, California, grew up in the Congregational Church there, more or less a liberal Protestant group. And then went through college. Martha continued on with the choir there. I was away at Berkeley when she in college.

20-00:01:39

Lage: Was this an important part of your family upbringing?

20-00:01:43

Pister: Yeah. Well, yes and no. My mom felt that we should have, Karl and I, should have some religion in our backgrounds. And it made quite a difference to him, and it did to me, too. Then Karl became a Catholic and was married in a Catholic Church in Oakland. His wife's a strong Catholic, was a graduate of Holy Names there in Oakland.

But we [my wife and I] came along and were just kind of in-limbo type thing with the religion.

And so one day when I was—this is in Bishop now. We had moved back. We were at Convict Creek for a while as I was a grad student, then down to Bishop where we worked with the Department of Fish and Game. And a couple of Mormon missionaries came to the house and made quite an impression on Martha. Without going deeply into it, she thought this would be good. They have great youth programs, and our kids were just coming up to where we would be concerned with that. And they should also have some, at least, brush with religious philosophy, even at the ages of, about, ten and seven.

20-00:03:00

Lage: So was this in the sixties?

20-00:03:02

Pister: Yeah. Yeah. This would have been mid-sixties. Ann was born '55, Karl in '58. So Martha joined the church, the Mormon Church. And I thought, well, what the heck. I just as well join it too. This would be, probably, a good thing. So I joined the church too.

20-00:03:22

Lage: Are there many rituals to joining the church?

20-00:03:23

Pister: No.

20-00:03:24

Lage: Or obligations to join the church?

20-00:03:24

Pister: No. No. Not to join it, but once you get in there, then it becomes much more structured. The Mormons are set up so that they want to get converts. And I think, most unfortunately, they don't really make it clear to the potential converts what's expected of them once they join the church, like paying a full tithe, can't drink anything like coffee, or tea, or beer, or wine, any alcoholic beverages. At the direction of the guy who founded the church, Joseph Smith, back in the early 1800s—he's the one who put the whole thing going. We don't need to go into that too much at this point.

So then I was interested, of course, in the church, being a member of it. And I was asked at that point if I would take over the administration of the local unit, which then was a branch of the church. Later became a ward. Mormon structure goes from the stake structure of the broader geographical area, then to the individual towns within that stake. Bishop is the Bishop branch. And so I said sure, without really knowing any more. "Well, I'll be glad to help if I can."

And this, interestingly, was right in the middle of the building project. At that time, the Mormons built their chapels. We didn't have a chapel. Built their chapels with donated labor under the direction of a building superintendent,

who was essentially a professional builder. But it was my job, as somebody who had literally just joined the church, to call up all these grizzled old Mormons, say, “We’ve got to be out at 5:00 in the morning to pour concrete tomorrow, and we expect you to be there.” So that wasn’t—

Oh, then, too, they found out that I was from Berkeley. This is really funny. And the Mormons, of course, are very, very conservative. They viewed this place as kind of a cross between Yasser Arafat and Karl Marx. [laughter] It took a while for me to show them not all Berkeley graduates are out to destroy the world. We’re trying to do some good things. So several years went by, as I was head—

20-00:05:39

Lage: But you did take this active role as the president of the—

20-00:05:42

Pister: Yeah. Uh-huh. Yeah. And it was kind of fun in a way. I learned a lot about building, how you do that, with subcontracted labor in the local community. Did that very well. So then I began to question some of these things. All this was done with just a peripheral, very minimal knowledge of Mormon scripture, per se.

20-00:06:05

Lage: It sounds like you were more into the administrative end than—

20-00:06:09

Pister: Oh, very much so. And I’m glad you picked that up, because it was indeed true. Indeed true. I would have to talk to some of the members. Say they had a family squabble or something. It was my job to try to reconcile this. My son does this professionally now. I think a lot of that rubbed off onto him.

20-00:06:26

Lage: So this was more than just building buildings?

20-00:06:29

Pister: Oh, yes!

20-00:06:29

Lage: You were the leader of the group.

20-00:06:31

Pister: Yeah. I was the spiritual leader. Kind of ironically, without really knowing much about the spirituality aspect of it. I did know this: that the Mormon people, by and large, are the greatest bunch of people in the world. Socially, they’re hard workers. Their values are basically pretty good. They’re just good citizens. Let’s put it that way. That impressed me, and I did what I could to enhance that. But if there were problems of any kind, it was my job to try to reconcile them.

20-00:07:03

Lage:

And did you have a connection with the higher levels of the church?

20-00:07:07

Pister:

Through the Ridgecrest Stake. Ridgecrest, out in the middle of the desert, which is kind of headquarters of the Naval Weapons Center. That was our stake center. We were 135 miles from that, some units even farther. But most of our stuff was done locally. We did have some direction from the higher church authorities. But these would be major pronouncements. Okay, when the church, when the general authorities, I don't know how deep we want to go into this, but when they decided to grant the blacks the church priesthood, this then came down from the top at Salt Lake, down through the church stake leadership, then down to us to be implemented at our level. This never touched me directly, with the black thing, although I was very much in favor of it, because there are practically no blacks in Inyo County at all.

20-00:08:03

Lage:

But did that come up at your level? Questioning the philosophy behind it?

20-00:08:10

Pister:

Oh, yes. Yes, indeed. If the Mormons have a problem, they tend to be bigots toward other groups. They think their religion is the only true church. And minorities only recently have been really recruited. Now I think there are more Mormons in Latin America than there are in the United States, when this whole thing started here. The church is—somebody said there's nothing more organized than the Prussian Army and the Mormon church, and there's some truth to that.

20-00:08:46

Lage:

Did the organizational aspect of it appeal to you?

20-00:08:49

Pister:

Well, yeah. It was good, because, okay. Somebody comes in and says, "You know, Bishop, or President, my husband lost his job, and we don't have any way to feed the kids." This is one place where the Mormons really shine. They are all set up for that. So I call, then, the stake leadership, and then they make arrangements for a truck at Colton, down near Riverside. They'd have the stake stores, their storing area facilities. They'd take everything you can imagine: powdered milk, and eggs, and meats. Cans of stuff. And they'd literally come up and keep that family alive. The church members are asked to give a small part of their tithe for that purpose. It's call the Fast Offering.

So this was all kind of neat to me. I like organization, and it was a good thing. We've had people abuse this. We know darn well they don't need free food, but they come and ask for it anyway. One of my friends there, really a great guy, school principal, strong Mormon, vastly more than I ever was. He says, "You know what I did?" He was a bishop down south, at Whittier. "I would have a big pile of gravel, big pieces of gravel at least two inches in size. And when somebody would come in and ask for financial help, I'd say, 'Okay. But

we have some work we need to have done. We want you to move that pile of gravel from this spot fifty feet over to here.’ And boy, it was that big of gravel that every time that shovel goes in, it hits, bang, like that. And right away you learn just how dedicated they are to this. A lot of them just get up and leave. If they really needed the food, they’d move the gravel.” So that was one way we handled all that.

So then the time comes, I begin to question all of this. Martha, my wife, left the church. She saw some terrible inconsistency between her beliefs and those of the Mormons. This would have been in the mid-eighties, over twenty years ago.

20-00:11:08

Lage: And do you know what it was related to?

20-00:11:11

Pister: It was perception of the Godhead, the Trinity, and so on. And a number of other things. There’s no need for us, at this point, to go into the depth of this, but she—and this got me to thinking, because my wife is probably one of the most intelligent people, and logical people, I’ve ever run across. I think, like many wives, only made one major mistake in her life. [laughter] So Martha left, and this just devastated my kids, who remained very active in the church. And again, it’s been good for them. They take part in the church activities. And my kids did the same thing when we were active in the church, and certainly they benefited from it.

20-00:11:56

Lage: There are a lot of youth activities.

20-00:11:58

Pister: Oh, yeah! Yeah. Mormons are smart enough to know as the twig is bent, so the tree grows, and that’s exactly what they do.

20-00:12:07

Lage: Now when did you yourself begin to question?

20-00:12:11

Pister: I began, perhaps, ten years ago. About ten years after Martha. And right away, I said, “Martha sees some holes in this whole thing. I better start finding out for myself.” She says, “Find out for yourself. If you need any hints or ideas, let me know, and I’ll tell you where to look.” So I still show up once in a while, but essentially, I’m no longer a Mormon. And some of my best friends remain this way, strong members of the church.

20-00:12:43

Lage: Is there a strong community there in Bishop?

20-00:12:46

Pister: There are roughly 400 members in a community of probably 10,000. I’m trying to think. That would be 400 members out of 10,000 would be what

percentage? Four percent. That's about right, yeah. It would be about that. And that's kind of, I think, nationwide, about that.

20-00:13:05

Lage: Because so many social activities revolve around it—

20-00:13:08

Pister: Yes, they do.

20-00:13:09

Lage: —I think that would be harder to break the ties.

20-00:13:12

Pister: Well, yeah. But I was never much involved with that. The Mormons have what they call their Word of Wisdom: you eat only good things, you drink only good things. Their Word of Wisdom includes coffee, tea. You don't drink alcohol, anything like that.

20-00:13:29

Lage: Now did you keep to that while you were a Mormon?

20-00:13:32

Pister: Yeah. Pretty much.

20-00:13:32

Lage: Because you don't seem to be now, is that—

20-00:13:33

Pister: How do you like that? That was a slap, isn't it? No, I probably broke out of that at least ten years ago. Now I have my afternoon—see, I'm under medical direction to drink wine every afternoon. And my brother, who's a highly intelligent university administrator, and I always have while I'm here a cocktail before dinner. And I do the same thing when I'm home in Bishop. I have my afternoon margarita. But, you know, that's it. Not really hooked into alcohol. So that's all—

20-00:14:15

Lage: Is there anything pertinent about the attitude towards nature—

20-00:14:19

Pister: Yes.

20-00:14:19

Lage: —within the Mormon religion?

20-00:14:20

Pister: Yes. Yes. I've always been interested in the application of Genesis, where mankind is given the stewardship over the earth and its creatures.

20-00:14:33

Lage: Or dominion, some say.

20-00:14:35

Pister:

Dominion, yes. And so this was interesting to me, because the Mormons are highly exploitive people. They went into Salt Lake, and they still look at it this way. They felt, okay, the world is there for us to conquer, turn Salt Lake Valley into a rose garden. Pretty much their philosophy remains that. They're highly exploitive. You know, you go back to Utah and when deer season or elk season starts, there's nobody there. They're out killing these poor creatures. This is okay. I have no problem with hunting. There's always—I learned here at Berkeley from Starker Leopold that all populations have a, quote, “harvestable surplus.” And that's what they're doing, basically. Under really well regulated conditions.

But we come to basic environmental issues, a real give-away here is the voting records on conservation issues by Mormon people in the congress, and also, of course, in the state legislatures. The League of Conservation Voters sends out lists of the voting records during the last year. And the voting records of, say, Orrin Hatch, the senator from Utah; Bennett, the senator from Utah; some of their congressmen, are just deplorable. They'd be—whereas a good—in my view, anyway; of course this is, again, subjective—would be, say, a voting score of at least 80 percent. The California senators, I think Barbara Boxer is 100 percent. These guys are lucky to make 10 percent, and usually just 2 or 3 or 4.

This is a great story. One time I was back in DC. The way to get back to Bishop in the summertime, I fly from Dulles Airport to Salt Lake. And then I take another flight to Reno, and then I drive home. In Dulles, of course, they have these big people movers, and you're kind of jammed into these things. You go from the main terminal out to where you board the planes. And I got aboard, and here comes Orrin Hatch and his wife. And our knees were actually touching theirs. And I really lost a great opportunity to say, “Senator Hatch, how can you be such a hypocrite when all of the prophets of the church have talked about our dominion over the earth? Is it simply politics?” I should have done that. It would have been interesting to see his reaction.

20-00:16:55

Lage:

But the word dominion can mean dominating.

20-00:17:00

Pister:

Okay. So this brings in another very much of a maverick within the church, recently passed away, a philosopher, professor of religion at BYU, Brigham Young University, named Hugh Nibley. Nibley is strongly environmental, or was, and wrote a book called *On Subduing the Earth: Nibley on the Timely and the Timeless*. And in there, he wrote this very good chapter, “On Subduing the Earth.”

[PP in editing said, “My tongue got in the way of my brain on this next paragraph.” He rewrote it as follows].

This guy's a Berkeley PhD, which right away gives you an idea of how he thinks. He took a job at BYU in Provo, Utah, and tells about walking to work one morning when he saw a group of Boy Scouts clustered around a fir tree. They were trying to kill a quail in the lower branches. It puzzled him why they should want to kill it. This seemed to him to be a very un-Scout-like thing to do. Their feeling was that the quail could be killed so that they might eat it for dinner.

Not long after that, Nibley was in Chicago and noted that there were squirrels running around in the parks. He said, "If this had been in Provo, the squirrels wouldn't have lasted ten minutes." Because you compare it with other groups of scouts, who were highly thoughtful of their dominion. That's a reflection of how they had been taught and think. Whether talking about water projects, agriculture, killing groundhogs (after all, groundhogs eat grass that cows would otherwise eat), or whatever. Dominion and stewardship show up clearly in such cases.

So this entered into it, too. As you can imagine, in the little ward there in Bishop, Bishop's kind of like, say, rural Nevada in many ways. You see, say, during the last election, just all kinds of bumper stickers. Bush/Cheney, and so on.

20-00:19:03

Lage: And did you find this in the church?

20-00:19:06

Pister: Oh, yes.

20-00:19:07

Lage: And that was a significant part of the church?

20-00:19:08

Pister: Oh, yes. Yes definitely. You know, you mention the *New York Times*, you get, "You read *that*?" They stick to the church newspapers, like the *Deseret News*, *Salt Lake Tribune* is less so. So the—

20-00:19:20

Lage: It sounds like not a good fit, somehow, from everything you've told me about yourself.

20-00:19:24

Pister: Well, no. And I began to see that. And so I saw that this was *not* the direction I wanted my life to take. Even to this point: it kind of bothered me to have the church general authorities, which were essentially twelve white males in their eighties and seventies, telling me how to live my life. It just didn't seem right. Because, see, when any of the general authorities speak anything, it's as if the president of the church said that, and therefore it becomes scripture. And it's to be adhered to without question. And I had a tough time, I *have* a tough time

with that. So that essentially caused me to leave the church. I felt almost hypocritical staying there under those circumstances.

But this business on man's dominion: Nibley, again, just goes on and on in his "On Subduing the Earth" chapter. It's worth reading, really. It's published by Bookcraft in Salt Lake. And he puts it kind of as a member of the church himself, points out the hypocrisy of the members when it comes to natural protection, whether it's animals, the environment of any sort. The two are together, of course. And on and on we go.

So that is what caused me to drop away. My kids are both still active in the church, and I have no problem with that, because they all have children growing up, and the youth programs of the Mormon church, they're hard to criticize, really. They're beautifully done. As far as my own personal beliefs at this point, I'd say I'm an optimistic agnostic. [laughter]

20-00:21:13

Lage: That's a big switch, from being branch president.

20-00:21:15

Pister: Oh, oh, yeah. And bishop. That's kind of getting there. And the Mormons say guys like me, "You've had it, buster. You're doomed"!

20-00:21:24

Lage: An *optimistic* agnostic. Does it mean you're optimistic that maybe you're wrong, and there *is*—

20-00:21:30

Pister: Yeah, exactly. I feel—see, there are certain things that science can't answer. To me, some of these rationales behind the origin of the universe, I have a tough time with the Big Bang and some of these things. And Karl and I, my brother and I, have often talked about this. We get back to *somebody* had to start this whole thing.

20-00:21:52

Lage: Now, is there a religious element to your work? Your work in preserving endangered species?

20-00:22:02

Pister: Well, I think so. I think it's part of my manifestation out of the book of Genesis. It's my job to protect these things. Of course, much of what I do is scientifically based. But I feel I can be a good steward of the earth's creatures and have been placed in the positions that I've been able to do this by whatever reason. Maybe—

20-00:22:21

Lage: You use the word stewardship more than the dominion.

20-00:22:27

Pister:

Yeah. And that's another thing that Nibley goes on to. He said, "The *dominion* that has been exercised by the church members has not been a righteous stewardship." You can define stewardship any way you want to, but basically, he goes—and Nibley is a linguist. I think he was in command of something like seven or eight languages. Almost unparalleled linguist. Going clear back into the Coptic and early writings, and he says that in his own analyses of these, mainly here at Berkeley for his dissertation, it's clear to him that the dominion we are given here, and stewardship, was indeed a righteous one, and not an exploitive one. I've gotten some—

20-00:23:14

Lage:

Based on his interpretation.

20-00:23:14

Pister:

Yeah, exactly. But he goes through, and he can prove this by his own research. So I felt pretty strongly about that. Nibley's always been one of my heroes in that sense.

20-00:23:25

Lage:

And what is his first name?

20-00:23:27

Pister:

Hugh. Hugh B. Nibley, N-I-B-L-E-Y. David Gardner would be well acquainted with him. Probably knew him, actually. Gardner went to BYU himself. Went on to Berkeley.

20-00:23:41

Lage:

This may not tie together, but somehow it does in my mind. One thing we talked about before we turned on the tape was your interest in biogeography.

20-00:23:52

Pister:

Oh, yeah. Okay. We go out and there's a squirrel running around, or you go to a pond and there's a fish there. How did it get there? What—And usually you can trace this back to into the Ice Age and well before that, of where these creatures were, and how changes in the environment brought them to certain locations. Two of my main mentors, both of whom I mentioned here, Carl Hubbs, from Scripps, and Bob Miller, his grad student, that's one of their big things. Because being ichthyologists, they want to know where their fish came from that they studied. So this has all been of tremendous interest to me. And because we have all these cutthroat trout in the Great Basin. We talked about the geographic deno—

20-00:24:43

Lage:

And they're considered native?

20-00:24:45

Pister:

Yeah. Yeah. Yeah. Yeah, they're native. And I think we'd say that's any fish that we trace back to the Pleistocene was indeed native.

20-00:24:54

Lage: Yeah. I wondered about that definition. Some people say if they were here when the Europeans came, they're native.

20-00:25:02

Pister: Well, see, this is an interesting point, too, in terms of just people biogeography. I've gotten into some arguments there with a local tribal community. They say, "We're the Native Americans." I say, "No, you're not native here. You came across the land bridge, or whatever way you guys got here. But no, you weren't native here when the ice went away." I say, "You came here later on." Well, they don't like that, because they like to be thought of—And certainly there's some truth to that. You know, there's—

20-00:25:29

Lage: Well, when we talk about the native fishes of the desert, when did they come?

20-00:25:36

Pister: They were all part of the early hydrologic connections, before human beings showed up. Or before Europeans showed up, anyway. There's some question now of whether, say, the fish in Devils Hole were native or were placed there by early inhabitants.

20-00:25:56

Lage: Oh, interesting!

20-00:25:56

Pister: Uh-huh. We think that they were always there, at least as the Colorado River connectives that put the fish in Devils Hole are very clearly demarked. And so that was how most of those pupfishes got spread around all over the desert.

20-00:26:11

Lage: By the Colorado River in ancient times?

20-00:26:16

Pister: Yeah. Mm-hmm. Yeah. Like the Owens pupfish. They very likely came up through Owens Valley and through Death Valley. It was kind of the sump of all of these water connectives back then. I think I mentioned that Death Valley was covered by a lake about 600 feet deep, 100 miles long, and fed by the Mojave River out of the south, the Amargosa River out of the east, and the main tributary of the Owens from the west. And they created this huge lake, and the fishes naturally were all intermixed. Then the lakes dry up. There were several lakes up the chain. They dried up, and the fishes, then, because of just the way fish work in genetics, turned into their species and subspecies. And so it was just that alone, from my own perspective. Miller wrote his dissertation on that, basically, tying in the systematics, the taxonomy of the fishes, in with their early origins.

20-00:27:16

Lage: And if you go back even further, where do they come from?

20-00:27:20

Pister:

Well, this is interesting too. You're not intimately familiar with this, but you will be, because you'll drive right through there. At one time, the Mono Basin was connected to Nevada, came through and connected with the San Joaquin River that went into—

20-00:27:36

Lage:

The water of these were connected.

20-00:27:37

Pister:

Yeah. That went into what's the Central Valley and then out under the Golden Gate. So there would be some of these early connections. And kind of interesting. This is a great story. One of Miller's sons, his oldest son, Giff, became a geologist, basically a hydrologist, at Boulder. He's a professor of geology there at the University of Colorado. And curiously one of his grad students just published within the last couple of months a marvelous paper tying all of that together. And because of her major professor, Giff Miller, the son of Robert Rush Miller, she is deeply interested in how these things impacted the fish populations. So we go back there at least into the Pliocene, which goes 2 million years, maybe back to 10 million, and have to look at some of the early hydrologic records to see just where these fish came from. But to me, this is just fascinating. Okay, they're here. How'd they get here? How'd the squirrel get here? Under what mechanisms? It's much easier to trace aquatic connections than it is terrestrial connections.

20-00:28:50

Lage:

Fascinating. Now, you mentioned, just thinking about natives and change, that one of the pupfish has died out.

20-00:29:01

Pister:

Yeah.

20-00:29:01

Lage:

Can you tell me about that?

20-00:29:02

Pister:

This was the Tecopa pupfish. The pupfish out in that area, just around Death Valley, are all *Cyprinodon*, the genus. Species *nevadensis*. And then as they isolated into sub-specific groups, there was this *calidae*, well named because these things live in water temperatures up to something like 120 degrees Fahrenheit. In very saline water, as well. We thought that we had a population remaining from that. Some of the new genetic techniques showed us that we did not, and this subspecies that we thought was a valid subspecies, still it's a valid subspecies, but it's no longer in existence. And so that was the first, as I recall, the first species ever taken off the Endangered Species Act because of an extinction. And that was a sad, sad thing. There are populations of fish all around there in that part of the Amargosa River.

See, the Amargosa River starts in about Central Western Nevada, comes down, goes around just to the eastern edge of Death Valley. Then goes down through the Amargosa River Gorge. And the river itself is an interesting river. Then it fishhooks and ends up, its sump is in Death Valley. And it's an interesting thing just to follow. I've walked that many times. It's interesting what kind of fish are there. They're one of the reasons I was kind of chastised, too. You know, when people drew lines on maps, the critters don't know the lines on the maps, and who's to say that this is Nevada's fish, this is Calif—

20-00:30:45

Lage: Oh, I see. You were trouping over to the national park.

20-00:30:47

Pister: Oh, yeah. I was going. Although usually in company with my counterparts in Nevada. When we get together, and it's been one of my management philosophies, with people from other agencies, you essentially just tear off your shoulder patches and you work together as a team of people that want to do a job. And so that's worked really well. I don't care if a guy's in the Park Service, or the US Geological Survey, or state of Nevada, state of Colorado, what. You're all working toward the common objective of making a better biota.

20-00:31:18

Lage: And was that supported by your department? That kind of cooperation?

20-00:31:22

Pister: Oh, mostly they didn't even know about it. [laughter] They did to this extent: when we held our meetings in Death Valley, all these people would come there. They'd all show up with support from their agencies. The only support I ever got to go to a Desert Fish meeting is when it was in California, *in my area* of California. The rest of them I have to do on my own. Buy my own plane ticket. Make my own hotel reservation. That kind of thing.

20-00:31:49

Lage: Huh. Not very good on that.

20-00:31:49

Pister: Well, no. But if I wanted to go to a salmon meeting, up in northern United States, up in the northwest, that's okay.

20-00:32:00

Lage: That's okay. Would they cooperate with—

20-00:32:02

Pister: Oh, yeah.

20-00:32:02

Lage: —Oregon and Washington?

20-00:32:03

Pister:

Yeah, see, there was a group called the Pacific Fisheries Biologists. It just got disbanded rather recently. They ran out of their means to do this. They brought in biologists from the western part of the United States that have connections with the ocean, where the salmon are. British Columbia, Washington, Oregon, California, Idaho. And so the biologists would get together and talk about common problems. Last night, I had at Roger's place farm-raised salmon. If those things would escape, what problems could that create in the genetics of the wild population? We'd discuss things like that.

20-00:32:47

Lage:

So that was supported by Fish and Game?

20-00:32:50

Pister:

Yeah. Yeah, because, again, it's an economic resource, you know. You can eat salmon, from the catch.

20-00:33:00

Lage:

Do you eat farm salmon?

20-00:33:02

Pister:

I probably have. I may have eaten some last night at Roger's.

20-00:33:06

Lage:

But do you support the idea, or would you prefer not?

20-00:33:08

Pister:

Well, I'd prefer not to, just from the water quality sampling. Salmon are creatures, like fish hatcheries, you have tremendous effluent from these things: fecal material, whatever. And that's got to go somewhere. See, there's pen-raised out in the ocean. Big pens. Starting in British Columbia and going clear down into California. And so I think from that standpoint alone, I would oppose it. But it does support a major industry now. You go into, say, one of your supermarkets, your Raley's or Albertson's, whatever. The salmon you see there will be pen salmon, unless it says specifically, "Wild Caught." Same thing with canned salmon. Most canned salmon is wild salmon. We just buy the frozen stuff in a meat market, it's very likely farm-raised.

20-00:34:02

Lage:

Okay. Well, back to fish. We're picking up on topics we missed, and this seems like a good place to talk about the cutthroat trout in Colorado. We talked about them in Slinkard Creek.

20-00:34:17

Pister:

Perfect. It's a different one. But at one of our Desert Fish meetings—I've always been interested in this fish anyway.

20-00:34:26

Lage:

In the cutthroat trout?

20-00:34:27

Pister:

Yeah. When I first started work with Cal Fish and Game in 1953, I had just finished up my graduate work here at Berkeley. I was kind of really wet under the ears in terms of real-world type things. So I got a job with the state Fish and Game Department as a seasonal employee in Bishop, where there's a major operation there for all kinds of trout. Rather ironically, none of which are native south of the Mono Basin. But at any rate, the fellow who ran the fish hatcheries then used to run the Mount Whitney Fish Hatchery, located near the little town of Independence, the county seat of Inyo County. And he loved to talk and tell stories. Most of the other people in the office had probably heard them all. But to me, gosh, I was just a sponge waiting for this stuff. And this was really a fortuitous thing.

He came to me one time, just by myself. He says, "Phil, you know, there are some interesting things that have happened here that you ought to know. I'm about ready to retire and you're just starting, but I want you to know about something that we did back in the early thirties. Back in that era, it was common practice among state fish and wildlife agencies to exchange lots of trout eggs to be reared in their proper hatcheries. California sent golden trout from the Cottonwood Lakes Basin back to Colorado for them to raise and plant as they wanted to. In reciprocation, they sent us 30,000 eggs of the Colorado River cutthroat, which is *Oncorhynchus clarki pleuriticus*." The others are different. About ten different groups.

And I said, "Okay." This is interesting, it comes back to the university system, less so here than Stanford. But he said, "When these eggs were sent to us, the chief of fisheries at that time was one of David Starr Jordan's students," an ichthyologist at Stanford, a fellow John Otterbein-Snyder, came over to east side, which back then was not easy, and he said, "I want you guys to take these little fish after they've hatched them out, reared them up." They were planted about this size. "First off, hold those eggs and the fish in a separate part of the hatchery so they can't get mixed up. Then plant them somewhere where they're not going to be mixed up either." So in other words, plant them somewhere where you cannot inadvertently mix them with the wrong species.

Well, the people at the hatchery, including my friend Talbot, who was rather—he just had finished up World War I when he went to the Fish and Game Department in 1918.

20-00:37:22

Lage:

Oh, he was an old-timer.

20-00:37:23

Pister:

Oh, very much so. Very much so. And he said, "So we took old Doc Snyder at his word and we did exactly what he asked us to." He said, "I've been up there a couple times. The fish are doing well."

20-00:37:36

Lage:

And where did they plant them?

20-00:37:37

Pister:

They planted them just behind the fish hatchery in the upper Williamson Creek drainage. There are three lower lakes—well, there's a series of about seven lakes up there. But they hauled the fish in on mules and had—it's hard to get into that country, as you'll see, just stands up on end. You start in at a roadhead. First you have to get a pack with some mules starting at 5500 feet. You climb up over a ridge at 7500 feet. That's climbing up 2,000 feet. You drop down to 5500 again, then you go up 7,000, over Shepherd Pass at 12,000 feet. And then over to the left and back down in through—Go over Shepherd Pass here into Sequoia Park, and you come back on the east side, and you're in the Inyo National Forest again. So these lakes are in the Inyo Forest.

So he said, "We loaded the fish onto mules, took them up there." They had to go to this 12,600-foot ridge, and in order to get the fish down to the lakes, they had to haul them in rubber backpacks and make three trips from 12,600 feet down to 11,200 feet, back up, load up again at 12,6, down to 11,2. And the reason is that to keep the fish alive, they're in specially-constructed cans. The packer keeps the mules moving all day long. They didn't get out of there until dark. Move these mules away all day long, because the water splashing in the cans aerates the water. So you just couldn't tie them up somewhere. The fish would have all died. So they get the fish planted.

And I told the story in the topic of my talk at our 1974 Desert Fish meeting. A fellow named Bruce Rosenlund from the Fish and Wildlife Service in Colorado was there. He was very interested in desert communities and cutthroat trout. And he was sitting in the front row, a guy I've known now for many years, taking notes. And we had just gone there the year before, and old Lee Talbot, what I did, I brought him into the Fish and Game office and without his knowledge, he would have tied up otherwise, started the tape recorder going. I said, "Lee, tell us about when you took those fish in there." So he went clear back, and he gave us the whole story. We built our program around what he had done. And this ties us into the Japanese later, too, because that's where they went fishing. We'll talk about that, out at Manzanar.

So Bruce phoned up. This would have been in August of 1986. I can't believe that's twenty years ago now. And he said, "Phil? This is Bruce Rosenlund. Do you remember me?" I said, "Oh, heck yes. I remember you well." "Are those fish still in the Williamson Lakes?" I said, "Yeah. We were just there a couple years ago, and they're doing quite well. There's lots of them. They're just as gorgeous as they ever were." And he says, "Can we get some?" I said, "Sure." In my mind, I knew what that entailed. It was going to be a lot of work to get fish out of there again. "Why?" "Oh, we think probably our native stocks in Colorado, the Colorado state fish, are now hybridized with other cutthroat

trout, maybe even rainbows. We're pretty sure that the fish you've got here, back as early as 1931, were before these fish were mixed up in Colorado."

20-00:40:59

Lage: They were pure!

20-00:41:00

Pister: Quote, "pure." Exactly.

20-00:41:01

Lage: Quote! [laughter]

20-00:41:03

Pister: So they were, yeah, exactly. Pure. So one of my classmates at Berkeley, Bob Behnke here, is a prof at CSU, Colorado State, in Fort Collins. And I brought him into it. Said, "What do you think about this, Bob?" And he's a great guy. He said, "We've got some genetic problems." I think that's what prompted him to say, "You know, every time—" I keep a big jug of whiskey under my desk, just waiting that call from a fish geneticist, you know. But he says, "I'd like to look at some of the information over there and see what—" See, when we planted fish like that, it's what they call a bottleneck effect. We planted very few fish, and this exacerbates any inherent genetic problems.

20-00:41:50

Lage: Because they came from such a small group?

20-00:41:51

Pister: Yeah. So I could just see in my own mind when Bruce asked me, "Can we get some?" I knew who *we* was. It was me.

20-00:42:01

Lage: Right. Were they going to study the genetics of it first?

20-00:42:04

Pister: Yeah, they did. They did. Uh-huh. Saw some problems. But you know, it's not easy in this day and age, and the eighties would be included here. Colorado was very concerned about bringing a disease, a fish disease, back into Colorado. California's pathologists, we have excellent ones, wanted to look at those fish too, to make sure that they were okay.

So we got the okay from the geneticist and the disease people. Then, okay here, these lakes, when the Japanese were interned at Manzanar during World War II, and we'll talk about this, probably, later. When they would go up there out of Manzanar, it's just one—lack of a better term—one hell of a climb. They had to climb up. There's nothing worse than to climb up if you're backpacking, and they were, through a very steep stream, full of boulders and aspen thickets. Just is a brutal thing. But they would do this. Had nothing else to do. Sit there and eat rice there at Manzanar, I guess.

20-00:43:10

Lage: But how about you? Let's stick—

20-00:43:12

Pister: Oh, what we could do, we could take another route. We could go up over Shepherd Pass, I mentioned earlier, and drop back down. So I went to the Forest Service, said, "You know, it would really help us a lot if we could take a helicopter into here." Well, it's in the John Muir Wilderness, in which is the Bighorn Sheep Zoological Area, both no-no's in terms of people taking—they didn't like people to go in there, let alone motorized equipment of any sort.

Luckily, the forest supervisor of the Inyo National Forest there, name of Dennis Martin, he knew what we were trying to do. He was all for it. And he says, "We're just going to do this. And if we catch heck from somebody, like some guy from the Sierra Club gets mad, we'll talk our way out of it and try to get his good graces just out of the fact that we're trying to save an endangered fish here, for gosh sakes. Shut up!" We've done the same thing with our golden trout barriers, because they were wilderness too. So we went up. And I had made arrangements with the Park Service for one of their Jet Ranger 3s. Really a neat helicopter. Got about ten of my most trusted people over there to come in with us to—

Okay. I say to the Forest Service, "Can we take the helicopter?" "Yeah. But out of the spirit of wilderness, you should probably haul your own stuff in. But we'll take in the heavier equipment, like the fish cans and things. We feel good about that. In the spirit of the wilderness." [laughter] The spirit of the wilderness, the Golden Trout Wilderness is still filled with cows, which was okay, but with us, we had to haul in our own gear. Well, our own personal gear, sure, we did most of that. But the nets and can setup we could take in the helicopter. Very carefully placed six-packs and stuff of this kind. [laughter] So we could let the helicopter haul that type of thing in.

We found that we could take in, say, we found at 12,000 feet that charcoal briquettes don't work at all, even with charcoal lighter fluid. Found even if you dump on 90 percent alcohol, it doesn't burn them. [laughter] So we set up our camp, went down, caught our fish. The ten of us caught I think three hundred or better golden trout within a couple of hours.

20-00:45:30

Lage: With your—

20-00:45:31

Pister: Our barbless flies, yeah. Place them in buckets and haul them up to where the helicopter could get them on Friday of that month. The week of August 17.

20-00:45:41

Lage: Still in the water?

20-00:45:42

Pister:

Yeah. Yeah. And what we would do, we would keep them—These cans, same ones I mentioned earlier that they hauled on the mules. Take off the upper lid, and the fish are kept from escaping with the screen lid. You put them with their mouths upstream. This ice-cold water flowed in there, and it was full of oxygen. And you can keep fish for a long time that way. Until the final morning, when the helicopter's coming in. This involved, even to this extent—I had to coordinate the arrival of the helicopter with the arrival of California's big Beechcraft to take the fish from the Bishop area clear back to Rocky Mountain National Park.

20-00:46:27

Lage:

So the helicopter flew them to Bishop, and then—

20-00:46:30

Pister:

It flew them into the Independence airport, which could not handle a fully-loaded Beechcraft. Land a Cessna there okay, or a helicopter. They were put onto a fish truck that hauled them up to Bishop. With, I think, 8,000-foot runways there, they could take off. And went back to Colorado. The night before we were to—

20-00:46:49

Lage:

How many fish are we talking about?

20-00:46:51

Pister:

They wanted, I think, something like 300 to overcome genetic bottlenecks. You have enough genetic diversity so these fish would fare okay in their new environment. So we're waiting for Bruce to go back. He had flown out to Bishop commercial. So he could jump aboard the Beechcraft. And once we got them there, they're okay because *in* the Beechcraft, we had big compressor pumps for compressing air. We have huge bottles of pure oxygen that we could keep the fish alive. So Bruce flew back there with them to Kremmling Airport, which is a larger airport just out of Rocky Mountain Park. And loaded them into a fish truck, a US Fish and Wildlife Service fish truck from Leadville National Fish Hatchery. Then they were taken into the park.

20-00:47:46

Lage:

Now which park was it?

20-00:47:47

Pister:

Rocky Mountain National Park. To one of the sections in the park near where they were going to be planted. You could drive there and load them into really a great helicopter, French Alouette helicopter. Had the world's elevation records at that time. We felt good about that. The Park Service had it all beautifully set up, and they looked up, and here's this blasted thunderstorm coming in. And with a new pilot, we were just—Bruce was. I was still walking out of the Sierra Nevada.

20-00:48:20

Lage:

So you didn't go back?

20-00:48:21

Pister:

No, no. Bruce did. I still had to get myself out of there. So Bruce said he was scared to death, because you get a new pilot who'd never hauled cargo loads before, have a lightning strike not too far away, they pull a lever, and your cargo goes whoom! And the pilot just gets the heck out of there to save his life. But we figured that somebody up there had to be looking out for us, because the time that the helicopter came, and Bruce took pictures of all this. Really great pictures. It dropped out into the Bench Lake, in the Ptarmigan Creek drainage of Rocky Mountain National Park. The fish were fine. They released them into there, into the lake and into the stream. They've been in there now for twenty years. They're doing really well.

20-00:49:07

Lage:

Is that an area where other fish didn't live?

20-00:49:11

Pister:

They weren't for a while. The Park Service had to go in on a chemical treatment job of their own and get rid of the non-native brook trout that were there.

20-00:49:19

Lage:

Before—?

20-00:49:19

Pister:

Yeah. Before we did all this. They did this a couple of years before we came in.

20-00:49:22

Lage:

So they got rid of the non-native brook trout?

20-00:49:24

Pister:

Yeah. Mm-hmm. And put in the natives again. Yeah.

20-00:49:28

Lage:

And when they get rid of the non-native brook trout, what else do they get rid of?

20-00:49:31

Pister:

Well, see that's a good question, Ann. And that's been one of the reasons that fish people have been highly criticized by aquatic entomologists. Did we talk about Don Erman?

20-00:49:45

Lage:

We did—I know his name came up.

20-00:49:46

Pister:

Don was here at Berkeley. He was head of the wildlands project here. Moved to Davis. But his wife is a very, very good aquatic entomologist. And one of her concerns, about work we do in the Kern River and her concerns would also go back to Colorado, "What else are you killing?" Because it kills gill-breathing organisms, and virtually all aquatic insects are gill-breathers. So we

did some very careful analysis down on the Kern in 1976. And much of the appendix in my new paper is devoted to the work on the impact of certain of those chemicals on aquatic insects.

20-00:50:24

Lage: Did the insects tend to repopulate?

20-00:50:26

Pister: Well, yeah. We're lucky on the South Fork of the Kern, because the Kern comes within about a couple hundred yards of Golden Trout Creek, a totally different stream. And virtually all of the critters we're talking about are winged forms, and they could fly over and quickly repopulate.

20-00:50:44

Lage: And what about in Colorado? Is that the same way?

20-00:50:46

Pister: Well, I think the Park Service did their own analyses, because they're even more tied up on this sort of thing than we are. So that's kind of how—and they're doing fine. Some of the fish that were marked by a left ventral fin removal, but they're still catching them back there, or did for a while. And they had something like, now, '86 to 2008, we had at least twenty spawnings have occurred by those fish, very successfully.

20-00:51:13

Lage: I don't know much, I don't know *anything* about fish genetics, but I'm thinking that here you've got a restricted population that was transplanted from California and that interbred, and then you took a group of *those* kind of interbred fish back to Colorado, and *they're* interbreeding.

20-00:51:34

Pister: Well, the ones who were brought here were probably not interbred, in 1931. [PP added in editing: "We're dealing here with only one subspecies, the Colorado River cutthroat trout. Interbreeding could occur only if they were mixed with a group of another subspecies, such as the Lahontan cutthroat trout, *Onchorychus clarki henshawi*, or with a closely related trout such as the rainbow."] We're well advised by geneticists who understand these things much better than I do, and you too.

20-00:52:07

Lage: *Certainly* better than me.

20-00:52:08

Pister: Yeah, well, in my knowledge—I took—

20-00:52:12

Lage: Would they advise that it was a large enough group?

20-00:52:14

Pister: Yeah. That's why they told us they wanted three hundred, and not ten. To get enough genetic diversity from those fish.

20-00:52:21

Lage: Yeah. So that they know—

20-00:52:23

Pister: Yeah. They felt sound or good about this. Because we had geneticists from California, we had them from Colorado University of Boulder, we had them from CSU to look at all of this and be very critical about what we did, because we didn't want to do something that was going to be extinct genetically within a decade. We wanted to do something worthwhile.

20-00:52:44

Lage: So that's the Colorado state fish?

20-00:52:47

Pister: Yes. And we think since then they might have found some of them in streams in Wyoming, because all of the west front of the Rockies, it drained into the Colorado River, would probably have connectives. And I think that the Wyoming people have collected pure Colorado River cutthroat trout there. But that was really a great experience, to do that.

20-00:53:20

Lage: That's a good, good story.

20-00:53:22

Pister: Well, it is, and I walked out over the main trail, down over Shepherd Pass. Most of the guys went down the route that the Japanese came up. And they said, boy, they don't even know how they got up there, but they did.

20-00:53:35

Lage: Is that a more direct route than scenic?

20-00:53:38

Pister: Well, it's more direct, but it's much tougher. I wouldn't even say it's quicker. It's just shorter. I've got a very good friend, and we can wind it up with this, who's a biologist with Colorado Division of Wildlife and he wanted to see just within the last couple of years, he wanted to take—You can just take fin clips now and get mitochondrial micro-satellite DNA information from that. It's much more accurate than the other stuff. So he and his wife went in there in July or August, I think in 2006. And went out, went over the top like we did, and went out like the rest of our crew did. And he said they were scared to death in a couple of places going down. Because you get to places, there's no way to go. Nothing there but big boulders and water going down through them, and there's nothing for people to get through.

- 20-00:54:30
Lage: Now were you saying the Japanese were able to leave the Manzanar Camp and—
- 20-00:54:35
Pister: They did this illegally—
- 20-00:54:36
Lage: Oh, illegally!
- 20-00:54:37
Pister: —and without any authorization. And the title of the DVD that my friend Cory Shiozaki down in Hollywood or Burbank, somewhere down there, where all of the video stuff is done down there, the title of his video is *From Barbed Wire to Barbed Hooks*.
- 20-00:54:59
Lage: Oh! So it's about the fishing?
- 20-00:55:01
Pister: Oh, exactly. The whole thing he's doing. That's why I got tied into it. They had pictures of these fish and they wanted to know how far over the top onto the west side a couple of these Japanese, they're legendary fisherman, might have gone out from Manzanar to catch the fish that they brought back. Some of those guys would be gone for two weeks, and they'd just take enough rice to keep them alive. They probably ate a lot of fish. And of course their relatives and friends there just loved to eat the fish.
- 20-00:55:34
Lage: So did they do oral histories with people who lived there to find out—
- 20-00:55:38
Pister: Yeah. Cory's doing something like that. Yeah. He's got oral history stuff in his DVD. You'd enjoy looking at this. In a way, he's a professional historian, because he's done several things like this. But maybe not be up to Bancroft standards, but it would be pretty good. And I'll send you. When he gives me one, I'll burn a copy of it and get it to you.
- 20-00:56:02
Lage: So you have helped him in what way?
- 20-00:56:04
Pister: Well, okay. Back then, of course, this preceded Kodachrome. He had black and white pictures of some of the trout that were taken from different locations in that upper part of the Sierra. And I could tell—
- 20-00:56:19
Lage: And where did the pictures come from? From Japanese families?

20-00:56:22

Pister:

Yeah. See what they had, the Japanese could not bring in cameras, but they could make cameras, and they knew how to do this. So they could send—one of their sources of supply was Sears Roebuck. They'd get the Sears catalogue. They would go through there, they'd get components, different things. They'd get film there. And they could just put together their own camera. Some very great photographs taken in Manzanar by Japanese-constructed cameras. So when Iwamura came down after being gone for two weeks with this big bunch of trout, are these golden trout or are these cutthroat trout? From Williamson Lakes, or did he go over the top on the west side in the Kern River drainage and get his fish over there? Well, I could tell by the spotting patterns what they had. And this, of course, is what Cory was looking for.

20-00:57:14

Lage:

So where *did* they come from?

20-00:57:16

Pister:

Probably from either—two areas. There's the Wright Lakes, right over the Shepherd Pass, and there's what they call Diamond Mesa Lakes, again, right over Shepherd Pass. Well, they're some distance apart, maybe five or six miles, but if you've got nothing to do but walk around and fish, that's not far. So this is how I kind of got involved in it.

20-00:57:36

Lage:

And were they catching some of these cutthroat?

20-00:57:39

Pister:

Oh, yeah. Yeah, yeah. Yeah, that was the main fish they caught. But if they wanted to go far enough, they could get the golden trout.

20-00:57:44

Lage:

And you saw some photos of that?

20-00:57:46

Pister:

Oh, yeah. And these are the ones that I could identify by their spotting as being golden trout as opposed to cutthroat trout.

20-00:57:54

Lage:

That's a wonderful story.

20-00:57:55

Pister:

It is. So I'm kind of their ichthyological consultant on what they're doing there. But I went down there two weeks ago.

20-00:58:02

Lage:

Down where?

20-00:58:04

Pister:

To Manzanar. The first of every fishing season, well, it's the last Saturday of April, the way they work this. They have a big reunion, where Japanese come from all over the place, mainly those that were interned at Manzanar and their

families, and it's to talk about old times. And they have programs down there. They talk about the barracks units that they were in, and they say that a lot of this labor that went on there was Japanese. Americans didn't have to bring any labor. They would just supply the guards for the guard-towers. They were ostensibly there to keep the Japanese inside the towers. But these were Americans [too]. These guys just looked different. They were doctors, lawyers, schoolteachers, dentists, whatever you—and of course some gardeners too, but these were a pretty highly intellectual group of people.

One guy, Jack Semura, he says, "I'd be interested in some of the scientific stuff you're doing." "What do you do, Jack?" "Oh, I'm up at Portland State. I'm a professor up there." This guy's a professor of astronomy up at Portland State, up in—which I found out, this is interesting, Portland State is the largest university in the state of Oregon now, much bigger than either the University of Oregon or Oregon State, which—

20-00:59:29

Lage:

What tone did these meetings have? You as an outsider, observer?

20-00:59:34

Pister:

Oh, there's a fair number of white (Anglo) Americans. Either German-Americans like me, Italian-Americans. But the Japanese guys—and when they sit around and talk, they talk just like we do. There's no accent at all or anything.

20-00:59:56

Lage:

No, I know. But is there an angry tone?

20-01:00:01

Pister:

Oh, no. Well, some extent. To some extent. You know, "You could go fishing. We didn't want to be here." And some of the people that are there at Manzanar, some of the younger men weren't drafted, but they volunteered and ended up in the 442nd Regimental Combat Team of all Japanese that were just slaughtered over in Italy, then into Europe. And I think this was their way of saying, "Hey, we're not all trying to destroy the United States, or we wouldn't join up with an infantry unit that was sent over to fight the Germans and the Italians."

20-01:00:38

Lage:

Have you heard the men who actually climbed up and fished?

20-01:00:43

Pister:

Mm-hmm.

20-01:00:45

Lage:

Are any of them still alive?

20-01:00:46

Pister:

Yeah. One guy. Shig. Shig Alomoto, I think. He was there, in his eighties. Most of these guys are very shy, very reticent. But Cory's just the other way,

and he can get them talking. He was kind of the facilitator, such as you play here. And so Shig broke loose, and he told us all about this. He said there would be a couple of guards up there. The guard would say, "Hey!" This guy would go to the wire and pick his rifle up. The others would say, "They're just going fishing. Leave them alone." [laughter]

20-01:01:15

Lage: They were aware?

20-01:01:16

Pister: Oh, yeah. Sure. They knew what was going on. But they said, "What harm is it going to do if a guy goes out and goes fishing? They're not breaking out, they're not going to come out and dynamite something." So yeah. He told about that. And they had work crews. And they'd load like they're working on water works and things, and diversions. Because the water supply came out of Williamson Creek, which joined Shepherd Creek in a big reservoir there, and they'd go out to work on that and so on. So there was a thing [laughter] and they'd just load the pickup truck full of workers and also a fair number of guys with fishing rods. And he said that nobody ever asked why there were fewer people going back than went. The rest would head up the mountain and go fishing. [laughter]

20-01:02:03

Lage: That's great!

20-01:02:03

Pister: He's got a great t-shirt. I wish I had brought it over here. "From Barbed Hooks to Barbed Wire." And on the back of the t-shirt is the fishing equipment they used. So the rods that they had fabricated, and their creels, and fishing lure, stuff of this kind. It's really a neat thing. I'm really glad Cory's doing this.

20-01:02:25

Lage: Yeah, that's a great project.

20-01:02:25

Pister: It's such a great bit of history. It is! It would fit into what the Bancroft does. It's an integral part of California history.

[End Audio File 20]

[End of Interview]

Interview #9: June 23, 2008**On site in the White Mountains and Owens Valley. Interview includes Steve Parmenter.**

[Begin Audio File 21 Pister_e_philip21_06-23-2008.mp3]

21-00:00:00

Lage: And today is June 23, 2008. I brought my assistant [Jessica Lage] along to remind me of these things. And we're out here in the field interviewing Philip Pister. We're in one of your sites, Phil, and I thought that would be great to record you here.

21-00:00:21

Pister: Yeah, ideal.

21-00:00:23

Lage: So why don't you tell us where we are?

21-00:00:25

Pister: Well, okay. Most of the orientation we've had so far in the oral history is related to the Owens Valley, which right now is about, oh, well over a mile below us elevation-wise. We're in the White Mountains, and we are at the Clarence Hall Facility of the White Mountain Research Station, which is a multicampus research unit of the University of California. This is one of four laboratories that we have here in the White Mountains: one in the Owens Valley; this one, the Crooked Creek Lab, Clarence Hall Lab, is the second one up; then about 2,000 feet above us here is the Barcroft Laboratory, where a great deal of very sophisticated high elevation physiology research is done; and then another 2,000 feet above that pretty much is the top of White Mountain Peak, which is the highest point on the range at 14,250 or thereabouts.

Where we are now is almost unbelievable. To get here we drove up West Guard Pass, east of Bishop, east of Big Pine, actually, and then up the spine of the White Mountains, which is a big desert range on the east of the Owens Valley, east of Bishop, and then Big Pine, Independence, and Lone Pine down on south. And we're in the bristlecone pine area; that makes it kind of special, too. We just spent some time down at the Schulman Grove, which tells about how these living bristlecones go back to the time of the pyramids and when Socrates and Plato and all the gang were arguing philosophy on the steps of the Parthenon in Athens. And so to get here, we were for the last, perhaps, half hour on not the best dirt road, shaking the car up a bit, but then we come over a hill and here's this facility; you wonder, how in the dickens did this place get here? It's a big log facility.

21-00:02:34

Lage: Maybe I'll just turn around and show—

21-00:02:36

Pister: Yeah, you could do that.

21-00:02:38

Lage: You can keep talking.

21-00:02:38

Pister: Yeah, let's show what this looks like. Okay, I'll just keep talking. And for a number of years here at White Mountain, we had an on the site manager, David Trydahl, a good Norwegian who had just almost unbelievable capabilities when it came to building things. Dave could handle anything from 10,000 volt electricity to moving this building where we are right now from downtown Los Angeles to over 10,000 feet up here in the White Mountains, and those things are not easily accomplished. Clarence Hall was director at UCLA at that time, a geologist, and very wisely chose Dave to run White Mountain Research Station on a local level. I've been involved myself on the board of directors of the White Mountain Research Station, the advisory board for about the last twenty years, you see—

21-00:03:42

Lage: I want to be sure to get the story of your involvement.

21-00:03:43

Pister: —as the sort of only onsite, so to speak, living-in-Bishop member of the advisory committee. The rest are all professors in the earth and life sciences from each of the ten campuses, now including San Francisco and the whole gang, and we meet every year to talk about the administration. We usually meet in San Diego, and met at UCLA when Clarence was director, and we talk about what's needed, what the budgetary problems are, personnel, activities, and so on, but this to me, being a UC person myself, has been really kind of frosting on a cake to be able to keep my finger in university affairs, kind of like this oral history in a way, and to do what I can to make the best university in the world even better, and I think anybody would strongly agree with that, at least anyone with an IQ above room temperature.

21-00:04:40

Lage: [laughter]

21-00:04:43

Pister: I couldn't resist that! [laughter]

21-00:04:48

Lage: My assistant is one of Phil's best audiences!

21-00:04:54

Pister: So at any rate, we have all of this going on. This afternoon we will go back down the spine of the White Mountains, back down to our Westgard Pass, which kind of splits the White Mountains to the north from the Inyo Mountains on the south and go over to a very interesting place, Deep Springs College. Deep Springs itself is kind of hard to describe, except it's a very exclusive liberal arts two-year college there with a faculty-student ratio something like 2:1, something like that! I think their student body is something like twenty-five, something of this nature.

- 21-00:05:28
Lage: That small?
- 21-00:05:29
Pister: Yeah, it's very small, highly selective.
- 21-00:05:31
Lage: And you've had an association with them.
- 21-00:05:32
Pister: Yeah, I first visited there—I first visited here in the White Mountains in 1953, which now is kind of, [laughter] kind of demoralizing in a way to think that's fifty-five years ago. It's now June 23, 2008, of course. But the place has changed remarkably since then. Thanks to Dave's hard work and his predecessors and so on—
- 21-00:05:57
Lage: Tell them about the story of how this log cabin got here [to Crooked Creek].
- 21-00:05:59
Pister: Yeah, well, what we have here—
- 21-00:06:00
Lage: I don't know if my visual was that good.
- 21-00:06:01
Pister: —and Ann kind of showed some—she'll show some a little bit later, maybe be spliced to the right sequence, but it shows the cabin here, and this is a big facility, has dormitory rooms, outlying motel-type cabins. Where we are, this is kind of on a patio between the kitchen-classroom area and one of the major dorm buildings, two-story dorms here, so we can accommodate a fair number of people. A few years ago we had the Organization of Biological Field Stations staying here and they could have their meals here and so on. This is people from all over the United States who were just literally awestruck by the grandeur of this area.
- 21-00:06:46
Lage: It's an education facility as well as research, it seems.
- 21-00:06:48
Pister: Oh, very much so, yeah.
- 21-00:06:48
Lage: A lot of classes.
- 21-00:06:49
Pister: Yeah, yeah, there are classes taught here from the university, from other universities. Last year just at the Owens Valley Lab itself down at 4,000 feet in the Owens Valley, not too far from where I live—that's kind of the coordinating facility—we had over a hundred universities from all over the world represented there doing research here in the White Mountains.

21-00:07:15

Lage: Finish the story about how this building got here.

21-00:07:18

Pister: Okay, well, the building, as I understand it, was kind of a bar/restaurant complex in downtown Los Angeles, and somehow my friend, Dave Trydahl, who can basically be thanked for all of this, found out about this. It was available to be given away if someone wanted to cart it away. So Dave, knowing and loving this part of the Sierra and thinking, jeez, what an opportunity that would be as a teaching and research facility here at Crooked Creek. Because this site has an added advantage. Up at Barcroft above us, well, it's high enough there—it's about 12,500 feet—a lot of people have a hard time sleeping up there, so they can sleep here. It's about 10,000 here, which is not that difficult, but you add another 2,500 feet to that and it's pretty hard for a lot of people to sleep.

So Dave then arranges to get this building available. Okay, that's 300 miles away and up two miles from sea level. How the devil did he get that here? Well, Dave had a lot of local connections, and one of the major cultivated crops here in the Owens Valley is hay, alfalfa hay, and these big trucks would go south loaded with alfalfa hay and come back empty, so Dave arranged with these trucks to essentially transport the building back here, which would've been a very expensive thing if we'd had to hire it out.

21-00:08:45

Lage: But log by log!

21-00:08:47

Pister: Log by log, yeah! And each of these logs down in LA was numbered, and with whatever blueprints they had they could reconstruct this, and that's exactly what they did. Over a period of a couple years at least this place was built clear from the foundation up again, essentially as it was in Los Angeles. It was a gift to the university, to the MRU [Multicampus Research Unit], and it's—like I say, you come over that hill, you look down here, and you wonder how in the dickens did they ever get this place up from LA? Nothing's impossible anymore.

21-00:09:19

Lage: It's quite a journey in a car, let alone in an alfalfa truck. Another question—I want to be sure you tell the story about the alternative energy program, and your role in particular.

21-00:09:30

Pister: Okay. Well, this is interesting, too. A very good friend of mine is director of the National Fuel Cell Research Center at UC Irvine, Scott Samuelson.

21-00:09:42

Lage: And he's Roger's brother.

21-00:09:43

Pister: Roger Samuelsen's brother. We've talked to Roger earlier, and I think Roger was the first director of the Natural Reserve System. So I was at Irvine one time following a meeting at UC San Diego and was talking to some of Scott's graduate students.

21-00:09:59

Lage: Was that a formal talk to his graduate students?

21-00:10:00

Pister: No—well, part of it was, but at this time it was simply a matter of just before lunch sitting around and talking to a bunch of engineers, upper division and graduate student engineers. I said, "You guys are looking for some really interesting project. It would have a lot of practical value," which engineers like to do. I said, "You should consider some sort of a self-supporting electrical system for particularly the upper labs, the upper lab at Barcroft." You know, you get up to this elevation, it's tough on commercial power. The lines, even buried lines tend to break and are subject to bad weather and whatever. Right here, where we are right now, we have power come in from the Edison Company, Southern Cal Edison, one of their trans-White Mountain lines; it goes over to the other side to Goldfield, Nevada, and maybe a branch off to Deep Springs. So it would have a lot of advantage. We can even look ahead to the time when we might be able to put energy back into the grid from all the way up here.

21-00:11:06

Lage: So they came up here, and—

21-00:11:07

Pister: Yeah, so they did, and—

21-00:11:09

Lage: —and where did they work? Up at Barcroft?

21-00:11:10

Pister: Yeah, and one of these engineers, all you see is a smile come across his face. I said, "You know, Scott, this would just be really a great thing for you guys to pick up on!" In retrospect, we've talked since then about it, this is how a university should work. You know, if you have a common need, we have all of these marvelous specialties within the UC system, and this is a classic example of that. So Scott came up—he'd never been here—brought graduate students, Jim Maclay, Jim Meecham, a few others, and began to put this thing together in a workable fashion.

So up at Barcroft, more than here, we've completely changed the heating system there. It's all on solar. We have a gas-fired generator, a fuel-injected thing that when we have, say, a protracted period of no sunlight, most of it's done off having this great big Quonset up there just totally lined with solar panels now. We even considered wind power, which is a possibility up there.

This type of power would be used to power the astronomical research done by Phil Lubin from UC Santa Barbara, so there are just all kinds of practical spin-offs from this. It's going on quite well. We were able to get a pretty good grant from NSF, National Science Foundation, to do some of the basics on this whole thing, and that's keeping us going to some extent up there. We hope we can get another one because there's still a lot to do. And my involvement here as a professional biologist with the Fish and Game Department, this has been my home territory, really, for the last zillion years, half a century. So it's kind of fun to see all these newer ideas come to fruition.

21-00:12:57

Lage: And to be a part of it.

21-00:12:58

Pister: And to be part of it, yeah. Right over the hill, as you look to the road behind as you can see a road cutting across there, that road goes down to Cottonwood Creek, which serves as a refuge for the Paiute cutthroat trout, one of a complex of about ten different subspecies of cutthroat trout as you find all the way from the Sierra back into the Rockies.

21-00:13:23

Lage: And did you have a part in building that?

21-00:13:25

Pister: Well, only to the extent that in its native territory—it's Silver King Creek in the upper part of the East Carson River. One of my predecessors here, a fellow named Elden Vestal—this is a marvelous bit of prophecy on his part—saw the need, for several reasons, to move parts of that population elsewhere. It's kind of like having your eggs in more than one basket, same idea exactly. So in 1946 Elden brought a bunch of those Paiute trout into Cottonwood Creek from Silver King Creek on the East Fork Carson River, and transplanted them there using old military equipment. That's '46, and the war had just ended then, yet we did have some—my first trip into here was a little Army 4x4. It was a brutal thing, but it at least got you where you wanted to go.

21-00:14:12

Lage: Did Elden—? Was his interest in saving species?

21-00:14:14

Pister: Oh, well yeah!

21-00:14:16

Lage: So that's kind of an early—

21-00:14:18

Pister: Yeah, it was. I gave a paper, and it's called *Prophets—P-R-O-P-H-E-T-S—of Species Preservation* using this as a classic example of someone who had the vision to look out past the present to what we're going to need using the past as a benchmark for where to go, and he was right on target. Right now we're having terrible times with the number of water quality laws, people who don't

like philosophically what we're doing up on the Carson River, a place called Silver King Creek, to do our job up there, to keep that population alive. So we have this one here, and I had a lot to do with that beginning about 1953 when I came here to Bishop on pretty much a permanent basis.

21-00:15:01

Lage: Now is this Cottonwood Creek connected to the Cottonwood Lakes?

21-00:15:04

Pister: No. Cottonwood Lakes is way south of us, on the southern part of the Sierra, just a synonymy of names here is all.

21-00:15:12

Lage: Okay, Phil, do you think there's more you want to say about White Mountain? I do want to go out where we can get a picture of the whole—

21-00:15:20

Pister: Yeah, only the extent that probably there is no comparable facility, research facility with these different elevation levels anywhere in the world. Now, they have higher ones in Chile, but probably nothing higher than our summit lab at 14,250 anywhere in at least the contiguous forty-eight, probably all the entire United States. This gives us a series of levels for comparative studies on all forms of natural history, all the way from the rocks to the plants and the birds and the fishes.

21-00:15:50

Lage: And the sky!

21-00:15:51

Pister: And the sky, which you might note—over to the east or the west of us right now, the Owens Valley is loaded with smoke from the fires that pretty much are burning up the entire state, and it shows over there! [laughter] But it's up here we're high enough above that that the sky is pretty much always this remarkable deep blue. So that's pretty much it, I think.

21-00:16:13

Lage: Very good! Any suggestions over here from the assistant? Okay!

21-00:16:20

Pister: Any time you can satisfy a Berkeley PhD student [Jessica] you're doing a good job!

[break in audio]

21-00:16:24

Lage: Tell them to come over this way, Jess. Okay, this is the Crooked Creek Station that we were talking about, and here comes Phil departing from the station. [pause] Gives us a little idea of the way this is set up, right out here in the middle of the high desert. I'm just trying to pan around here Phil and show what a high desert—would you call this high desert?

21-00:17:10
Pister: Well, I guess you would, yeah.

21-00:17:12
Lage: It has real desert—

21-00:17:14
Pister: Although in the wintertime, this will be covered with, oh, five or six feet of snow.

21-00:17:19
Lage: Now, over here is the Fish and Game van that brought us up here. And here are those little living units that you talked about.

21-00:17:34
Pister: Mm-hmm, and they're very nice, nicely furnished.

21-00:17:39
Lage: Okay. What is this over here, Phil?

21-00:17:42
Pister: Well, this, these here are weather instruments, recording weather instruments.

21-00:17:48
Lage: For somebody's research, or for practical purposes?

21-00:17:50
Pister: Well, probably just for general records. On the high point on the peak we have the, I think the highest Internet connection anywhere, 14,250 above!

21-00:18:00
Lage: So this—

21-00:18:01
Pister: It's all hooked into the Internet, yeah.

21-00:18:03
Lage: Of course! They couldn't do their research without the Internet these days!

21-00:18:05
Pister: Pretty much have to have that, yeah.

21-00:18:08
Lage: So where is that located? Up on the high peak?

21-00:18:12
Pister: Hard keeping that going because of the obvious snow and winds that they have at that elevation, yeah. And so here you see right behind me here the power that we get from the Edison Company, and the line goes over land, underground, up to the Barcroft Lab, so we had just terrible problems keeping that service in the wintertime. That's the whole point of what I was talking about.

21-00:18:41

Lage: The alternative.

21-00:18:42

Pister: The alternative fuel.

21-00:18:43

Lage: Yeah, and there's the road coming in we traveled over. Okay, that gives a pretty good picture to whomever might want to see this site.

[break in audio]

[off-mic conversation; not transcribed]

21-00:19:09

Lage: Okay, Phil, now we really are recording here. I want to say that we're onsite here at Fish Slough, and today is June 24, 2008, and we're onsite with Phil Pister, and Steve—what is your last name, Steve?

21-00:19:27

Parmenter: Parmenter.

21-00:19:28

Lage: Parmenter, who's Phil's—I won't say replacement, no, but currently—

21-00:19:35

Pister: Probably as close as you're going to get! [laughter]

21-00:19:36

Lage: —with Fish and Game here in Bishop. He's one of the five people who was brought in to replace Phil when he retired! Okay, Phil, you tell us where we are and kind of give enough background to make it meaningful.

21-00:19:52

Pister: If you want to put some drama into this whole thing—at one time from an area just about exactly like this, late in the evening—this would be August 18, 1969—we, three of us—Bob Brown, John Deinstadt and myself—pulled all of the remaining [Owens] pupfish on the surface of Planet Earth, not that there are any below the surface, but there's where they were here, and had them in two buckets. The pickup truck was about not too far from where our van is over here to the right. And this was a scary thing 'cause it was getting dark, and this whole thing started earlier that day when Bob Brown, who was a student at UCLA working for me that summer, came into the office—and this is where he was doing his graduate research—and he said, “Phil, we better get out there to Fish Slough. That pond is drying up.”

For whatever reason, we're not exactly sure, probably a combination of factors—this was in August. The earlier winter, '68-69, was an extremely fierce winter, high degree of precipitation all over the place resulting in an unusually high growth of the emergent vegetation here, which, of course,

creates a drain on water through evapotranspiration, and apparently according to the flow gages, too, the spring flows coming into here were likewise depressed. Well, together those things essentially isolated the only population anywhere of the Owens pupfish, a full species, one of the first species listed under the Endangered Species Act way back in the sixties, one of the predecessor acts. And so this was an interesting situation. This was about, I'd say, maybe seven or eight o'clock in the evening.

21-00:21:58

Lage: That you got the call?

21-00:21:59

Pister: Well no, no, that was earlier in the day. So when Bob said, you know, we better get out there, we're losing a species, this was right at the end of the workday, say about five o'clock. Then we just essentially loaded everything we could, the three of us, Bob and John and I, and came tearing out here with the nets and whatever, and also had battery powered aerators, like aquarium aerators only they run off of batteries. And we then got all of the fish we could, and there we used not buckets, but we had what we call live cages. They just are little cubicles of hardware cloth, small enough that'll hold the fish.

So we put the fish into these live cages, and see here, over there, it's not too clear here, but there's a major flow coming out of that over there in the other side where you see the tules in the water, kind of behind them there. This was where we placed the live cages to get them out of the main flow, which was a mistake because the water's warm here, relatively, and warm water does not hold oxygen very well. Running water does, but the colder it gets the more oxygen it holds. So it was later in the day, and I said to John and Bob, I said, "I'll stick around here for a while. You guys take the other truck, go in and have something to eat and come back, and," I said, "I'll follow you in."

Well, just by some lucky circumstance, I thought, you know, we've put a lot of effort into this; I better check and make sure the fish are okay. So I went over and checked the cages where we had these fish, and they were starting to die, this last group of the entire remaining species. And so—I was all by myself then—so I got my buckets from the truck, came back, and got the live fish, and they were stressed. You can tell when a fish is not in good shape; it turns over on its back. And so I then—the truck was a lot farther than that; it was probably about a quarter mile away, anyway, and carrying the buckets in the dark and no lights or anything, with the battery-powered aerators going, I hauled them across to the pickup truck, and then—we'll see this later today—went around and planted them on the other side in the BLM spring area that you'll, again, see. So this—

21-00:24:43

Lage: And what was it like to hold them?

21-00:24:45

Pister:

Well, this was a traumatic thing, really, because I was keenly aware of the fact that these fish were nearly gone. I knew this was the only place—at least I'm quite sure this was true—the only place that they existed anywhere, and I had the only fish in these buckets, and if something had gone wrong, as I had mentioned in the article I wrote for *Natural History* magazine, and if I had tripped, these fish, the species, would be extinct now. It's just that ragged edge of extinction. So this was certainly a traumatic thing, and this is the spot, very close to where—the actual spot is covered with tules now, but this pretty well recreates what we had there in August of '69.

21-00:25:30

Lage:

That's a great story.

21-00:25:32

Pister:

Well, it really is. Interestingly enough, the article I wrote for *Natural History* magazine, if you go onto their website, this is listed—it's a "picks from the past" by the editorial staff, and the article was published in 1993. They retained that article as one of their picks from the past for that year.

21-00:25:53

Lage:

It resonates with the public.

21-00:25:57

Pister:

I probably should tell this, too. The reason the article was written—I was giving a paper back at an annual meeting of the American Society of Ichthyologists and Herpetologists, back in the American Museum of Natural History in New York, and I just—it wasn't in my script at all but it jumped into my mind. Here I was holding these buckets—and it went on from there. And this was right before lunch, the last paper before the noon break. And as I walked out toward the cafeteria I heard these rather rapid steps behind me, and I turned around and this fellow introduced himself. "Hi, my name's Richard Milner. I'm one of the editors"—in fact, I think the senior editor—"for *Natural History* magazine, and what you just said would make a wonderful article for the magazine, so would you do that and write it up and send it to me?" Well, of course, I just totally forgot, you know? Then—that was in June. About August the phone rings. "Phil, this is Dick Milner back in New York. Where's my article?" I thought, oh boy, he's not going to leave me alone! [laughter] So I wrote this thing up, and he was really tickled with it. He said that they wouldn't change a comma on the thing, so that was good. So it's still there! People are interested in seeing this. I'm not sure who does their web work, but they've got a good website, and this is all part of it. So the story here out in Fish Slough in the desert of California—you could see the mountains around here if the whole state wasn't on fire with the smoke ending up over here, but we saw it yesterday. So that's kind of the story of the—

21-00:27:37

Lage:

Fish in a bucket.

21-00:27:38

Pister: Fish in a bucket, exactly.

21-00:27:39

Lage: Let me pause for a minute.

[break in audio]

21-00:27:43

Lage: Okay, now you're going to tell us more about the construction of this area.

21-00:27:45

Pister: Okay. So this was in '69, and about that time we were thinking, how are we going to—? See, there's no legislation, and actually opposition from within our own department. You don't do stuff like this! Fish and Game Department is not set up to worry about things like pupfish that are no good to eat and people don't want to catch 'em. They won't buy licenses, which is what we're interested in. So I thought, well, we've got to do something. It was like Devils Hole in a way, which we talked about earlier, where there was no legislation, no planning, no nothing, and this was essentially plowing new ground. It was essentially a major revolt against conventional fish management, which is making fish available for people to catch.

So then, okay, fine, we've got to build a refuge of some sort to keep these fish isolated from predators and alive. So the city of LA, the Department of Water and Power was just totally helpful in this whole thing. They catch a lot of flak for things, but not in this case. They had a very good Northern District engineer, then a guy Duane Georgeson, and Duane went from here on down to Water and Power in LA and then with the Metropolitan Water District, a big job down there, but he arranged for this to be designed by their engineers, and most, much of the construction was done by them, and also with our local conservation camp, which is an inmate facility here and with the big dump trucks and all. And so we built this dam here with—

21-00:29:16

Lage: I'm going to try to just stop this for a second and get a little picture.

21-00:29:21

Parmenter: Also, there's a row of rocks—

21-00:29:26

Lage: Yeah, I see that.

21-00:29:26

Parmenter: See there, the concrete. There's a classic picture of Mignon standing on those, pulling a fish trap up, probably suspended in midair here! {laughter}

21-00:29:39

Lage: So you can sort of see the dam. We're standing on it. And did that dam create a little pond back here?

21-00:29:53

Pister:

Yes, it did. It did. It never really fully satisfied what we intended it to do, but for a while we had—see, there are four native fishes here, and this was supposedly to provide a refuge for all of them, but mainly the pupfish, which probably is—I don't know if the pupfish is worse off than the dace or what; it's hard to say—but this was set up to accommodate the four native fishes of the Owens Valley, and we then called it the Owens Valley Native Fish Sanctuary.

21-00:30:26

Lage:

Okay, now we have a little background here. [off-mic cross-talk; not transcribed] Phil has showed how you constructed this refuge and the dam, but now the thinking has changed. Are things changed?

21-00:30:50

Pister:

Well, it's been forty years since this was constructed originally, or thereabouts.

21-00:30:54

Lage:

So Steve, you were saying you spent most of your career undoing what Phil had done!

21-00:30:57

Parmenter:

No, no! Well, I guess I might have said that! [laughter]

21-00:31:02

Pister:

Which is exactly true! You can tell that by the dam! Earthquake entered into this, too.

21-00:31:06

Lage:

So just tell what happened.

21-00:31:06

Parmenter:

What is it, the saying about we stand on the shoulders of giants and forget them? [laughter] One of the practical problems with this dam was—well, they were twofold. One was that it created about a five-acre lake, and that lake over time became totally dominated by cattails, which altered the habitat in a way that didn't favor the pupfish. And then the other thing was largemouth bass gained access a couple times, and I don't really know—

21-00:31:42

Pister:

During the 1986 earthquake I came out here and the dam had been breached. We actually saw a bass swimming up through the breached dam.

21-00:31:48

Lage:

And do bass like to eat those little pupfish?

21-00:31:51

Pister:

Oh yeah, they love them.

- 21-00:31:53
Lage: And I don't think we've mentioned that pupfish are only about an inch and a half long or an inch long.
- 21-00:31:57
Pister: That's right. They're about the size of Jessica's pen.
- 21-00:32:00
Parmenter: [laughter] Get her on camera!
- 21-00:32:03
Lage: You'll have to get on camera.
- 21-00:32:04
Parmenter: And they're very territorial, so they actually will seek out and defend their territories against bass, which for the bass is probably like having the popcorn come to you.
- 21-00:32:17
Pister: That's exactly what it is.
- 21-00:32:18
Parmenter: So in other settings we've found that one bass can decimate a population of thousands of pupfish over a period of months, and a handful of bass can eliminate them in weeks.
- 21-00:32:29
Pister: We'll see that over in BLM Spring more aggressively.
- 21-00:32:30
Lage: So how did you—? What changes were made? And I'd also like to hear the story of how the changes were devised.
- 21-00:32:37
Parmenter: Well, we, beginning in about 2002, set about trying to restore a similar project to the Owens Valley Native Fishes Sanctuary. This was one place that pupfish were managed or reintroduced, but the strategy was to actually divide our eggs into multiple baskets, and so we had them in as many as ten habitats at certain times, but more often five or so, because the high failure rate due to things like bass introduction and cattail encroachment. So I was working on a smaller system on the east side of this valley called BLM Spring, and I managed to recruit an intern from MIT, an undergrad in engineering named Genevieve Park, and Genevieve Park and I sat on the floor in the office, Phil's old office, with scissors and paper and Scotch tape and figured out how we could—we made a prototype figuring out how to make a device with sheet metal that would separate fish from water and not allow fish to pass upstream through it, but which would not require a huge dam to operate, because here the water actually was falling five feet, and so in this flat landscape a five-foot tall dam backs up a tremendous pond. What we wanted to do was try and figure out a way to shrink the aquatic habitat back to its original contours and

just manage it to be in the most natural state possible, and still work as a fish barrier. So we came up with this design, tested it. It works wonderfully, and it only requires six inches of falling water to operate. So it really—when we install that in a spring system like this, it doesn't back up much water.

21-00:34:44

Lage: So you wouldn't have the five-acre pond, but just a small one.

21-00:34:47

Parmenter: Right, yeah. So that has been devised and implemented in BLM Spring, and we're in the midst of restoring this system to like conditions, and so that restoration has involved breaching this dam with heavy equipment, and we actually took out the center portion of the dam and dug it down to the natural channel elevation, which over the course of a day caused a five-foot drop in water level, and if you can see, it's color-coded. There're green patches of cattails near the water, and then all those brown patches of cattails have been drained and dried for two years now.

21-00:35:34

Pister: That'll burn, I guess.

21-00:35:35

Parmenter: Oh, yeah, someday!

21-00:35:38

Lage: You will burn them someday, or they'll just—?

21-00:35:40

Parmenter: They will last almost forever unless we burn them, so—in fact, there's a landscape behind you that was like that for about seven years until we burned it, and now the native vegetation is beginning to recolonize.

21-00:35:53

Lage: We were asking Phil last night, and I will ask you: Does the endangered—

21-00:35:58

Parmenter: See if you get the same answer!

21-00:35:59

Lage: Yeah! [laughter] We had heard that once a species is listed—which, of course, this one has been forever, practically—as endangered, it becomes sometimes more difficult to manage the environment because of the restrictions of the Endangered Species Act. Does that affect how you are able to manage here?

21-00:36:24

Parmenter: It does, and so sometimes there are restrictions that you just have to live with and work around. In this case, within a year of the bass gaining access to the habitat there were no pupfish left, so there wasn't an endangered species angle in terms of planning our project and bringing equipment in and doing this work. There is a threatened plant, a flowering plant, Fish Slough milk-vetch;

it's endemic to Fish Slough, so it occurs nowhere else on the globe, and there's a population of it about 300 feet to our east, and it's sensitive to changes in water table, but the botanists felt that the dam actually was harmful and that removal of the dam would be beneficial to this population, so we—that was actually one of the other reasons for devising a low-head fish barrier so that we would be able to eliminate the unnaturally elevated water table and sometimes the perturbations, because we'd get beavers in here and they'd plug up the old outlet works, and we'd have water flowing around the dam and across the valley and through the Fish Slough milk-vetch habitat. So those days, knock on wood, are over! [laughter]

21-00:37:52

Lage: Well, it really points out the difference between the department and what it does now and what it did when you came here, Phil!

21-00:37:58

Pister: Oh yeah, been a major change. I mentioned last night that much of this is a result of the Endangered Species Act, making funds available to the states to do some of these things. Back when we were first building this thing there was no support at all, none from the Department of Fish and Game.

21-00:38:16

Parmenter: I don't want to complain on camera, but it still can be quite sparse! Sometimes you just have to—

21-00:38:21

Lage: The financial means?

21-00:38:23

Pister: Yeah, we're low on the totem pole. Let's put it that way.

21-00:38:27

Parmenter: But this change here looks dramatic on the ground, but it's really just an incremental adjustment. It's refining the basic idea of a fish sanctuary here and trying to eliminate some of the side effects that it turned out we didn't like.

21-00:38:43

Pister: What we can do now, we can go around the slough to this BLM Spring, as Steve spoke about, where we introduced them into there, and also where we rediscovered the fish in 1964.

21-00:38:55

Lage: Okay, that'd be great. We'll stop here. [break in audio]

[intermittent off-mic cross-talk; not transcribed]

[Audio resumes: Camera pans across the pupfish habitat at BLM Spring.]

- 21-00:40:02
Parmenter: There's a lot of male pupfish out there. The females are really hard to see because they don't have the white markings, and they're smaller, but when I throw traps out here I catch a lot of females.
- 21-00:40:24
Lage: Really.
- 21-00:40:29
Parmenter: Well, I had a Cal State Monterey Bay class out here and I threw a trap and I got about 120 pupfish, and a lot of females, even though we couldn't see any females from the bank.
- 21-00:40:44
Lage: Not as showy.
- 21-00:40:45
Parmenter: Well, and I think they might stay out of—
- 21-00:40:47
Pister: Look at those rascals down there! They're just all over the place down there!
- 21-00:40:51
Parmenter: The females may stay out of the territory. There might be too much testosterone, unless they have eggs to get rid of! [laughter]
- 21-00:40:56
Pister: Could be! "Why beat our heads against the wall? We'll come out when we're really needed"! [laughter]
- 21-00:41:04
Parmenter: I've seen that work in other species!
- 21-00:41:06
Pister: I was going to say, like two guys in a singles bar, about the same idea.
- 21-00:41:14
Parmenter: So here, I have 1950-dated ground-level photos of the spring, and it looks just like this, but in the nineties when the bass came in and did the last extirpation of pupfish, there were a lot of cattails and then another bulrush species that had completely taken over the channel, and there were places where you could actually go from bank to bank on the floating stalks of these things, they were so thick.
- 21-00:41:49
Pister: Steve, where did you find the photos of this place in the fifties?
- 21-00:41:52
Parmenter: In the files, and they were taken by Elden Vestal. It's very believable!

21-00:41:57

Pister:

Doesn't surprise me a bit! Vestal was one of these guys that was a victim of his own timing. He was way ahead. He came out of the Museum [of Vertebrate Zoology] at Berkeley, and then ended up over here, and—

21-00:42:08

Lage:

Stop just one—[break in audio] Okay, now tell about Elden. I'd wondered about him, because he did seem ahead of his time.

21-00:42:13

Pister:

Well, have you seen his name?

21-00:42:14

Lage:

Yeah, you've mentioned him [in earlier interview sessions].

21-00:42:15

Pister:

Well, Elden Vestal was an amazing guy. He was in the army during World War II and would for a long time wear a tie everywhere he went tucked between his second and third buttons of his shirt, which is the army way of doing things. And what he would do—he came over here and hit all the redneck Fish and Game people, and he would take good notes and list the species by genus and species and subspecies, and they thought Vestal was just crazy. Well, he's the one that first started us on the golden trout up here in the Cottonwood Lakes, 'cause he said, "These things don't look right," and I agreed with him, and was similarly [laughter] ostracized, but—And he ended up, one of his last mortal acts—he's passed away now—was to be one of the major witnesses on the Mono Lake situation, because he lived at June Lake, about sixty miles north of us here, fifty, and was an excellent observer. And so when the people, attorneys and so on of the Mono Lake hearings wanted information on what was this like way back in the fifties, whatever, before they start really exporting the water out, Elden had good information and very good—

21-00:43:37

Lage:

And what was his title and his education?

21-00:43:39

Pister:

I think he had a master's degree from Berkeley, working out of the Museum of Vertebrate Zoology there.

21-00:43:47

Lage:

So he was a fish biologist, like you?.

21-00:43:48

Pister:

Yeah, and a general biologist, too. He made equally good notes on birds and all the other things he took. I hope they're still around, they weren't thrown out. They were in that back room there, across from the office.

21-00:44:06

Parmenter: You're giving me a dirty look. What are you talking about? [laughter] I don't throw stuff out!

21-00:44:07

Pister: Well, no, I'm talking about a big file of 4x5 Speed Graphic negatives that the mice had gotten into and eaten around the edges of some of them, but their pictures were excellent. Elden was a good photographer. And some of the stuff I've got now, like of the early days up there in Rush Creek, Elden took them, and I just have the original slides that were in the same files.

21-00:44:33

Lage: Did he have an influence on you, Phil, or did you come to your thinking on your own?

21-00:44:35

Pister: Well, I was very thankful for him because he had done a lot of groundwork that I could build on as a guy who had basically the same academic background as Elden did, but—I'll just put it this way—he was probably the first “scientist” that we had over here. Everybody up until that point was the typical fish and game manager, you plant fish and so on. In fact, up until Elden got here there was very little of that anywhere, and he kind of opened up the gates for a lot of this work that we're doing right now. Now, we wouldn't have to explain to Elden at all why we were working on pupfish. This would be intuitive with him. So we have a lot to thank him for. Some of the early files, he'd write out, I think, the genus, the sucker *Catostomus*. We had a secretary then who was not of that same degree of perception, and we would just take great delight in watching and see how she would change the spelling. A total mess: G-A-T-O-A-T-O-M-U-S, as she had read the *Catostomus* from his notes. I kept that for a long time, and may still have it in my stuff.

So this [BLM Spring] is probably one of our “success stories,” but it's not been easy. Steve spends a lot of time out here, and this had also a really good backup guy with BLM, Terry Russi, who's retiring very soon now, who had the same degree of interest, very helpful in all of the work we've done here.

21-00:46:10

Lage: Now, this area that we're looking at, where we've actually seen the pupfish, has it had to be managed with construction and—?

21-00:46:17

Parmenter: Yeah, that's why Elden's name came up was because he had photos of the site in the 1950s and it looked just like this, but in the mid-nineties the channel was filled with cattails and a different species of bulrush, the hardstem bulrush, *Schoenoplectu acutus*.

21-00:46:37

Pister: Do you know where they came from?

21-00:46:38

Parmenter:

They're native. So what happens is that species seeds in and starts as a little stock and then it spreads as a clone, and it pretty much had taken over the whole channel here. And I suspect because there were dams built downstream that sort of backed up the water and slowed the flow, that that may have influenced the colonization by those plants. But I'd done some work down in the Mojave with controlling emergent vegetation, and so we came in here and basically mowed it, timed it with a regime that actually just eliminated the invasive, native but invasive, species, so that we restored the open water condition as it looked in the fifties, and that allowed us to go in and remove the bass with electrofishing and spear fishing, install that low-head fish barrier, and then reintroduce the pupfish.

You'd asked about did we let the bass go or did we kill them—in this case I marked every bass and I let it go below the barrier as kind of an ultimate test of the barrier, because the bass want to come back where they came from, and particularly in the cool months it's warmer up here and they like that. None of them were ever able to come over the barrier.

21-00:48:01

Lage:

That small barrier that you had described earlier.

21-00:48:04

Parmenter:

Yeah. And Phil, you mentioned Terry Russi from the BLM, and this 2002 project with Genevieve got started when he said "I got \$8,000 to spend on BLM Spring, and I don't know what to do!" And I said, "I got some ideas but no money," so we shook hands on that! [laughter] Terry—at one point I said, "Okay, we're done, I got all the bass," and he says, "You can't tell me you've got all the bass! I don't believe it!" And I said, "Okay, well, let's do a little experiment," so we went downstream and caught a bass and put another mark on it. There are these little plastic tags that you can attach to the fish, don't interfere much with the fish. So I put a unique mark on this fish and then threw it over the barrier and let it go up here, and he looked at me, "What are you doing? I've just spent months getting them out of here!" And we just kind of let it chill in there for a few weeks, and came back with the electrofishers, and within five minutes we caught that bass and no others, and I said, "All right, Russi, what do you say?" He says, "I'm not convinced!" So we got another bass and put a unique mark on it and released it above the barrier. We named it Judas and we wished it well, and sent it up here.

21-00:49:23

Lage:

And how many pupfish did it eat? [laughter]

21-00:49:25

Parmenter:

Well, there were no pupfish at the time. This was sort of in the middle of things. And we came back a few weeks later and caught Judas number two within five minutes, and spent an hour looking for more bass and didn't find any. He still wasn't convinced, so we did it a third time, and we jumped in,

and within probably a minute we caught that fish, and he says, “We’re done!”
[laughter] And so after that—

21-00:49:49

Pister: If you’re going to have an attitude, that’s a good one to have. You’re always a little bit skeptical.

21-00:49:53

Parmenter: Show me, show me. Well, he’s from—

21-00:49:56

Pister: Missouri?

21-00:49:56

Parmenter: No, no, he’s not from Missouri! He’s from Iowa.

21-00:50:05

Pister: Same place! They’re all flooded. They’re all underwater right now, poor people!

21-00:50:12

Lage: Well, let’s talk here while we’re looking at these great fish about the future of the pupfish. Are they still endangered? Are they thriving, or what?

21-00:50:26

Pister: We need a newer viewpoint. Turn this to Steve.

21-00:50:28

Lage: Okay, I’m going to focus on Steve, but if you move over I can get both of you.

21-00:50:32

Parmenter: They’re still very endangered, and so what we’re trying to do now—[laughter] It’s been a shell game for almost forty years of moving, transplanting fish from site to site, and they have tremendous biotic potential. You put them in a place without predators and they will expand their numbers. In a year’s time, they can get off two and maybe three generations.

21-00:51:07

Pister: There may be thousands where you put in maybe two or three dozen before.

21-00:051:11

Parmenter: So we’ve played the shell game and refined some of the techniques, like with here. BLM Spring was pretty much at the point of being unmanageable, and now it takes *some* attention. We have a volunteer patrol that comes through every Saturday, and they clean debris from the fish barrier, and they walk the channel looking for bass, and they pick up litter and other things. We don’t have that level of maintenance and attention on the other five sites that we have the pupfish in. There’s some doubt in our minds about what is exactly the half-life of a pupfish population, so we need more sites and we need to resolve another issue, and that is when you transplant from one site to the next to the next in series, each time you’re sub-sampling the original genetic

diversity of the population. So right now we've got a study going—we funded UC Davis, some folks who've done good work with us on other fish species, to look at the genetics of the pupfish, and what we're finding is that the genetic diversity is subdivided among these refuges, and that's just an artifact of our bucket management, so what we have to do to undo that is actually artificially create some reciprocal migration between the populations.

21-00:52:40

Lage:

So that you will have more diversity within each population.

21-00:52:43

Parmenter:

Right, and so each gene variant is present in as many or all the populations as possible. That way, when we lose one population—which we know we're going to lose them all eventually—but each time we lose one we don't lose irreplaceable genetic material. And then ultimately we've got potential projects on city of Los Angeles lands as part of the Lower Owens River Project, and actually the legal settlement between Inyo County and LA over groundwater pumping, where they're going to mitigate for impacts to valley floor springs. There used to be other springs like this further south in the valley; most of those are gone now, due to groundwater pumping. So they're going to mitigate by creating artesian wells and some other engineering solutions, and hopefully that'll open up another half dozen or so sites that pupfish can be managed for. And then ultimately we can meet the recovery goals that will allow them to first be down-listed to “threatened” and then to be delisted.

21-00:54:01

Lage:

If they get delisted, though, will you get the money to do all of this?

21-00:54:05

Parmenter:

Well, that's a complicated question! [laughter] They wouldn't be delisted unless there are institutional guarantees and programs that would, you know, imply some stability into the future.

21-00:54:18

Lage:

It's just quite astounding how much of man's interference is required to save these species.

21-00:54:26

Parmenter:

But it's to offset man's interference. We've kind of let the genie out by bringing bass into the valley. They're here permanently. I mean, even if we wanted to get rid of them and somehow could technologically find a way to get rid of them, they'd be back the next weekend, due to citizen action. [laughter]

21-00:54:50

Pister:

Human beings, yeah, we caused the problems. As a result, we have to solve them.

21-00:54:54

Lage:

It might be good to record on here, thinking about human action and all, what you said in the car about posting this as a no-swimming area. What happened when you posted this as a no-swimming site?

21-00:55:08

Parmenter:

Yeah, this is a popular swimming hole, and on summer afternoons you'll come out here and there will be umbrellas and lawn chairs and beer coolers, and it's pretty traditional. It's been going on for decades, and so at one point the managers saw the bank erosion here, and the disturbance from swimmers and waders kicking up aquatic vegetation, and thought that's bad for the pupfish. So they put up a no-swimming sign, and within a week there were 27 adult bass in here, all of them with little hook marks in their lips, and it was sort of a message to us bureaucrats that—

21-00:55:47

Pister:

Where would they have come from, do you suppose? Downstream or some other place in the valley?

21-00:55:52

Parmenter:

Yeah, there's ten miles of channels in Fish Slough that have bass, and so that would be the easiest place to get them.

21-00:56:06

Lage:

So you were saying it was a message to bureaucrats, to you?

21-00:56:11

Parmenter:

Well, yeah, to us collectively, that there is an expectation of multiple use, and there's, you know, if we ruin it for them they can ruin it for us kind of idea.

21-00:56:26

Lage:

So people still come and swim here.

21-00:56:29

Parmenter:

Yeah, and after a while I think somebody took the sign down, and it was never put back up. And to me, I don't see the swimmers as being a problem. I swam here myself, so—[laughter] I don't support the prohibition against swimming here, and I don't think it does much harm for pupfish, because especially in consideration that now we have a détente, and we have pupfish, and we have swimmers. Actually, occasionally a bass or two will show up here, and when that happens, when that Saturday Fish Slough patrol finds one, they'll call me up at home and I'll come out here with a spear gun, and I'll jump in at the bottom end and swim up and find the bass and take it out.

21-00:57:17

Pister:

These are docents, pretty much, local citizens that are environmentally aware.

21-00:57:24

Lage:

Great. Okay, anything else we should record here?

21-00:57:32

Pister: Nothing further—we pretty well covered the pupfish, biology and history and future.

21-00:57:39

Lage: Wonderful! I'm going to turn it off.

[break in audio]

21-00:57:44

Pister: When we were trying so hard to get the land exchange through, the one that Roger Samuelson talked about, we needed help politically to do this, so I thought—I knew a lady over in the botanical garden at Berkeley up in Strawberry Canyon, Alice Howard, and so I called her. She was high up in CNPS, Native Plant Society—and she says—I said, “You know, Miss Howard, we really need some help on support for this whole thing,” and I said, “You know, there’s this rare plant there.” So she said, “Yeah, it’s *Astragalus lentiginosus piscinensis*.” “Yeah, you sure got that on!” And so then she said, I’ll get a hold of Marge.” Well, it was Marge Hayakawa, whose husband was a senator in DC back in that time—Marge Hayakawa was quite active in the California Native Plant Society as well. So I don’t know the exact final details, but I think that the senator was able to change the balance here to where we got the bill signed that allowed the land exchange that allowed us to take over that 202 acres on the other side of the road. Otherwise, who knows what would be here now. But so that’s how these little things work, and you get people with common knowledges and common goals, and—

21-00:59:13

Lage: And also you know who to call on.

21-00:59:16

Pister: Yeah, it’s not too often you find a senator whose wife is interested in native plants in California. So that’s within hours before that session of Congress closed in 1982, I think it was, or ’84. I can’t recall exactly.

[End Audio File 21]

[End of Interview]

Interview #10: 06-24-2008
Bishop

[Begin Audio File 22: pister_phil_22_06-24-08.mp3]

22-00:00:09

Lage: Okay. Today is again, June 24, 2008. We just returned from Fish Slough, and here we are at the World Headquarters, [telephone rings] and there's the telephone. I'll just stop a minute.

22-00:00:22

Lage: Now, we're back on at the World Headquarters. You tell me what this world headquarters business is.

22-00:00:27

Pister: Okay.

22-00:00:28

Lage: And I'll sort of [videorecord the room here].

22-00:00:29

Pister: In earlier parts of the history, we went into the concept of the Desert Fishes Council, which was formed thirty-nine years ago, in 1969. We had a meeting in Death Valley, and I served as the president of that group for the first couple or three terms, and since that time, have served constantly, for the last thirty-seven years, as the executive secretary of this group. Well okay, there's—most of our people are academic folks, university professors, whatever, and grad students, and so we needed someone to kind of handle the day-to-day affairs as a consult.

I retired in 1990, and the first thing my wife says, "You know, you're going to have to have a place to work." In my mind, I was taking over one of the bedrooms in the house, but she had other ideas on that, and she says, "You've got this back building there on our property. Why don't you build an office back there?" I thought what a great idea. Why didn't I think of something so obvious as that? My wife is a very, very, very sharp lady and she probably thought this through ten years ago, you know, before this happened. So I came out here with a friend of mine up the street. We did the necessary work, framed this wall here, and I'll show Ann my workshop on the other side here in a little while. I brought in my necessary literature, although you must walk through the house, most of my books and stuff are in there. Here's the workbench, which really is my Mac, which I dearly love.

22-00:02:20

Lage: Which you had to teach yourself to use after you retired.

22-00:02:21

Pister: Oh yeah, I sure did. I bought that in 1992 I think, simply out of self defense.

22-00:02:28

Lage: Because you hadn't used it in your work at that time.

22-00:02:29

Pister: No. We had a computer at the office, but it's one of these things, old dogs and new tricks, you know, why should I have to use a computer? One of my close friends said, "Phil, if you don't do that, you just as well disappear into oblivion." And he was right. Of course email wasn't deep into the culture back then, that was later, maybe ten years after that, but I used this in all kinds of things, for records, whatever. And now of course, my major use of the computer is on email and writing, which I still do a lot of.

22-00:03:00

Lage: And you still do the proceedings of the Desert Fish Council, right?

22-00:03:02

Pister: Well, the proceedings are pretty well handled by a professor at the University of Texas now; he's the editor. And our proceedings, although for many years we put them out on a hardcopy, now they're just available through the Internet, on our website. Anything we've ever done or had, we have a constitution, financial, everything, they are all on the website, desertfishes.org.

22-00:03:26

Lage: That's your web address.

22-00:03:28

Pister: Yes, right, that's right.

22-00:03:31

Lage: So here's where you work.

22-00:03:33

Pister: So here's where I work, and I spend most of my time here when I'm home, and I'm home most of the time. I leave on occasion for lectures and meetings, whatever. This is a nice place. I've got heat in the wintertime and the air conditioner in the summer, which we don't use right now because of the background noise, but I'm sure we'll survive. It's a lot cooler than we were this morning, out in Fish Slough.

Fish Slough is about ten miles north of this area, and so much happened out there that I wanted an oral historian to see this, and so we had a good time out there. We spent about three hours out there today, just looking around, learning about the natural history of the place, some of the early Native American habitations out there and so on.

22-00:04:18

Lage: Some recorded on the video and some on still photos.

22-00:04:20

Pister:

Yeah, exactly. So this kind of leads in to probably the next discussion point. [You asked me,] what influence has this area—and our last two days, particularly up in the White Mountains and that looks across into the Sierra Nevada. My job, to perhaps summarize again, here in Bishop, working with the State Fish and Game Department, beginning with the U.S. Fish and Wildlife Service, that we'll visit this afternoon, up the hill. My job was the state. It was my responsibility to maintain the biological integrity of about a thousand waters, from along the crest of the Sierra—which we'll probably have in the video, I hope so—clear out to the Nevada line and later beyond, through Death Valley, going up to the top of Mount Whitney, 14, 496, to the floor of Death Valley of minus 282 feet, and everything in between. Where we are in the valley here, sitting right now, is about 4,200 feet, which is the elevation of the city of Bishop, and our basic Owens Valley lab across the river from the White Mountain Research Station, which is another one of my great activities and loves, is about the same elevation.

What this has done though, and I realize how long ago this started. I'm just talking now as I'm thinking back, without a pre-rehearsal at all. This started of course, way back when I was a little guy, when my parents would take me up into the mountains in the upper Yosemite, the Tuolumne Meadows area. I developed a love for this kind of country and lucked out, as about halfway through my undergraduate work at Berkeley, where I was very fortunate to have studied with Starker Leopold, who just essentially repeated his own father's philosophies, Aldo Leopold. I got a sense of place then, had several senses of places; where I grew up in the Central Valley, there at Berkeley, and then particularly here, where I've spent so much time.

I would say what I did then as a student, at Cal, I used to think to myself, you know I've walked across Strawberry Creek, which is around Faculty Glade there at Berkeley, and my mind would take me right back to the high country of the Sierra, where I spent so much of my time, and even though there were no golden trout in Strawberry Creek, in my mind's eye I could see them very clearly, they were there. So what I did then, just by great fortune, in one of my zoology classes, I think it was Zoo 1B, there at the Life Science Building at Berkeley, the guy sitting in the next lab table, he and I got to be pretty good buddies. Sam Reimers. Sam was just—the war had just ended then, World War II, and he'd served time as an officer, on a Coast Guard cutter, later on to an LST, which is what they used to land tanks in the major campaigns in the Pacific. And so he told me about this job that he had somehow gotten, up where we're going to be this afternoon. At that time we called it the Convict Creek Experiment Station, which is a research station started by the Forest Service and the predecessor to the U.S. Fish and Wildlife Service, the U. S. Bureau of Fisheries, before World War II actually, the late thirties.

22-00:07:49

Lage:

You know, I just want to stop you for one second. Okay, we're back on.

22-00:07:54

Pister:

Okay. So I was fortunate to have this job up at Convict Creek, which terminated at the end of 1952. It put me in a position here, just fortunate circumstance, to come down and get a permanent job with the State Fish and Game Department, with essentially the responsibilities I just mentioned there; maintain the biological integrity, which is a broad thing, all the way from the fishes to the invertebrates, the water quality, and working with federal agencies, most of these waters being on federal land, U.S. Forest Service and National Park Service land, and it just fit right in with my way of thinking.

My wife and I spent out honeymoon up at the research station and then by force of budget cuts in the federal business in 1952, I came down here in Bishop and essentially have been here for the rest of my career.

22-00:08:44

Lage:

So what has it meant to live in this very dramatic setting?

22-00:08:48

Pister:

Well, it's been huge. You'll see tomorrow or this afternoon, some of the things of course, that got me going on this, up at Convict Creek. But just being able to live, you know, in a place that most of our public works fifty weeks out of the year to spend two weeks to come up to visit, and we live here. So often people say that, you know "You lucky bum. Here, you work in a place that we would give anything to be able to do that." Just fortunate, the city of Los Angeles land-use patterns has kept this from growing just astronomically, like most of the southwestern desert is doing right now. The Owens Valley, where we are, is almost a Shangri-La in that sense. It's a place all by itself, with just tremendous natural attributes, that we saw at Fish Slough this morning and some yesterday up in the White Mountains.

22-00:09:49

Lage:

Do you think if you'd been stationed in the city say, you would have shifted as quickly to the type of mindset that you have?

22-00:09:58

Pister:

No. This had much to do with the mindset, because the mindset essentially started where we are now. It started in 1964 out in Fish Slough. I think I told this story.

22-00:10:13

Lage:

You did.

22-00:10:15

Pister:

How almost instantly, like Paul's trip to Damascus, when the bolt of lightning changed his way of thinking. And that was me out here when I heard Carl Hubbs saying, "They're still here," meaning the Owens pupfish, which we thought were extinct at that time. That now is nearly fifty years ago, well over forty, and that was a dramatic thing. And if I hadn't [lived here]—say I had come over from Sacramento and been with them. A very different thing from

living right next door to this, where I could keep track of it on a day-to-day basis, put it in with my other job priorities. This went to number one right off, because I was dealing with an endangered fish then.

22-00:10:58

Lage: To me, just being here, not so much today when you can't see either mountain range because of the fires, but living in this valley with a 14,000 foot range on either side, it does something to you.

22-00:11:13

Pister: It does, it does, and let's put it this way, if it doesn't, there's something wrong with you. For a person of perceptions, a background like you have, you'd feel this right away. Some people would still rather spend their time at Wal-Mart, that's just the way people are, their values are different. But for those of us who share these values, and most of the people I think that live here in this community are here because of that. There will be some here more from the entrepreneurial, who think it's a place to make money, to serve tourists and so on and so forth, but by and large, they're here and they're very appreciative of it, and I think would fight strongly to keep the style of life that we have here, quality of life, rather than standard of living.

22-00:11:54

Lage: Well, you even described some of the L.A. Water and Power people, who really seem to get it.

22-00:12:01

Pister: Oh, they do.

22-00:12:02

Lage: When they came out in the field here.

22-00:12:04

Pister: They do, you bet. Where we were this morning, out there in Fish Slough. Water and Power people are human beings like anyone else, and they have these same values as well. This is summed up—I may have mentioned this earlier but it's worth mentioning again. Early on, this would be back in the very early sixties, maybe '60, '61, '62, there was a northern district engineer from the Department of Water and Power, I think living at that time down in Independence, but he was a marvelous guy. He's still living, he's still here in Bishop now, a fellow by the name of Bob Phillips, who was a Berkeley engineer, I might add. I point that out whenever I can because Berkeley turns out very good engineers.

And so Bob and I were riding, just the two of us one time, up in the Mono Basin, and he was a deep thinker and he says, "You know Phil, this is interesting. Our job in Water and Power is to provide water and power as efficiently and as cheaply as we can, to the people in Los Angeles. That's why we're here. Your job here is to provide recreation and a natural resource for this exact people to come up here and enjoy, on their vacations. And so they

might seem mutually exclusive but they're not. They're the same darn thing." We have the land, we have a strong feeling of stewardship for the Owens Valley. Say there were some big push now to turn this into private ownership, which heaven forbid, it would be people like that who would fight this to the bitter end to keep that from happening, because of what this marvelous nugget that we have up here in the Owens Valley.

So this is good, and they have been just extremely helpful in virtually everything we've done. Very supportive, providing engineering expertise that we wouldn't have otherwise, just knowledge of the people, the way things work up here. And all of the northern district engineers since I started here, back about 1950, I consider all of them, maybe a dozen now, to be good personal friends, and I think that's an important part of the work you do here. If you're working with other groups, other agencies, you have to maintain that sort of relationship.

22-00:14:15

Lage:

Are the BLM [Bureau of Land Management] people, is this their permanent station, or do they rotate in and out?

22-00:14:26

Pister:

Well, I think they're encouraged to rotate, but most of them fall in love with the place, just like say Steve and I have. Steve mentioned two people this morning; Kirk and Anna Halford. Kirk being the archaeologist and Anna being a plant ecologist and plant systematist. I think you'd have a tough time prying them out of here, they plan to retire here. Same with the Forest Service people. You know, you get bit by this country and it's awfully hard to trade it for something else. Those who do leave on temporary assignments, say "But we'll be back, we're going to retire here," and virtually all of them do. Again, when you come back we have these common values. It doesn't matter who you work for. That's one of the things that Desert Fishes Council tried to do. When you work in a cooperative venture, you try essentially to just rip off the shoulder patches, rip off your agency identification, and you work together as a team. Forget about the little things that might separate you through bureaucratic procedure and work together. This has been extremely satisfactory, extremely worthwhile to do that.

22-00:15:31

Lage:

And it sounded like Steve had that same outlook.

22-00:15:33

Pister:

Oh yeah, Steve's a classic example of this. Well, he considers these same people to be personal friends. He works with them every day.

22-00:15:41

Lage:

It takes a lot more, I realized, as you and Steve were talking this morning, a lot more than just scientific knowledge, to do the job you folks do.

22-00:15:50

Pister:

You know, I've often thought that many of the things we have to do in our profession, you're not taught in school at all. The basics, yes, you have to have that. You have to have at least some understanding, through a good school, to comprehend and to integrate the things we talked about today, whether it's the Indian grinding rocks, the algae in Fish Slough BLM Spring, and the critters. This all has to integrate together, but you have to put that—it's a term I've used before—into a circumstance of political reality. You are not going to turn the world upside down but you gradually accomplish the mutual objectives through a team approach.

Now, when it comes to team players, and you hear this all the time, you've got to be a team player. I don't like the concept of being a team player within an agency, because that just means you're repeating the philosophies and the procedures of people higher. [telephone rings]

22-00:16:53

Pister:

We were talking about team players. I don't like team players because it tends to—

22-00:16:57

Lage:

Within this agency you said.

22-00:16:58

Pister:

Within the agency, because it tends to focus your thinking on the way things were done before. I'm a great believer in the concept of "question authority," because oftentimes, when you realize what that authority is, it's just plain frightening. People with the wrong values, whose jobs are—their main purpose in life is to rise within the agency. You don't do that by being a nonconformist, and that's what I have, and most of the people in this business are nonconformist, or they wouldn't be doing it in the first place. But again, when you get to working with agencies then, you accept the agencies, what they have to offer and what their policies are, and you try to integrate this into a workable program. Fish Slough would be a classic example of that.

22-00:17:41

Lage:

It really is, with all those different agencies involved.

22-00:17:43

Pister:

We saw the sign when we were coming in [to Fish Slough]; University of California, Bureau of Land Management, the L.A. Department of Water and Power, Department of Fish and Game. Even the Forest Service has interests out there, even though it's well off the forest. So that's kind of the key to, if you want to call it, success, is you have to do that to be a successful land resource manager.

22-00:18:07

Lage:

Wonderful advice. Okay. We're just kind of picking up a lot of different topics today.

- 22-00:18:14
Pister: Yeah fine, that's good. It's a great place to do it, here in the World Headquarters.
- 22-00:18:17
Lage: And I knew that you have written about Norman Clyde.
- 22-00:18:22
Pister: Oh, yeah.
- 22-00:18:24
Lage: An unendingly interesting character of the old Sierra.
- 22-00:18:27
Pister: What I should do is perhaps give a bit of background on Norman Clyde.
- 22-00:18:31
Lage: Yeah, and on how you knew him.
- 22-00:18:32
Pister: Yeah, because a lot of people here, newer generations, say okay, Norman Clyde, who is this guy? Well Norman Clyde is one of the pioneer rock climbers, who was drawn here for basically the same reason that we're doing the oral history. He just fell in love with the area. He started as a very well educated guy. He taught school in Independence. He was an irascible old guy but he was really a great climber, and most of the first ascents of the big peaks, along the crest of the Sierra here were made by him. He climbed other place too, up in the Rockies, he climbed up in Glacier National Park. I think he went overseas, but he was a superb guy. Well of course I knew a lot about him.
- 22-00:19:25
Lage: When did he start climbing, in the twenties?
- 22-00:19:26
Pister: He did, yeah, and maybe even before that.
- 22-00:19:31
Lage: So when you met him, he was already an older man.
- 22-00:19:34
Pister: The way I met him, and this is an interesting thing too. Maybe I didn't mention this yet.
- 22-00:19:36
Lage: I don't think so, no.
- 22-00:19:37
Pister: Or maybe I did. When I went to work for Fish and Game here, in 1953, my boss here in Bishop, just a great guy, a fellow by the name of Ralph Beck, who has passed away now. I keep in touch with his kids through the internet.

But Ralph, he knew of my interests and he says, “You know, I think Norman Clyde is up at Glacier Lodge now.” This was in April of 1953. Norman would spend his winters up at Glacier Lodge, just being a caretaker, make sure the building doesn’t burn down and all that kind of stuff, gathering wood, so on and so forth. He said, “Let’s go pay Norman a visit.” Fine, jeez, that’s like going to visit the Lord himself, you know, to see a guy like that. So we drove up Big Pine Creek, up to Glacier Lodge, where Norman also had a climbing school up there. I think it was called the Palisades Climbing School or whatever. You couldn’t find a better teacher. He was an excellent teacher for climbing. You know, there you don’t make mistakes. The people that make mistakes climbing aren’t around any more.

So here was Norman, out in front of the big pond in front of the Glacier Lodge there, and he was out fishing. The interesting part was that fishing wasn’t legal yet, because the season hadn’t started. So Ralph looked over and saw Norman fishing out there with his fly rod and he said, “Let’s go play a joke on Norman.” So he reached to the back, he had found some kind of little booklet there. It could have been a citation book. So he goes over and says, “Hi, Norman, you know, I hate to do this, but I’m going to have to write you a ticket for fishing out of season.” [laughs] With no intention at all of ever doing that. Norman’s response was just perfect. He says, “I was just gathering data for you guys.”

So then Norman found out what my interests were, in high mountain lakes. That’s where I did my graduate work, up here at Convict Creek. And so with that, I think his interest was probably equally divided between the intellectual interests in mountain lakes and places to go fishing, because he loved to catch fish and eat fish, and I think he practically lived off of them in the summertime.

22-00:21:46

Lage:

He didn’t have much means of support, did he?

22-00:21:47

Pister:

Oh no, and what he would do—he got fired from the Independence school teaching job. At Halloween one time, some of the kids came by and Norman didn’t like the way they looked, so he blasted away at them with a shotgun, probably shooting over their heads, but the local people did not appreciate this, so Norman lost his job and spent the rest of his career just literally living off the land.

Okay, the Sierra Club, back in that era, had what they had called their high trips. They would bring lots of people, lots of pack stock. My last trip, or the last view of Norman, was up at Fourth Recess, a scaled-down high trip back then, in 1972. He’d go up and he’d give campfire talks and lead climbing trips and so on and so forth, and of course the club paid for all of this, just to have him there, because it was really an experience for people to get to know

Norman and avail themselves of—he had so much to offer. And then he'd come into the Fish and Game office and he'd want to talk about lakes. He'd tell about lakes, where he'd taken a pot full of brook trout to a barren lake and dumped it in and did this because he liked—which was just totally a disaster biologically you know, but how do you tell a guy like Norman? You've just kind of hint, "You know Norman, that's probably not a good idea, because those things will overpopulate the lakes rather quickly and you'll have nothing but these little fish, what I call ballpoint pen fish, about that long and about that skinny." "Well, but they're sure good in a frying pan."

22-00:23:23

Lage:

So he didn't necessarily get the ecological.

22-00:23:24

Pister:

Well, we talked about that too. I gave him a copy of our Fish Bulletin No. 103, which we published as a result of our graduate work up at Convict Creek. Three of us, major researchers, put this paper out. It's probably the best paper put out yet, on high mountain lake ecology, because it covered everything. And so Norman had that and he would read through it, and then he had questions that would come up in his mind, so he'd come into the office. He never had a phone; two things. First he didn't want to pay for one and secondly, he didn't want to be encumbered by one, like this stupid thing has gone off twice.

My last encounter with Norman was in 1970. He was up on one of the Sierra Club trips, up in the Pioneer Basin, or actually at Fourth Recess, south across Mono Creek, from Pioneer Basin. I thought he would probably be there. So we were up there, we being Fish and Game crew, to look at the lakes throughout that area, all the way from the snow lakes, going into Fourth Recess lake, then across up in the Pioneer Basin, and into the Hopkins Lakes as well, which were just downstream a ways. I said to one of my friends, a Bishop school teacher who was up there with us, I said let's go down to the Sierra Club camp, see if we might find Norman down there. Because I knew he wasn't well. I believe he had had an eye problem, where I think a cancerous growth of his eye and had to have one eye removed. It didn't deter him at all. I think Norman was eighty-three or eighty-four at that time.

So we walked down there to the camp, it was only about a quarter mile away. This is breakfast time, rather early, maybe 7:30, 8:00, and the first person we saw was Norman Clyde, sitting up against a lodgepole pine tree there, eating his breakfast, which you might imagine was an old bachelor's breakfast that spread from his lips through his beard, clear down onto his pants. His first comment was—he saw me, and we were quite a ways away, maybe fifty feet or so, "Phil, what brings you up here?" So we sat there, and I'm just really grateful for this. My friend took photographs of us together, and that's on the website too I think, even though I had no business, I wasn't in a league with Norman when it came to things like he had done. You know, I do appreciate

climbers. I climb things like Mount Sill and Mount Tyndall and so on, peaks up around Convict Creek, but never to the extent. I'd look for the easiest way up and Norman would pick the class-five-plus routes. We'd look for [class] ones and twos that we'd go up. So that was the last time.

I think Norman died in December of '72 or somewhere in there. I was in a meeting back in Washington, D.C., when a fellow mentioned that he had just read in the paper where Norman had passed away. I thought well, that's the way things go.

22-00:26:29

Lage: He's certainly a legend among climbers.

22-00:26:30

Pister: Oh yeah, and a marvelous guy.

22-00:26:33

Lage: He was a classics teacher, wasn't he?

22-00:26:35

Pister: He was, and he had these legendary packs that he would carry. He'd have a couple of cameras, and they wouldn't be little digitals. They didn't have digitals back then, but he had this big graphic that weighed about five pounds. All of his food in there, he carried canned goods, and always some kind of a revolver. I mean, what do you have that for? And then sometimes the Greek classics, in the original Greek and Latin, that he would read, with nothing else to do. His packs were legendary. They would weigh—I've never lifted one, but people who have dealt with them, guys like Ed Wayburn from the club, that knew him really well, and some of his climbing partners, one of whom is still alive. His name escapes me right now, but he owns a bookstore in L.A.

22-00:27:23

Lage: Oh, Dawson.

22-00:27:25

Pister: Yeah, Glen Dawson. Glen told me once, he says, "Norman's packs, they weren't exaggerated. Those things weighed a ton." He would stick them up on a rock somewhere, and work his way into the shoulder straps, and away he'd go.

22-00:27:38

Lage: They called him the pack that walked like a man.

22-00:27:41

Pister: Yeah exactly, exactly what it was. And of course his climbing partners back in that era, Jules Eichorn. This may have been really before Dave Brower got to doing much of that. Well, he had been in there too. Jules Eichorn and Raffi Bedayn and all these early club guys.

22-00:28:00

Lage: Dick Leonard.

22-00:28:01

Pister: Yeah, Dick Leonard, sure. And I don't think I mentioned this, maybe I did, but when Pete Starr fell on Michael Minaret, Clyde was the guy who found him, after all these great climbers had been all over the Minarets and couldn't find any sign of him. We were camped up at Lyell Fork, at the Tuolumne River, we talked about it yesterday.

22-00:28:27

Lage: When you were a kid?

22-00:28:28

Pister: Yeah, I was only four years old then. I don't recall this but my brother remembers it very clearly, where a lady, a Stockton schoolteacher who was also a Sierra clubber. She said you know, an interesting thing happened this morning, really early. Two guys with huge packs came past here and I said, "What are you doing up here?" They were going up the Lyell Fork, up over Donahue Pass, taking that route into the Minarets, thinking that Pete Starr might have decided to walk out that way to Tuolumne Meadows, and then hitchhike back to Agnew Meadows, where his car was. So that was interesting, and not too long after that, this would have been within a few weeks, then Norman found him up on Michael Minaret. He found him because the flies had found Norman. The flies were buzzing around, and he says, flies should not be here, and then he looked around and there was Walter [Pete] maybe fifty, seventy-five yards away.

Norman found him. But you know, Norman had a hang-up. In this book I just read called, *Missing in the Minarets*, which gives that whole story, written by just a superb author in the Bay Area. I can't think of his name, it escapes me [William Alsup]. But in any event, he told about how when they found where Pete Starr was, he and Jules Eichorn went up to inter him in the rocks, and Norman apparently did not like to deal with dead people, and particularly dead climbers. They had a shroud thing to put Pete in, which they did, but Norman wouldn't have anything to do with handling the body at all. Jules had to handle that whole thing. He was, as they say, an eccentric guy but really a piece of the local color here.

22-00:30:20

Lage: Yeah. Well that's nice, to get that piece of local folklore.

22-00:30:23

Pister: And again Norman, if it hadn't been for Norman, he'd probably still be laying up there, and just bones now. That was a long time ago, 1933.

22-00:30:34

Lage: Okay, I'm going to pause for a minute. [pause in recording]

22-00:30:36

Pister: Okay.

22-00:30:37

Lage: Okay, we're back on, thinking about what we want to talk about. You had mentioned last time, when we weren't on tape, you were talking about a number of lectures. You have lectured almost everywhere, as far as I can tell, but there was one particularly memorable incident that I want you to tell us about.

22-00:30:55

Pister: Because it tells the story vividly. I was asked by the training people, back at the training center in West Virginia, to give one of their plenary talks at a big conference they were having for all of their refuge people, over a thousand of them, at Keystone, Colorado.

22-00:31:11

Lage: This is Fish and Wildlife Service?

22-00:31:13

Pister: U.S. Fish and Wildlife Service. They were holding this at the big conference center there in Keystone, Colorado. I was assigned based upon what I had lectured on before, to the Refuge Academy, back there, a smaller group. On the fact that sometimes, in a job like we have, you have to take a risk. You have to go against normal departmental procedure, Fish and Wildlife Service procedure, whatever, to get the job done. And at that time there was a very strong dichotomy between the federal service and the state service. The federal government, as I think I explained perhaps earlier, was much more involved with some of the basic biology than the states were, much less politically encumbered to provide good fishing, for instance. So I talked about a couple of things that I had to do, without which species would have become extinct.

22-00:32:07

Lage: Probably some of the things you've told us here.

22-00:32:11

Pister: Yes exactly, out at Fish Slough, in the upper Kern River particularly, where we were killing off brown trout to save the California native fish, the state fish, the golden trout. And so I made the statement that sometimes you have to go against your orders from your superiors to do this, which probably wasn't the best thing to say. I said, sometimes you find that innovation within government is inversely proportional to the civil service level. Well, it was really interesting to look out there at Keystone, because in the back of the room were the field biologists like myself, the refuge managers, the assistant managers. As you got down toward the front, were the regional directors and the people out of the Washington office. When I made that statement, the people of the lesser ranks were standing on their chairs cheering and clapping,

and the guys up front were just glaring at me. Well, when this ended, I felt good because I got a standing ovation at the end, at least from the—

22-00:33:12

Lage: From the rear.

22-00:33:13

Pister: From the rear. I noticed my host, Jim Clark, and his wife incidentally, Jamie, was director of Fish and Wildlife Service at that time, and I discretely exempted her and a few others, because she was very innovative and excellent. This is under the Clinton administration, very different from now. She wasn't all that enthusiastic and Jim told me later, he says, you know, there was one person in that room that really disagreed with what you were saying, and it turns out that this guy had gone into the Fish and Wildlife Service as a retired, I think, submarine commander for a nuclear sub, and I guess there you don't question authority at all, and I think with a very good reason. He had a tough time transmitting that kind of philosophy to an agency—and I went on to state, “You know, agencies are like species; unless they evolve they become extinct.” And I said, “You have to let them evolve in a normal progression, that's what we're doing here.”

The only thing that bothered me about this, he had every right to express his dissatisfaction, but I tried—they didn't tell me who he was, I found out later. I wrote him letters, two of them, and said, “You know Mike, this is to me very difficult because to do my job, I had to do this, I had to make that statement. It may have been hard for you to accept, and I wish we could have just a one to one discourse on this” He never responded at all, which to me was a cowardly approach at this whole thing. You should have enough respect for me as just a fellow worker and also from another agency, because he had never in his life worked for a state fish and wildlife agency. He went right into the upper echelon of the Fish and Wildlife Service, and he did a pretty good job there, he was well respected, but you don't question authority under those circumstances. I found out later from some people he worked with, they said, “That doesn't surprise us at all. Once he's stated his position, he's never going to apologize or back down from it.” That's the kind of a guy he was, kind of like George Bush in a sense, you know it's the same way with him.

But the greatest thing and probably a good place to end here, Ann, because all of these things in my career, to me the most humorous and almost bizarre, if you want to use that term. The Department of Fish and Game was asked to share [an award from] a big preservation group called the Wildlife WayStation, in the San Fernando Valley, at the north end of the L.A. area. This group was run by a lady named Martine Colette, and I've got the plaque up there on the wall somewhere, and for people or agencies that have done things that help animals. My boss was regional manager and he, probably by design, did not want to go to this thing. So he kind of pinned me to the wall and said “Phil, you've got to come down and represent the Department of Fish

and Game at the Hollywood Playboy Club,” which is where they had chosen to hold this big meeting.

22-00:36:21

Lage: To give you an award, was it?

22-00:36:22

Pister: Well, to give me and the department an award. I’ll show you this award later, I can’t remember what it says. So okay, so I go down there, I walk into this place. I wore a suit and a tie, which for me was quite rare. I generally dress like you see me on camera right now. I’ve never trusted people who wore neckties habitually. And so I walk into there and the Hollywood Playboy Club was just a disaster. They closed not too long after that. I guess Hugh Hefner figured it was better to just, you know, let the place die than try to fix it up. You go in there and they had these plastic bits of upholstery, where they were actually torn, where they put duct tape on them to repair them.

22-00:37:11

Lage: This was 1984?

22-00:37:13

Pister: Yeah it was ’84, was that when it was? Okay, well that’s good, this is a good timeframe. The other guy that came down to be represented as a conservationist, was a fellow named Paul Watson, who was the director, at one time, of Greenpeace.

22-00:37:27

Lage: Oh.

22-00:37:28

Pister: You know, these people who go out in Zodiac boats and attack Russian and Japanese whaling ships.

22-00:37:32

Lage: So they were also being given the Playboy award?

22-00:37:35

Pister: Yeah, and Paul came down from Seattle. They got the main award, this huge trophy, which is a story in itself. When Paul got the trophy his first comment was not, “I’m humbly grateful,” but “How am I going to get this son of a bitch onto an airplane?” It was really embarrassing, because they were quite proud of their award. I just got a little plaque, the one up here.

And so it came time for the awards. I got the department’s award first. I looked around the room and one of the Playboy bunnies, a cute little girl, showed an unusual attraction to me, and I felt pretty good about that. You know, there’s this old guy, 55, although I was somewhat younger than I am now, but I thought, this is a pretty good deal. It turns out talking with her, that she was just interested in information, because she and her parents come up to the June Lake area just north of us here, and they wanted a place to go fishing

and thought maybe I knew some good insight into where to go fishing. And that's one of the pictures I think I sent you.

And the bouncer for the whole episode there is a guy—Jim Brown, who is the NFL Hall of Fame running back for the Cleveland Browns.

22-00:38:48

Lage: He was the bouncer for the occasion?

22-00:38:49

Pister: Yeah, and one of the nicest guys. We just sat around talking, had this great time. I think two weeks later, I read in the *L.A. Times*, where he was thrown in jail for wife abuse. And Martine was dressed up like you might envision a country western singer, like Loretta Lynn perhaps.

22-00:39:11

Lage: Now this was Martine from the—

22-00:39:13

Pister: Colette, who ran this thing.

22-00:39:15

Lage: Oh, I see.

22-00:39:16:

Pister: She was the director of the Wildlife WayStation, and came there dressed in her cute little cowboy boots and a cowboy skirt.

22-00:39:23

Lage: She was running the awards.

22-00:39:24

Pister: Yeah, and she was the MC or mistress of ceremonies or whatever. So I was quite grateful to get out of there.

22-00:39:32

Lage: Alive.

22-00:39:33

Pister: Alive. [laughs] Or at least with my reputation fairly well intact. I never thought that representing the Department of Fish and Game at the Hollywood Playboy Club would be part of my job description.

22-00:39:48

Lage: Well it does kind of round out what we've learned about your job during the course of these interviews.

22-00:39:52

Pister: Well, it does. From the ridiculous to the sublime or the other way around you know, but it was a fun thing. I'm glad I went, because I saw a part of society that I never would have seen otherwise. You know, all of these half naked

women wandering around and a lot of old guys leering at them or whatever. I thought boy, if I heard it had closed down, I was really relieved. Some people think that's a menace to society.

22-00:40:15

Lage: You didn't take Martha to that one?

22-00:40:17

Pister: No. Martha couldn't travel back then either, nor would she ever have showed up on something like that. I don't think anybody took their wives to this thing, just out of self-defense.

22-00:40:28

Lage: Right. Well that's great, Phil, and I think we've covered the waterfront, right?

22-00:40:32

Pister: We've covered most of everything pretty well—I got an award from another group too, the Wilderness FlyFishers or Pacific FlyFishers, and they gave me a fly which was placed onto the plaque, that was made from the feathers of an endangered bird. [laughs]

22-00:41:05

Lage: How did you handle that?

22-00:41:07

Pister: Discretely. Fortunately, in the old Fish and Game office, the glue dried and the fly ended up behind my bookcase.

22-00:41:20

Lage: We're reading into the record here, the award from the Hollywood—

22-00:41:28

Pister: From the Hollywood Playboy Club. This is the Martine Colette Earth Award. "Honors Phil Pister and the Department of Fish and Game, for their continuing efforts, accomplishments and contributions toward the preservation of our total environment," which was nice.

22-00:41:53

Lage: Yeah, that's actually very nice.

22-00:41:54

Pister: It was rather sophisticated and rather intellectual for a group like that.

22-00:41:59

Lage: Okay, let's close off, and say goodbye to our oral history, which has been a wonderful experience.

[End of Interview]



Phil with first catch of trout—Tuolumne Meadows, ca. 1935. Photo by Ed Pister



Windsor Farm, east of Stockton, California, “Where Karl and I grew up,” ca. 1954.
Photo by Phil Pister



Convict Creek Research Station, 1950. "My first job." Photo by Phil Pister



Phil on Kearsarge Pass after three-week backpack trip in Kings/Kern area, 1948.
Photo by Karl S. Pister



Phil with Governor Pat Brown on Golden Trout Creek, 1959.
Photo by Phil Pister



Phil and Karl Pister with parents and Karl's son Francis at Windsor Farm, ca. 1958



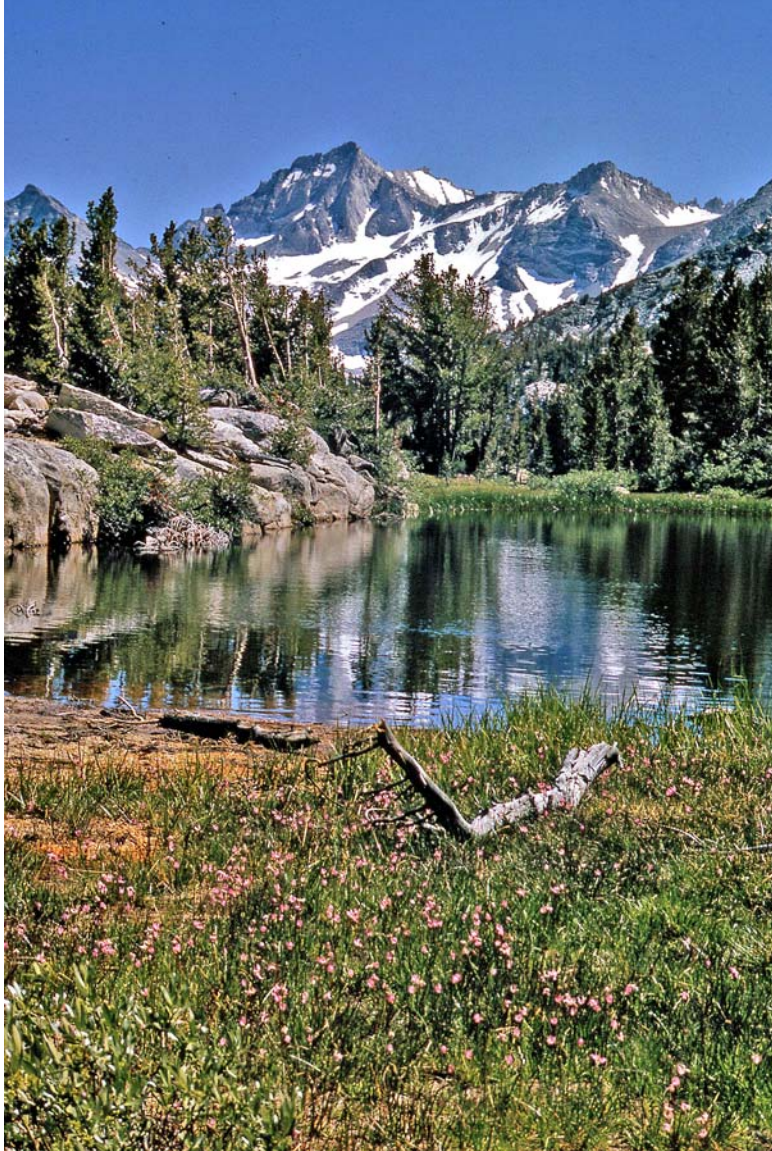
The family at Windsor Farm, 1970.
Left to right: Phil, niece Mary Claire, mother Mary, nephews Francis and Kris,
son Karl, brother Karl, niece Anita, daughter Anne, nieces Therese and Jacinta,
Karl's wife Rita



Phil with daughter Anne, wife Martha, and son Karl on a family outing
above Convict Creek, 1974



Phil representing the Department of Fish and Game, receiving an award at the Hollywood Playboy Club, 1984



Phil's habitat, upper Rock Creek, ca. 1960.
Photo by Phil Pister



Owens pupfish habitat, Fish Slough, 2008.
Photo by Ann Lage



Steve Parmenter at Fish Slough, June 2008.
Photo by Ann Lage



Phil Pister in Sierra Nevada Aquatic Research Lab library, 2008.
Photo by Ann Lage



The Corps of Discovery, Red's Meadow Pack Station, July 2008

Left to right are Phil (Lt. Clark), David Starkweather (PFC Starkweather), Roger Samuelsen (Captain Lewis), Frank Baldwin (Chaplain Baldwin), and Scott Samuelsen (Honorary Sergeant)

ANN LAGE

Ann Lage is a principal interviewer for the Regional Oral History Office in the fields of natural resources, land use, and the environment; University of California history; state government; and social movements. She has directed major projects on the Sierra Club since 1978 and on the disability rights movement since 1995. She conducts interviews on the UC Office of the President, the Department of History at Berkeley, and on environmental protection and natural resource management in California and the West. She is a member of the editorial board of the *Chronicle of the University of California*, a journal of university history, and holds a B.A. and M.A. in history from Berkeley.

