ORAL HISTORY INTERVIEWS

JAMES LABOUNTY

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STATUS OF INTERVIEWS:
OPEN FOR RESEARCH

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Interviews Conducted and Edited by:
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Senior Historian
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James F. LaBounty

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INTERVIEWER: _____
Brit Allan Storey

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The transcriber and editor also have removed some extraneous words such as false starts and repetitions without indicating their removal. The meaning of the interview has not been changed by this editing.

While we attempt to conform to most standard academic rules of usage (see *The Chicago Manual of Style*), we do not conform to those standards in this interview for individual's titles which then would only be capitalized in the text when they are specifically used as a title connected to a name, e.g., "Secretary of the Interior Gale Norton" as opposed to "Gale Norton, the secretary of the interior;" or "Commissioner John Keys" as opposed to "the commissioner, who was John Keys at the time." The convention in the Federal government is to capitalize titles always. Likewise formal titles of acts and offices are capitalized but abbreviated usages are not, e.g., Division of Planning as opposed to "planning;" the Reclamation Projects Authorization and Adjustment Act of 1992, as opposed to "the 1992 act."

The convention with acronyms is that if they are pronounced as a word then they are treated as if they are a word. If they are spelled out by the speaker then they have a hyphen between each letter. An example is the Agency for International Development's acronym: said as a word, it appears as AID but spelled out it appears as A-I-D; another example is the acronym for State Historic Preservation Officer: SHPO when said as a word, but S-H-P-O when spelled out.

Introduction

In 1988, Reclamation began to create a history program. While headquartered in Denver, the history program was developed as a bureau-wide program.

One component of Reclamation's history program is its oral history activity. The primary objectives of Reclamation's oral history activities are: preservation of historical data not normally available through Reclamation records (supplementing already available data on the whole range of Reclamation's history); making the preserved data available to researchers inside and outside Reclamation.

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For additional information about Reclamation's history program see:
www.usbr.gov/history

Oral History Interviews
James LaBounty

Storey: [This is] Brit Storey, senior historian of the Bureau of Reclamation, interviewing James F. LaBounty in his offices in Building 56 on the Denver Federal Center on January 19, 2000. This is tape one.

First, Mr. LaBounty, I'd like to ask you where you were born and raised and educated and how you ended up at the Bureau of Reclamation.

Early Life

LaBounty: I was born in Minneapolis, Minnesota, on December 14, 1942 and was educated there until I was fifteen years old. At that point, my family moved to Las Vegas, Nevada, when Las Vegas only had 50,000 people. And [I] went to one of the two only high schools in Las Vegas. In fact, it was a new school then called Rancho High School. Graduated from there, then I went to the University of Nevada, Southern Regional Division, which had 800 students. It only had a two-year program. It's part of the University of Nevada at Reno system, and then it turned into Nevada Southern University. I got my bachelors and masters at Nevada Southern University, which eventually became the University of Nevada, Las Vegas. Then I went to Arizona State University in Tempe, Arizona, and received a Ph.D. in zoology.

I started working with the Bureau of Reclamation November 4, 1969. I worked for a person named Al Jenez [phonetic]. He's the one that hired me. Probably the first biologist within Reclamation, at least to do environmental-type work. There were some others that were doing some natural resource work, but I was the second. We were part of the 400 Division at that time under Roy Gear in Boulder City, Nevada. It was the Water and Lands Division, and the Regional Director at that time was Arleigh West.[1]

Storey: Tell me, why did you become interested in zoology?

Interest in Zoology

1. Arleigh B. West was Lower Colorado Regional Director from 1959 to 1970. Roy Gear was a long-time Reclamation employee in the Lower Colorado Region, ending his career as Assistant Regional Director. Mr. Gear also participated in Reclamation's oral history program. See Roy Gear, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, in Boulder City, Nevada, edited by Brit Allan Storey, and desktop published by Andrew H. Gahan, 2014, www.usbr.gov/history/oralhist.html.

LaBounty: Well, I've always had an interest in lakes and natural systems. As a child, I grew up around Lake Minnetonka in Minnesota and was always out on the lake, making a boat, or fishing, or hiking, or something. This is my natural upbringing, to be out of doors, and I've done that my entire career. So when I went to school at the University of Nevada in Las Vegas, it was a small school, and as undergraduates we were able to work on projects like graduate students were. So I spent a lot of time in the field. That's what I like doing is being outdoors, sleeping on the ground somewhere, and so I worked in Death Valley. I got the opportunity to spend a lot of time working on fishes in Death Valley, and even named a species of fish. But it was just kind of a natural thing. Everybody has their interest, and some of us are very, very lucky, and they're able to pursue it and spend their own career never stopping what our interest is. I mean, I was always able to go out on the field and still do. So, I mean, that's a long answer, but–

Storey: I like long answers. That's what this is about. Tell me about the fish you named.

Desert Pup Fish

LaBounty: Well, it's a little desert pup fish. It's about an inch and a half long. We hear more about it now, because it's part of the Salton Sea, but it's a different species. In the Death Valley system there was an old lake, and during the Pleistocene times it was a hundred and some miles long and more than a hundred feet deep, and as the Pleistocene ended and it dried up, it left all sorts of springs. These fish are ones that survived in these little small thermal springs that dot Death Valley and that area.

This one particular species that I found, the ichthyologists that had studied the fishes never got to this one, because it was very hard to find. It took me six trips to get to it. It was back when the [U.S.] Park Service allowed us to go straight out over the desert and look for things. This happens to be a population that's entirely below sea level. It's in a salt marsh where no vegetation can live except for some salt-encrusting algae. The populations become large in these shallow ponds, salt flat ponds. The evolution of them was very rapid.

So, anyway, one time, it was in October of–I don't remember the year, '64, '65. I don't know, '66, somewhere in there. We finally stumbled upon these ponds that a naturalist, a geologist, actually, had reported at one time he had seen fish in some ponds out there in the floor of Death Valley. Now it's a protected species. People can't go to it even, because it's in the floor of Death Valley and it's protected.

Storey: And its name?

LaBounty: It's called cyprinodon macularius. It's named after Robert Miller from the University of Michigan, who is one of the world's renowned ichthyologists. He had named all the other species, so I thought it was appropriate that this species be named after him. It's common name is the cottonball marsh pupfish. What's unique about it is that it can withstand wide ranges of tolerances in the environment, one of which is temperature. It can withstand all the way from freezing up to over a hundred degrees. It's amazing. But even more amazing is the fact that it can live in near distilled water, based upon experiments, and it can live in water that's six times saltier than the ocean for brief periods of time. In its environment out there, that varies from anywhere from half as salty as seawater to three times as salty as seawater, where it actually lives. So it's very unique in that regard. It's been written in a lot of textbooks.

Storey: Tell me what kind of process you have to go through to name a fish.

Naming a Fish Specie

LaBounty: Of course, you have to do counts and measurement is the only thing. You count the scales along the lateral line. You count the scales up and down. Count the number of fin rays in each of the fins, look at teeth, count the teeth, the morphometry, all the morphometric characteristics, measure its depth and width. In that particular one, I think there were twenty-six characteristics that we looked at.

The one that made this one stand out was the fact that it was lacking its pelvic fins, which are the fins that are kind of on its belly. They were lacking or nearly lacking, for whatever reason, and it just happened. We can explain it, it's just an evolution characteristic. But what you look for or what makes this species different, and you have to substantiate that statistically and scientifically, and then you publish it in a peer review professional journal, and then that would make it a species.

Storey: So there isn't a big board of ichthyologists who say yay or nay or anything like that?

LaBounty: Well, the peer review of the publication, yes. I mean, you just can't publish a paper and have a biologist have an economist and two engineers review the paper and say, "Well, I think that reads good," and publish it.

Storey: This can be any journal?

LaBounty: Well, there are journals like *Copea*, which is the journal of ichthyology and herpetology, which is kind of one of the main places to publish something like that.

But, yes, then there's an international–I don't remember what it's called. It's an international group of zoological nomenclature that looks at all these things and then puts it in some master list. It's not easy. It's not easy.

Storey: You mentioned you moved to Las Vegas. Were you aware then of Hoover [Dam] and Lake Mead?

Growing Up in Las Vegas

LaBounty: Before I moved there?

Storey: When you moved there.

LaBounty: Excuse me?

Storey: When you moved here.

LaBounty: Oh, sure. That was the next thing. I mean, growing up in Minnesota, as I mentioned, I loved lakes, well, I had to look for a lake. Well, it's not hard to find one. And so Lake Mead became my lake. The first year or so, I wasn't too fond of that–this was in 1957–because it didn't have trees around it. But I became aware of Hoover Dam and, as I mentioned, these were the days when Las Vegas had–the population was actually 50,000 at that time, and it was a small cowboy town and somewhat a tourist resort. We used the old silver dollars, and we used to complain about them because they would wear holes in our pockets and they'd be too heavy, and we'd ask for paper dollars when we'd get change. And they'd say, "Well, we have one, but you have to take the rest in silver." And now I wish I had all that silver that passed through my hands.

But Lake Mead became interesting to me then as a fisherman. We used to fish for black bass. We'd go out in the mornings and fish in the wash up above. We used to go duck hunting. Now the wash is gone, because it's eroded out. Lake Mead's black bass fishery is, more or less, replaced by the striped bass fishery. It's a different system. But I was very well aware of Hoover Dam and Lake Mead, and that's where I spent any time I could get out there. That's where I'd spend my time.

Storey: How would you get out there?

LaBounty: Well, I could drive. I had a car, so my friend and I in high school would go out there. We'd go swimming at night, whenever. It was a small town then. We'd drive

out to Boulder City just to have an ice cream cone or drive out to Hoover Dam, stand on the dam, and there would be one car that would go by the whole time you were standing there. I remember it being dark and kind of a lonesome, quiet, restful place that you could stand on top of the dam back in those days in the evening. Now, during the day there were a lot of tourists, but now I work on Lake Mead, and every month I sample a station right above the dam and Lake Mead, and the lines of traffic that are on the dam today waiting just to get over it, it's just appalling. It's just appalling to me. I mean, I've had to endure watching a lot of change, especially in Las Vegas and Phoenix, where I spent some time. But you always look back to what it was like. And, of course, we all would like things to be the way they were, but I'm a realist. I realize they can't be, and in this country people can move around. So it's going to change. You just have to accommodate that. But it doesn't change the fact that I can remember that, how things were and how things are, and Hoover Dam is one of them that if you want to take a snapshot of then and now of how population has impacted the West, that would be a good shot just there.

Storey: What was Las Vegas like?

LaBounty: Well, it was a wide-open town. It was a safe town, amazingly. Actually, you know, we'd always be very defensive, and I think people that live there still have to be, to a certain degree, but then more than now, because when you go to another place and they say, "Where did you grow up?" or "Where do you live?" you say Las Vegas, and we'd always have to put a footnote on it and say, "But, you know, there's two sides of Las Vegas. There's the side you see as a tourist, but there's also a lot of good people that live there. And, actually, there's more churches there per capita than anywhere." We used to always say that. And it's true.

As kids growing up there, we couldn't gamble, of course, and it was like any other, I'd say, Southern California small city, not like Los Angeles, that we kind of did the same things. We went up and down Freemont Street in the evenings. In the fifties that's what you did. We had a drive-in called the Blue Onion we went to, and we all met there and then we'd drive up to the head of Freemont Street, and there was the old railroad station up near Main Street and Freemont. It had a big circle in it, and we'd stop there and visit with people. So it was very small town. I'd grown up, more or less, in the country in Minnesota where there weren't paved roads, at least. So I was kind of used to that, and it didn't bother me.

Then there was a side that we could go to a show, and I remember I could go with my parents and I could go see like the McGuire Sisters and all at night and the late show. They'd give you a little sandwich and for four dollars you'd see the McGuire

Sisters or Nat King Cole or someone like that. I got to see all those people. Now it's harder to do that. But then you'd get to see them in person. They'd be hanging around. And, in fact, some of them their kids. I knew some of the kids of some of the stars. In fact, one of the kids that went to my high school was Wayne Newton's brother. I remember seeing Wayne Newton and his brother. He invited us to come out and see them. They were playing in the Freemont Bar, called the Newton Brothers. Then they grew into something bigger, a lot bigger than that.

Then others like Don Rickles, seeing him in the lounge. When I was in college, we'd go over and watch him every evening, sit right up front. He would know us by name. Betty Grable had two daughters, and they lived up there. We'd go to their parties at the Flamingo. They'd have parties in the summer, and we'd go there. And it was no big deal. I mean, it was just part of growing up. But it's different. You know, that's what made it different. So on one hand, it was pretty much like other places, but on another hand we had different experiences, and there's a lot of them like that. Then, of course, when you're in college, you need a job. Well, for a while, I did what anybody else does.

END SIDE 1, TAPE 1. JANUARY 19, 2000.
BEGIN SIDE 2, TAPE 1. JANUARY 19, 2000.

Storey: You were saying you washed dishes.

Cab Driver Experience

LaBounty: Yes. Okay, I washed dishes in a little restaurant. But then, when I was in graduate school–and this is where being in Las Vegas might be a different place to grow up–a bunch of us fraternity brothers in our fraternity at U-N-L-V, needed a job, and one of the cab companies was being struck by the union. So we decided, well, let's go drive a cab, not realizing that we were going to be called scabs and get tomatoes and everything thrown at us. But we drove taxicabs.

So I did that for about three months and had some unique experiences there, because being a person who worked in the out-of-doors and worked with nature, nature doesn't normally talk back to you. And actually sometimes you feel like you're respected because you have this academic training, you should be at least, but you just think that. But then when you're driving a cab and you get someone that hops in the back seat, they don't see that you have that degree, and so all of a sudden they look at you in a different light. So your bubble is broken real fast. So I found that very good for me, humbling to work as a cab driver, because I realize that I'm

just another, person really. I'm just a human being, and the person that's with me doesn't really care initially what I am.

Of course, I wasn't quick to tell them that I had a degree or I was doing this just part time because they probably hear that. But I would use it as a game to learn about people. I would ask them questions or bait them for questions. For example, I had my top five questions that people would ask when they would jump into the cab. Number one was, "How many people lived here?" And number two was, "Aren't any of the cabs in Las Vegas air conditioned?" And then the list from there on.

But that made it unique, you know, the experiences of that, because people that come to Las Vegas act a little bit different, at least a lot of them do, and gambling adds another aspect to it. So there are both some rather humorous stories about driving a cab and there are some that are quite sad.

Storey: Can I ask what your family did?

Family Life

LaBounty: Sure. My father was an optician. He made glasses. He managed an optical lab in Las Vegas. He did that in Minneapolis, and he took a job with a company called Western Optical. Its headquarters is in Salt Lake City, and they had an office in Las Vegas. They planned to open one in Phoenix. We were only suppose to live in Las Vegas for six months and then move to Phoenix and he was supposed to open that office there, but we never left Las Vegas.

My mother, she didn't work most of the time, just odd jobs here and there as a waitress when I was young. But when my brother and I were out of school, she went into the same business but as a receptionist. So both of them were in the optical business. Not gambling.

Storey: I had wondered why the would move from Minnesota to Las Vegas, for instance.

LaBounty: For a job. Just a new opportunity. My father's passed away, but my mother, she said–and I have talked to her a lot about it–we moved just for the opportunity. It was really a hard thing for them to do, I would imagine, because my mother's a full-blood Norwegian who grew up in a Norwegian part of Minnesota that barely spoke English, and she married a Frenchman, a French-German, and that was a real no-no in those days. Then to move out of the state, move to Las Vegas, was really a step

out. But I think it was good.

Storey: Did you start out knowing you were going to go into biology when you went to school?

LaBounty: No one in our family had ever gone to college. So I didn't know what opportunities were out there. I knew that one could go to college, but nobody ever said, "Well, here are the opportunities once you graduate from high school." It just wasn't that way in our family. And in that time, maybe not quite so much as it is now, the pressure wasn't there. My friends in high school were all going off to college, and I thought it was the thing to do. I thought, "Well, I'll go to college." Well, then it became a question of, well, what should I do, just go to college? I took biology and I took the courses, chemistry, with the idea that maybe I would go to optometry school and become an eye doctor, you know, because my mom and dad were in that field and that's the only thing I knew. I talked to some of these optometrists and they were encouraging me to do that. Well, I got my two years of pre and then I went down to U-S-C, got accepted to optometry school. That's what I was going to do.

Optometry School

Storey: U-S-C is?

LaBounty: University of Southern California.

Storey: Okay.

LaBounty: In Los Angeles. I went there one year and I was getting ready to go back the second year. And, of course, my parents were proud of me. I actually only had two more years left. It was a three-year class course. But I didn't have a bachelors. I just had two years. But as I mentioned, I had the opportunity, even as an undergraduate in my first two years, especially the second year, to go out in the field and work in Death Valley and camp outside, be in the outdoors, watch all the stars, and now the last year I had been stuck in downtown Los Angeles at the time when they had the Watts riots. It was smoggy. Your shirts would be black. We'd come home and we'd stick our head in the sink of water and shake our heads just to get some relief from the smog, it was burning our eyes so bad. I had a roommate at the time. So I would go home every opportunity that I could just to be in Las Vegas. I loved it. I loved being there.

I knew in my mind this wasn't what I liked, but I pursued it and did fine. In August we had a class reunion. It was our five-year class reunion, I think, from high school. I came home from that and I said to myself, "I'm not going back." Of course, the hardest thing that I had to do was to tell my parents, because checks had been written and all this and that. An apartment had been rented. I mean, I was ready to just go back. I told them, "I'm not going to go back." Well, of course, I was a kid, and they were going to explain to me this isn't what you do. But my parents were very understanding. I said, "I want to go back out here to U-N-L-V, and I want to work in field biology. That's what I really love. I mean, I know I'll make more money being an optometrist, but I'd always be unhappy with what I'm doing."

That was the best decision I ever made, because, for one thing, going down there made me realize what I really loved; and, second of all, when I came back, I was on fire, I mean, as far as doing research. I was ready to be a doctoral student right them and there and I couldn't. Of course, I had to study. But I think that was kind of when I realized that's what I wanted to do as a vocation. No, it isn't kind of. That is when I realized that was my vocation. I always had that interest, but I was never pointed in a direction. Now, if somebody would have introduced me to engineering, which I knew nothing about, I had no idea what engineers did, maybe I would have gone into that and been unhappy. I don't know. Maybe I would have been happy. Certainly engineering would have brought me outside. But I'm glad I did what I did, because it's led me to a career that I can't believe it's over, and there isn't a day that I haven't come here, hardly, when it hasn't been as exciting as the first day I came, because I'm able to pursue, to do the things, that I've wanted to do. I don't know. That's a long answer, but–

Storey: No. No. That's fine. While you were in school, what kinds of field research did you get involved in?

Student Field Research

LaBounty: Well, as an undergraduate and for my masters, I worked on desert springs mostly. I received a general degree in biology. So I worked on both aquatic systems and terrestrial systems, and I didn't know which I was more interested in. Eventually you have to specialize, of course, like everything else. I just liked being in the desert. So I worked on research that studied the plant communities all the way from Searchlight, Nevada, which is down in the southern tip, all the way through the desert through Las Vegas to the top of Mount Charleston, which is a little less than 13,000 feet. Now, I didn't do that all myself, but I was part of a group that worked

on that, on the plant communities. So that would be one thing that we did. But I spent more time studying the fishes, the native fishes.

At that time, Nevada was pretty unexplored and uninhabited, although it's still the least inhabited state outside of Clark County of any of our states, really, in the contiguous forty-eight. But Nevada has what we say is the highest rate of endemism in the United States in fishes. That means it has more species that are found nowhere else in the world but in Nevada. The reason for that is because Nevada has all these interior drainages. They don't drain to any ocean. [Lake] Tahoe drains into Pyramid Lake. Pyramid Lake is drying up. The Walker River goes into Walker Lake and so on and so forth. The state has those interior basins all over. Most of them are fishless, but a lot of them have native fishes in it that have been isolated for tens of thousands, hundreds of thousands, millions of years. So the fish are fairly unique.

So I got a chance to study those. I mean, the person I worked under, his name is Dr. James Deacon, D-E-A-C-O-N. He's still alive, and he's at the University of Nevada, Las Vegas. Well-known person, locally and internationally, in the scientific field. That was a wonderful opportunity. I was his first student. He came to Nevada and he explored Nevada, and I was able to go along with him on these field trips. Well, he received two grants that I spent a little more time on than anything else, and one was working over in Zion National Park, in that area, on the Virgin River fishes. I spent a summer, I led a crew up one summer studying all the streams of the Virgin River that came in, and we used fish shockers to collect the fish and find out what was living in each of these streams. But even more time was spent over in Death Valley. He had a grant with the Park Service, and I would go over monthly, at least, to two springs and spend a few days studying the fishes of these springs. One was Saratoga Springs in southern Death Valley, which is the largest spring in Death Valley, and the other one that I spent a lot of time with was up at the Salt Creek and Cottonball Marsh that I mentioned earlier about the fish that I found. Spent some time over in the Ash Meadows part of Death Valley, which has Devil's Hole and some other small springs.

So we would study these springs, the ecology of the springs, and collect the fish, and we'd study the fish back in the lab. I was probably more interested in the ecology of the springs and the desert in general, but I focused, at that time, on the biology of the fish, and I was also interested in that. That's what I got my masters more in, the fish that I talked about. And then when I worked on my doctorate I worked down in Mexico on another basin. And, again, I worked on the fish, because that was a tool to get these degrees, for one thing, and that's what I thought

I would be interested in. But there's not many jobs in that area and, again, it was one of those jobs, one of those careers, that I felt you spent a lot of time in a laboratory or a museum, and that didn't really appeal to me. I wanted to be outdoors. Now, certainly there's jobs in ichthyology that do that, but I always looked for opportunities to be outdoors.

Storey: So which basin in Mexico was this you studied?

Studies in Mexico

LaBounty: When I was at Arizona State, I worked in the Cuatro Cienegas Basin. It's near Monterrey, Mexico.

Storey: Four Springs?

LaBounty: Yes, right. Exactly. Cuatro Cienegas. And it's in Coahuila, the state of Coahuila, in the northern Mexico. It has the highest rate of endemism, that basin, unique species, all species, aquatic and terrestrial, of any place in North America, because it's where the neo-tropical and the neo-arctic fauna and flora came together. You had these divergent flora and fauna coming from the north and the south, and this basin has elements of both areas, the tropical, neo-tropical, we call it, and the northern parts. So you'll find a black bass, but you'll also find a siclet, which is a tropical fish. They're both endemic to that basin. Same thing with the snails, and same thing with plants, all sorts of plants.

I worked for a guy in Arizona State. His name is W. L. Minckley, M-I-N-C-K-L-E-Y. He, again, is another quite famous, and I was very lucky to go there to work under him and work on that particular project. He taught me a lot, of course, but that gave me an opportunity to go to northern Mexico, and not only learn another culture, but expand my desert experience. Now, I haven't been restricted to deserts, because I spent two summers working up at Lake Itasca in Minnesota, northern Minnesota. It's a field station and they teach college courses. So I was able to work in the forests, the environment in the northern lakes, to give me some knowledge of other types of environments other than deserts. But I love deserts more.

Storey: Who were you working for at Cuatro Cienegas?

LaBounty: That was a National Science Foundation grant that he had.

Storey: To Minckley?

LaBounty: To Minckley at Arizona State University, right.

Storey: What about Lake Itasca, you said?

LaBounty: Well, I went there on my own, and I went on a scholarship the second year. The first year I paid my own way. It was a school, University of Minnesota. It's a summer campus type school, and they have a place you stay and study.

Storey: How did you end up at Reclamation?

Coming to Work for Reclamation

LaBounty: Well, I guess my dad thought eventually I ought to get a job. I'd been going to school a long time, because I took a little longer than normal to get some of these degrees.

Storey: Were you going on scholarship?

LaBounty: No. Not on undergraduate. I was on graduate school. Both masters and doctorate I had some scholarship for a few years. But I'd gotten married, and I didn't have a job. My wife didn't have a job. Not a good way to get married, although we've been married thirty-one years. But I think my dad thought I ought to do something. So he, without me knowing–he never pushed–but he knew Al Jenez [phonetic], and I knew Al Jenez. He had been working for Nevada Fish and Game. He was the local fishery person, and he'd go around to schools and talk and I knew him. Al worked for the Bureau in Boulder City at that time. So I think that my dad fitted him with glasses, and I think he came in and said, "You know, how is Jim doing?"

"Oh, he's fine. But, geez, I wish he'd get a job." Something like that. I don't know. I can only guess.

"Well, you know, we've got a position. I'm going to hire someone. I've got approval to hire someone in Boulder City."

So I remember my dad coming home and saying, "You need to talk to Al Jenez, because he has a position out there."

I said, "Oh, well, okay." Without thinking more than that.

Well, I went and talked to Al and it sounded great to me. First of all, it was a job.

I hadn't quite finished my doctorate yet. I was working on it. I'd just gotten married. I was a year away from class work, working on research, and I was taking odd jobs. So I mentioned it to my major professor at Arizona State and he said, "Don't take it."

"Why?"

"Because you'll never finish your doctorate." This is true of a lot of people. They take a job, that's it. You know people like that. We all know people that like. But I had set my mind to it, and I knew that I was going to be different than that. Well, he didn't, though. He wrote me letters and all. It was terrible. But I did take the job. I took it as a GS-9. I had a masters and almost a doctorate.

END SIDE 2,TAPE 1. JANUARY 19, 2000.
BEGIN SIDE 1, TAPE 2. JANUARY 19, 2000.

Storey: Tape two of an interview by Brit Storey with James F. LaBounty on January 19, 2000. So there was this opportunity.

LaBounty: Yes.

Storey: Which, quite naturally, your professor was saying don't do it.

LaBounty: Don't do it.

Storey: First of all, it wasn't an academic position. It was with the government.

LaBounty: Right. Exactly.

LaBounty: It's with the government, and he said, "Oh, people die in their government careers." And I listened. But Al was great. So I took the job November 4, 1969. I didn't like it. I think that this is somewhat typical of people in their first job, because you have this utopian view of what your going to be doing. We all think, "Well, when I grow up I'm going to be a fireman" type deal. And it doesn't normally turn out that way. It did for me, actually, after a while. But it wasn't then.

I had a lot of reading to do. All of a sudden I found myself working for an agency that wore a black hat, and I had always been a true, I would say, conservationist, being a biologist, for one thing, but being a field biologist. I'd helped protest against

the dams in the Grand Canyon.[2] And I knew I was going to work for an organization like that, but Al convinced me that things were changing. Well, I didn't know how much they would change, but they really were changing. But, of course, when I went to work for them, they didn't change in a month. And being a young person, I didn't like this. I would go to meetings. I hated we-they.

Storey: You hated what?

LaBounty: I hated the we-they situations was created in meetings.

Storey: Oh, we-they. I see.

Work Along the Lower Colorado River

LaBounty: Yes. We were the Bureau of Reclamation. They were the Fish and Game of Arizona or California. We worked on the river, the lower river, a lot. That's what our meetings were about. At the time, we were doing the dredging program on the lower [Colorado] river, which was not accepted well at all. Reclamation's goal was to channelize that river, make it more efficient for water delivery.[3] With the laws that were intact at the time, which go back to Fish and Wildlife Coordination Act in the fifties, '54 or '52, that allowed a little bit of a tool to Fish and Game agencies to force Reclamation and other construction agencies into putting aside some of the work for mitigation. In other words, if we lost a certain amount of habitat for waterfowl, it had to be replaced by something else that was agreeable by both parties, especially Fish and Game.[4]

Well, this was terribly contentious. I mean, the engineers that worked for the Bureau at the time, one of the river engineers was Stan Freeland [phonetic]. Not to go off a little bit on the side, but the first week I was working for Reclamation, he came into my office, put his feet up on my desk in a chair like you're sitting across

2. In an early 1960s version of the Central Arizona Project, Reclamation proposed the construction of two storage dams at Marble and Bridge canyons on the Colorado River to supply power for pumping CAP water. Due to pressure from environmentalists, both dams were removed from the final authorizing legislation.

3. Mr. LaBounty is referring to the Colorado River Front Work and Levee System Project. For more information see, Lara Bickell, "Colorado River Front Work and Levee System," Denver: Bureau of Reclamation History Program, 1999, www.usbr.gov/history.projhist.html.

4. Efforts to mitigate effects on fish and wildlife from water resources projects began in 1943 with the passage of the Act of March 10, 1934 to Promote the Conservation of Wild Life, Fish and Game (48 Stat. 401). This act was later amended in the Act of August 16, 1946 for Fish and Wildlife Conservation (60 Stat. 1080). In 1958 Congress once again amended the act officially naming the law the Fish and Wildlife Coordination Act (Act of August 12, 1958, Public Law 85-624, 72 Stat. 563),which is the final version Mr. LaBounty is referring to.

from me, looked at me and said, "You know, you're taking the slot of an engineer?" And it devastated me. Welcome aboard, you know. Although he turned out to be a very nice person, we worked together as a team, but he was very adamant in his view, and there was not much bending. He was, what I saw, an old-style Reclamation engineer. I'm not saying that's bad, but I'm saying that's just the way we were. Our job was to construct things and water resources. We saw the benefits, from Reclamation's point of view, as making the West habitable, making the water resources efficient, usable for agriculture, flood control, whatever. Recreation was only an add-on to make it look nice at times, but most places could care less about that. But he was that way, and his job was to channelize the river.

Well, I went to these meetings and represented Reclamation, and I was nearly in tears. I wrote lots of messages to myself, and I just didn't like it. Well, I think it forced me to go back to graduate school, for one thing. So I remember I went into Al Jenez and said, "I need to go back to school." This is a year later. "Even if I resign, I need to go back to school." Of course, he didn't like hearing that, because he thought he had had me there and I was going to stay. He said, "We've got to go see Arleigh West." So we went to see Arleigh West. Arleigh West thought that was a great idea. He's the Regional Director. He said, "I would be glad to send you back and pay for your school, but we've had two bad experiences recently. One was a guy named Bruce Blanchard, who was a Bureau employee, was sent back to school to get his masters, you know, and he left the Bureau."

Storey: He went to the Department of the Interior ultimately.

LaBounty: Exactly. And that burned them. I think they paid M-I-T or some fancy school. And there was another one. I don't remember the other person's name, but a similar thing happened. So as soon as they got out of school, they were gone.

Transfers to Phoenix Development Office

Well, I didn't expect that, but I said, I'd like some allowances so if I need to take off to study or to work on my dissertation I need to do that, and I'd like to be in Phoenix. And Arleigh said, "That's a great idea, because we have this new law," the environmental law of 1969 that passed January 1, 1970, and none of us knew how to apply this law. And he says, "I know they're going to have to respond to the five questions that are in that law, and I want you to help them."

Storey: And who's them?

LaBounty: Cliff Pugh and the people in Phoenix, the Phoenix Development Office. So he says, "I'll keep you on our roles and station you in Phoenix. But you need to move yourself and all this." Okay, that's fine. So they made my duty station Phoenix, but I was still out of the Boulder City Office. I still worked for Al.

Well, when I went to Phoenix, they welcomed me about as much as Stan Freeland welcomed me, and that was to not even give me a chair to my desk. They put me in with two economists in an office this size.

Storey: What's this? About 10-by-10?

LaBounty: Yes. About 10-by-10, something like that. I asked for a chair and they said, "Go find your own chair." Cliff Pugh, who was the manager at the time, a good politician, he was–I can't remember what the title exactly was, but he was manager of the Phoenix Development Office. He saw no need for me there and made it clear. He said, "I don't see why we need anybody here. But as long as they're paying for you, who cares."

Well, that changed. As we, as a governmental agency, and all other agencies, became enlightened by lawyers or whatever about the environmental impact statements and what went into them, it was realized that you needed to have a diverse set of disciplines to respond to the questions. You couldn't just do this with just engineers. Engineers before that in Reclamation would do just about everything, including the biology and the history and everything else. I mean, economists had a hard time getting in, but they had made their way in as a field. But the next ones were biologists that made their way in. So we made our way in, but we weren't accepted.

CAP Environmental Impact Statement

Well, I wrote the first environmental statement for the Central Arizona Project, which turns out to be five pages.[5] I still have it somewhere, a copy of it. And the second one was written and it was, I don't know, maybe eighty pages. Had a brown cover on it. And, of course, then it evolved from there to big, thick things. But that's what I was sent down there to, and then at the same time I finished up my education.

5. The Central Arizona Project was a large-scale construction program to deliver Arizona's share of Colorado River water to farms and communities in central Arizona. For more information, see Jennifer E. Zuniga, "Central Arizona Project," Denver: Bureau of Reclamation History Program, 2000, www.usbr.gov/history/projhist.html.

Storey: Did you have trouble getting budgets to do these studies?

LaBounty: Studies?

Storey: To do the environmental statements?

LaBounty: Well, I didn't have anything to do with budgets then, and so I don't remember there ever being a problem. I know that, at that time, that office had authority to start construction of C-A-P [Central Arizona Project] but no budget. So we were living off planning budgets. In those days planning budgets were pretty good. I mean, the G-I funding for the Bureau, I think, has never been higher. So they never said you can't do something. In fact, they asked us to do a lot of strange things at the time. The engineers were running the show, as far as the environmental statements were concerned, and that was fine. I had to, for example, do a report, a long report, on the birds of Arizona and how they're affected by the Central Arizona Project. Well, I'd never had a course in ornithology. So I had to take the book, *The Birds of Arizona*, and lift out what I thought would be affected, could be affected, and that report became this well-thought-of document in Washington. I was embarrassed by it, because there was no academic training behind it.

Another thing that we had to do, someone decided there was noise. Everybody was worried about noise in construction projects and maybe still are, and we had to take and do sound background recordings from Lake Havasu all the way to Phoenix. So we'd go out in the desert, sit there for half hour, recording the bees and the planes and whatever other noise as background and then do a report on the natural noise on the route of the Central Arizona Project Granite Reef Aqueduct across Arizona. Well, I enjoyed that a lot, because most of it was done during the springtime. It happened to be a good spring when the flowers were out. So while that thing was on, I'd be out taking pictures of flowers and stuff and studying the botany. So I got the chance to do stuff like that.

In the meantime, I was working on my dissertation. I eventually I took quite a bit of time off, and that had to extend my date by, I think, three or four months I lost. And that's why I'm still here, as a matter of fact, which is fine. But it was worthwhile. I realized that this isn't, again, what I wanted to do. I didn't mind it. As I look back, the experience in Boulder City and the experience in Phoenix were extremely valuable in a lot of ways, different ways, which I can explain, you know, as I reflect back. But it didn't take me long away from there to reflect back and realize the value of those experiences, even though I didn't like them too much.

Establishing Environmental Shops

The way I got here was that right near when I was about to finish my doctorate, we had an assistant to the commissioner. His name was Elwood Seaman [phonetic], and he was a well-known fishery person. He had been president of the American Fishery Society, well respected. He was director of fisheries for the state of West Virginia before, and he had done some work for the Air Force, I guess. It grew very rapidly, the environmental movement, within the Bureau. The commissioner at the time, who was Ellis Armstrong,[6] realized that he needed to have some help in Washington with all the goings-on in environmental affairs. So he hired Elwood Seaman–Woody Seaman, we called him–and Woody was given the title of assistant to the commissioner, a pretty lofty title. So we all knew him. What he did, in turn, was to hire an environmental specialist for each for the regions. He hand picked, hand picked every one of these except for Al Jenez, who was already in 400. So he created the 150 shops, and you're familiar with that. It was the environmental shops.

Storey: Sort of after my time, actually.

LaBounty: After?

Storey: Yes. I only came in '88.

LaBounty: It was before your time.

Storey: Yes. I'm sorry. It was before my time.

LaBounty: But that's what we had. We had environmental shops in each region, and we all knew each other. We'd get together. He was good about bonding and getting all these people together periodically. I was in Phoenix, and I was the only one in the project office. The rest of them were in each of the regions. Al Hill [phonetic] was in Amarillo. Al Jenez in Boulder City. Dick Woodworth [phonetic], who had been director of Fish and Game, was in Boise. Lee Denson [phonetic] was in Billings. In Denver was–well, I know him, but I forgot his name right now. I'll fill it in.

Storey: Not Potter?

LaBounty: No. No. He's retired and bought a print shop.

6. Ellis Armstrong was the Commissioner of the Bureau of Reclamation under the administration of President Richard M. Nixon (1969-1973).

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BEGIN SIDE 2, TAPE 2. JANUARY 19, 2000

LaBounty: You probably know all this.

Storey: Yes.

LaBounty: Okay. The Lower Missouri Region was Dick Eggen [phonetic]; and the Mid-Pacific was Bruce Kinsey [phonetic]. So I think I named them all.

Storey: Who was in Billings?

LaBounty: Lee Denson.

Storey: Yes. You did mention him.

LaBounty: Lee Denson. I don't know where I was going with this, though.

Storey: You were talking about Woody establishing–

LaBounty: Oh, why I got here. He established one person in each region, and then they, in turn, had some staff–some of them were allowed to have a little bit of staff, and that's where Wayne Deason came in and replaced me. That was actually when finally they transferred me officialLY to Phoenix, by the way. My position was open and Wayne Deason came in and held it for a few years. Al was able to hire more. But Al didn't stay there long. Because Woody left, for one reason or another, and I don't think the reasons were happy reasons, political, maybe. Al Jenez went to Washington as his replacement. Then another person named Phil Sharp [phonetic] came in. Phil's been around different offices and had a successful career in the Bureau. But all these people that they hired were all from [U.S.] Fish and Wildlife Service, except Dick Eggen, who had been a Bureau employee in Pueblo. He was a natural resources person. But the rest of them were all from Fish and Wildlife Service, which is natural, I guess.

All this same time, the Bureau had a research arm in Denver, the labs, commonly known as, part of the Engineering and Research Center. At the time, the chief was Howard Cohen. Within that, they had just established some water quality research. I knew about it, but there was a person named Dale Hoffman, who held a position, and they were beginning to do some research on environmental aspects. One of the big projects that they were working on at the time was up at Twin Lakes in

Colorado, which was the site of the Mount Elbert Pump Storage Power Plant, part of the Fryingpan-Arkansas Project.[7] The money generator for it, actually.

Coming to Denver

The research that was approved was to learn, in as generic way as possible, which is always hard to do, but in as generic way as possible, what the environmental effects of pump storage are, would be, could be. Pump storage was a technology that power people liked a lot because it allowed power that was cheap during the nighttime to be used to pump water uphill, so to speak, to an upper reservoir, and then they could generate power during the day when power was more expensive and actually they could make a lot of money that way. It uses power. But, anyway, Twin Lakes are natural lakes, a pair of lakes in Colorado, the largest in Colorado, and Dale Hoffman's project was to look at these lakes and see what the effects were.

Well, anyway, that's just kind of background, because I knew some of that was going on when I was down in Phoenix but I didn't know a lot about it. Dale resigned and took another job with Fish and Wildlife Service. Woody Seaman, who I told you where he came from, as I said, he handpicked everybody for all these other jobs. He and I got along well. He was down in Phoenix and he came and visited me and he said, "I'd like you to consider this job in Denver." I was just finishing my doctorate. I had already applied for Fish and Wildlife Service's Cooperative Research unit positions, one in Idaho and one in Tennessee, and I was being considered for both of them in the final cut, because I'd been interviewed for both of them and brought there. And that was where I was kind of aiming for.

But he said, "Well, consider the Denver job." So that was in December 1973, I guess, something like that. So he put me in contact with Lloyd Timlin, who is the branch chief, and Tom Bartley, who is the section head for the Environmental Sciences Section, at the time. We had a conversation that very day. I mean, he wouldn't wait. They were very convincing. They didn't try to hire me, but they were convincing, to me, at least. Then they said, "Well, why don't you come on up. We're having some meetings that you might be interested in. Let's fly you up here, attend these meetings. We'll take you around and show you the facilities and see

7. The Fryingpan-Arkansas Project is a multipurpose transmountain, transbasin water diversion and delivery project in Colorado. It makes possible an average annual diversion of 69,200 acre-feet of surplus water from the Fryingpan River and other tributaries of the Roaring Fork River, on the western slope of the Rocky Mountains, to the Arkansas River basin on the eastern slope. For more information, see Jedediah S. Rogers, "Fryingpan-Arkansas Project," Denver: Bureau of Reclamation History Program, 2006, www.usbr.gov/history/projhist.html.

what you think."

Well, I was just blown away. I mean, here's this person who wanted to do research and I haven't been able to do much of that, although I did quite a bit in environmental studies in Arizona. I was able to get out to study the fish and this and that, which I can talk about later. But my goal was to be able to do research. I didn't particularly care about teaching too much. That wasn't something I really wanted to do. I would, but I wanted to do research. So I came up here and what I saw was, really, compared to a university, a lot of money that could be spent, a lot of opportunity, and I could see the application, which I really loved. I mean, even though I'd work on all these desert springs and stuff, we had to dig for application. Why are you studying those fish? And we'd have to think of these philosophical–which are good reasons, but I sure always in my mind didn't want to have to explain it that way. It would be easier to explain, "Because it's going to fix this problem. Be better." And I could see that up here.

So I immediately went back and I filled in my application and I sent it up there and I was chosen, selected for the job. I was so happy. It was a promotion to a 12. I'd gotten an 11 in Phoenix. Promotion to a 12, which was great. I had a little baby nine months old. We just bought a house in Phoenix. And we moved. So like my dad, I said, "Colorado is one place I always wanted to live." I thought it would be great. So we moved. And I've been here twenty-six years since and never left. And like I said, it's been a great career here.

I hadn't quite finished my doctorate, but again my major professor was going to have another fit, because I had my dissertation left to finish and defend. But it worked out. The deal was that I would have it defended before they would allow me to move here. So even though I was selected in December, late December, early January, I didn't come until March, because I had to finish up that dissertation. That was the agreement. Woody Seaman and my professor–actually, the chairman of the department of zoology at Arizona State, Shelby Gerking [phonetic], were good friends, and this was the deal they made, that LaBounty won't leave until he defends his dissertation. And I did. I defended it and turned it in and I graduated that year.

But that was a great move, and I immersed myself in Twin Lakes, the Twin Lakes Project, which Jim Sartoris, my good friend, he and I spent the best years of my life and career together, unequivocally. He would admit that, too. He and I are the same age. Sartoris? You know Jim? I don't know.

Storey: No.

LaBounty: He works for U-S-G-S now, but you really ought to talk to him sometime. He's an engineer, and we were able to do pretty much what we wanted to do. Anyway, the rest is history.

Storey: What was your dissertation on? Anything related to Reclamation, by chance?

LaBounty: No. I don't remember the title exactly. It was the study of the fish flock, cichlid fish fauna, in northern Mexico, with the emphasis on the fish flock, which is a group of species that live together in Cuatrocienegas, Mexico. So what I did is I collected a lot of fish, but I used museum collections from all over Texas, here a little bit–maybe today more now than before–with the cichlid fish. The cichlid are related to tilapia. We hear of tilapia. Tilapia is the African version of cichlids. The North and South American cichlids are not very pretty fish, so we don't see them in aquariums that much. But I worked on those fish and those springs, and that's what I did it on.

Storey: Tell me more about the environmental studies you did in Arizona.

Environmental Studies in Arizona

LaBounty: I mentioned some of the weird things I did like the sound study and bird study. The office, at the time, was in a state of standstill, because we didn't have–again, I wasn't close enough to this, but I think we didn't have the budget to–we had the authorization, but we didn't have the construction budget. So we couldn't issue any contracts. So we had engineers galore sitting around. We hadn't done anything yet construction wise. At the time, we were going to construct Orme Dam, Buttes Dam, Charleston Dam, Hooker Dam. Hooker Dam was the most controversial because it was on the Gila River, upper Gila in New Mexico. None of those projects had any environmental studies. Maybe I should not make that so definite, because it's probably not exactly true. But in most people's eyes, naturalists, that's true.

We didn't know, for example, what fish lived, what wildlife lived, within the Hooker Dam dam site. The engineer that chose that site actually, Joe Croitz [phonetic] is his name, he and I would go out in the field and he'd show me. He said, "Well, I thought it should be here. I thought should be here. But we just chose here." There are planning studies, and the legislation that passed for the C-A-P really just was very general, as legislation can be. The planning studies were pretty general, although they had plans for the dam. We could draw lines and dams in any canyon. But we didn't have any environmental studies.

Environmental Assessments

Well, at the time, we didn't have to do any environmental assessment either. So now we were having to do environment assessment. We weren't exactly sure what we had to do. We had these five questions to answer, but as everybody thought at the time, you just answered them in a very general way. Just respond to them. Well, it turns out that we needed to answer them in a very specific way over the next ten, twelve years with public hearings and, as you know, there's a lot of effort that goes into it. There's a lot of growing. Bob Stewart and I were talking about this the other day, at the Department of Interior.

Storey: I know Bob.

LaBounty: And he worked on the Alaska Pipeline, so we were comparing stories. He was more involved with some of those things than I was, some of those things being the actual writing and putting the nuts and bolts together. I did some of that in the beginning, then it took a lot more people to do that for C-A-P. By then I'd gone to Denver in '74. So that's something I learned I didn't want to do. For one thing, I couldn't understand what they wanted in those questions, and neither did anybody else, actually, it turned out. But it was one of those things I didn't see much production coming out of it. You just parrotted a bunch of work that other people did. It didn't allow you to do anything creative on your own at all. I remained this creative person that had to use my mind to think of things, not just put pieces of puzzle together.

Just last week I was talking with a young lady out in Las Vegas about this very thing. She loves doing environmental statements. You know, in a nice way, without offending her, I tried to explain to her what my feeling was about that, still is. And she just was a total opposite type person. She liked putting these pieces of a puzzle together. She said, "It makes me feel good to put these . . ." But it takes all kinds. But I had, what I consider, a different kind of creative mind, one that liked to be the one to give the data to people to put in environmental statements, "Here, here's my report. Use it. I'm not telling you what effect it's going to have. I'm telling you what the facts are, what's there. If you'd like me to put that in as a management implication, I can do that." And I did. That's what I eventually got to do. I'm going off from your question, I realize.

Storey: You're doing great.

LaBounty: But Howard Cohen, the division chief, said to me, because he knew I had all this

great experience with environmental statements–I mean, I started from day one and earlier than anybody else in the Bureau, actually. But he said, "You will not write environmental statements, so don't take any jobs doing that. This division is support. We want to separate that." That was really wise. There's two things, pieces of advice I got from people I worked for that have served me well throughout Reclamation, and I think in some fields you need to consider it.

END SIDE 2, TAPE 2. JANUARY 19, 2000.
BEGIN SIDE 1, TAPE 3. JANUARY 19, 2000.

Storey: Tape three of an interview by Brit Storey with James F. LaBounty on the nineteenth of January, 2000. You were talking about the environmental statements.

LaBounty: Right. So Howard Cohen, the Division Chief, said, "We won't work on environmental statements here." That was wise, because that needed to be separated. The other piece of advice that I got was from a Regional Director we had. He's passed away. His name is Ed Lundberg. He was also project manager for Garrison [Project]. One night we were at dinner down in Phoenix, Phil Sharpen, he and I. And he said, "You know, I want you to always remember this." He says, "Never become one of us. Be able to stand back and look. The best help you can be is to not be, you know, totally"–I can't think of the exact words now. It's slipped my mind. But to be able to stand back and look at things objectively, rather than just being so blinded by the goal that has been set before us. He said it in such a way I can't remember right now, but it was never join us totally. Always be a little bit outside.

But, anyway, so you were asking me about the environmental studies, I guess, in Arizona, and I was going way off.

Storey: No, this is good. Don't worry about wandering on me.

LaBounty: Okay. Well, I need to be brought back to somewhere here. I mentioned the office was in a wait-and-see or just a standby mode, and I couldn't stand it. I mean, I couldn't come into work in the morning, go to coffee break at nine, trying to waste as much time, read the newspaper. But that's what people were expected to do, because they didn't have anything to do. I mean, that's the way offices are, I guess, construction offices are. So I said to my boss, who was Dave Creighton [phonetic], who's another great student of Reclamation and brilliant, brilliant mind, engineer. I worked for him for a number of years, and he actually headed up the Environmental Assessment Program and got so involved with the bald eagle controversy. I mean,

he joined that so strongly it almost destroyed the project. I shouldn't say it that harsh. He would be one to definitely talk to sometime, and he's still around down in Phoenix. He knows Arizona, that goes back to native-born Arizonan. He can fill in behind Larry Morton, the days behind Larry Morton, because he's the next generation.[8]

CAP Dam Site Studies

But, anyway, I worked for him and I said, "You know, Dave." And he was always very open. "There's some things that we can be doing. We don't know anything about some of these things."

And he said, "What needs to be done?"

I said, "Well, I've been talking to some of my colleagues at Arizona State and, for one thing, we ought to at least get an idea of what the environment is like in each of the dam sites."

He said, "Well, let's do that."

We talked to Phil Sharp. Phil Sharp thought that was a good idea, and I don't know if Wayne was involved in it, too. Probably. I don't know. Or who was. Herb Gunther [phonetic], one of the people that were there at the time. We wrote contracts. They were a couple of thousand dollars each for each of these professors to do one aspect of each of the dam sites. One was on the fish resources within each dam site. One was on the mammalian populations, and one was on the terrestrial. I don't remember exactly which one, but there was a report that they did for each of these things based upon what they knew was in each of these sites. One was on insects. Bob Omart [phonetic] did terrestrial. Wendell Minckley did the aquatic. Mont Cazier [phonetic], he did insects and invertebrates. Duncan Patton [phonetic] did the plants, actually. I mean, just for the record. But that set of reports, brief as they were, were the first definition of what the environment is like in each of the dam sites that the Bureau did. Maybe anywhere. I don't know. But certainly there, that project.

Well, from that, I thought, "Well, Dave, why don't I collect some more data?

8. Larry Morton participated in the Reclamation's oral history program. See, Larry D. Morton, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, during 1996 in the Phoenix Area Office, edited by Brit Allan Storey, www.usbr.gov/history/oralhist.html.

There's some holes in some of the data."

And he said, "What would you like to do?"

I said, "I'd like to buy some equipment and take one or two people with me and do a methodical study of each of these dam sites, at least the aquatic environment, just note some things. Go sit on a stump and notice it."

That's what I'd been great at. My philosophy in life about nature is you need to sit on a stump and look at it, and if you can't see it, it ain't there. Don't do statistics on something you can't see. You may see it with an instrument. You may see it with some kind of instrumentation or some kind of data that you've collected. But you need to see it in the data. And I call it stump sitting. It's very important, to me, in concept.

But I said, "At least let's do that." Let me go out quarterly to each of these dam sites. Orme is right here. I can hit Orme one day and then come back to the office. Then we can go to Buttes and Charleston, and we can hit those in another day and maybe stay overnight one night or two nights, and then we need to hit Hooker up in Gila [River], and that's a trip in itself. And I'd like to, maybe, buy a raft and float through some of these if we can.

Well, they all agreed to that. So I set up a program of monitoring. I bought a shocker so I could shock the fish, got permits where I needed them, helped train a couple of guys to help me. A guy named Mel Persons actually did most of the work. We had a raft, and we floated down through the Gila River through the Hooker dam site one time and collected fish. Actually, the surveys that we did on the fish are some of the only ones that were ever done before the fish populations became all destroyed by either man's impact, because it dried up, or because introduced species came in. Some of these fish were pretty unique to these, like other desert environments. So I published some stuff, one on the Gila River. Anyway, that's the kind of thing that we did and a few other things. But that was the kind of thing we did and before I came here. I got quite a bit accomplished in a short amount of time, I guess.

But then that turned out to be not good enough, because as the environmental movement within our agency and others went on, it was quickly learned that you had to do these very sophisticated studies. The game was, at that time, let's make these environmental statements as thick as we can. So I think the Alaska Pipeline was the end of that, because that epitomized the waste of paper for the sake of

making it very thick. I mean, it's volumes and covers like this. In C-A-P we were doing that. I remember, "Beef it up. Beef it up." That was the statement. "Beef that up a little bit." Well, I think, "God, there's no more I can say about it." "Beef it up. There's some more things. Say more about this and this and this." Typical planning mentality, you know, and I had that in a way. But, you know, planners like to beef it up and make their reports long. I suppose you snow them with bullshit. Pardon the French.

It became so apparent to everybody that there became limits, and that's what Bob Stewart and I were talking about the other day, finding that there's limits now to how many trees you need to destroy or something to do environmental statements. And I had long left it then. But I didn't enjoy that aspect of writing all these statements and word smithing things to death and taking other people's work.

Storey: The environmental movement began, I think it was what? About '64 was Wild and Scenic Rivers and then '66 was the Historic Preservation Act and '69 was NEPA [National Environmental Protection Act] and so on.[9]

LaBounty: Right.

Storey: How were the people in Reclamation reacting? What kinds of reactions were you running across? And when did you start in Boulder, and when did you start in Phoenix?

Reclamation's Reaction to the Environmental Movement

LaBounty: I started in Boulder City November 4, 1969.

Storey: '69, yes.

LaBounty: The environmental law was signed into law January 1, 1970. I went to Phoenix in the fall of 1970. I came to Denver in spring of '74. And the other part of your question? What was the Bureau's reaction to this? We had reacted to the Fish and Wildlife Coordination Act. That was really the big first environmental law of the fifties, '52 or '54. I don't remember exactly. Or '53. I may be wrong on that date. Maybe it's a few years later in the fifties. But it's in the fifties.

9. The National Historic Preservation Act was passed in 1966 (Act of October 15, 1966, Public Law 89-655, 80 Stat. 915). The Wild and Scenic Rivers Act was passed in 1968 (Act of October 2, 1968, Public Law 90-542, 82 Stat. 906). The National Environmental Protection Act was passed in 1969 (Act of January 1, 1907, Public Law 91-190, 83 Stat. 852).

That was the biggest single environmental law. I mean, it had the biggest single impact on the Bureau, in my estimation. And I think that others would say that, too. Because what that made us do was to work with Fish and Wildlife Service. Fish and Wildlife Service set up all these special offices called river basins offices. They now are called ecological services or something like that. I don't know. But they were river basins offices, and they were to work with the Corps of Engineers and the Bureau of Reclamation, the S-E-S, on this Fish and Wildlife Coordination Act. The word "mitigation" was a big deal in there. I mean, I learned the definition of mitigation. You know, it's a legal term. That really had an effect and it made us work together with them.

When the new law passed in 1970–now these other laws that came about, I don't recall them having the impact on the agency the same as that one. The [National Historic] Preservation Act, the engineers handled those, and I don't think anybody was pushing. I think there was a reaction, certainly, but I think it had to do, in every case, with specific legislation. For example, I believe, and I'm not sure, but I believe the Colorado Basins Act for the upper basin has a stipulation that a percent needs to be spent on historic preservation. You could know more than I. Then that's the way that was handled. It was handled law by law, I think, more. Where the Fish and Wildlife Coordination Act was, it didn't matter. No one had to write that into the law. It was a law of its own. I know these others were, too. But I don't know. The reaction was different. I remember it being there, and I remember the statement being made that, "Geez, I wish that we were as smart as the historians and the archaeologists, because what they did is they've made the law so that you write it in the budget. You actually budgeted for these items." All this other stuff, Fish and Wildlife Coordination was really not in any of the laws. It had to be written in the annual appropriations, which made it, you know, a little tougher. It's pretty soft money, where that Preservation Act money, that's a hard, fast rule. It's sort of like the airport, what percent of that had to go into art work and stuff like that. That's part of that same law, I guess, isn't it? Something like that.

Storey: Yes. But that's a G-S-A law, I think, the art work thing.

LaBounty: Well, but, you know, those kinds of laws give you hard money. I mean, it has to be a percent. People criticize that. But, you know, sometimes these things wouldn't get done at all.

Fish and Wildlife Coordination Act

But, anyway, the Fish and Wildlife Coordination Act, I think, was the big one, and

then January 1, when that law went into effect, the reaction was, well, to me, it was the Regional Director saying, through Al Jenez, my boss, saying–and he'd be the one to ask this question better than I, because he was closer to it. Have you talked him yet?

Storey: Who?

LaBounty: Al Jenez?

Storey: No.

LaBounty: Oh, you should.

Storey: Yes. He's been on my list for a long time.

LaBounty: He'll probably come to my retirement. He hired me, and he's a fountain of knowledge, before he forgets it and stuff. He just lives over here in Golden.

Storey: Yes. I know. He's part of our Westerner's group.

LaBounty: Oh, okay. He's a great guy. Have you seen him lately?

Storey: Oh, I saw him last month. When was that? The thirteenth or the fourteenth.

LaBounty: He's okay?

Storey: Yes. He seemed to be okay.

LaBounty: So, I mean, the reaction to me was, well, here's the law, answer these questions. So I remember sitting at a desk writing answers to these questions thinking, and I'm preparing a response to send to Washington. It was just for the regional director's signature. That was kind of the response. We didn't know what to do. So that was kind of our initial response. I mean, above me and beyond my understanding, and Al would understand this more than I, because I was not part of it, but the decisions must have been made in Washington that, look, this is a serious thing. You need to beef up your staff, and that's where the commissioner hired Woody Seaman. Then he, in turn, hired each of the regional environmental officers.

That was a big deal, I mean, to Reclamation. Each of these people were not accepted very well. Some of them never within the regions. I know the

relationships. I knew them all very, very well. I mean, we talked a lot. We were a very close group. John Peters was hired in Denver. I neglected to mention him. Hardly any of them were accepted real well within the agency's regional office. So the response wasn't taken real seriously. It was just another thing like the others, and something that we had to do. When we started spending all this money on paper and writing these documents, regions handled that, but they responded to it differently. Some felt it was just another part of the planning process, and they dealt with it that way. That's the best I can answer that, I guess.

Storey: You've answered it partially all ready. Do you have any stories about these folks and how they weren't accepted in the regions or how their acceptance was slow?

Reactions to Environmental Officers

LaBounty: Well, anecdotes.

Storey: Yes.

LaBounty: There was always a lot of mumbling. I missed Salt Lake City, and Harold Serzlin [phonetic] was the regional officer there. That was the one I didn't mention.

Storey: I remember Serzlin.

LaBounty: Yes. He's still around. Each of them were outsiders. This agency has a habit. We have the habit of accepting people that grew up within the organization a lot better than we do–we have a habit of accepting higher level people from the outside versus those who grew up in the agency. I think that's probably true of most agencies, maybe organizations. But Reclamation's real hard on the people that come in from the outside in general. I think that's kind of a general thing. Well, when you're bringing a former Fish and Wildlife Service person, who has a hard time not mentioning every other sentence, "Well, when we were in the Fish and Wildlife Service, we did it this way." I mean, that's a natural thing for a person to do, too, and it's really not good. But that offends and it keeps this division.

Right now off the top of my head, I can't think of an anecdote. I know there are plenty out there, and I'll think about some. But I know in general there was a lot of mumbling, and some of them it almost killed them. Like Bruce Kinsey [phonetic] in Sacramento, he was just miserable, because it was a very active region with a lot

going on, a lot of construction and a lot of planning. I mean, Auburn [Dam][10] and all this other stuff going on at the time. I know that I didn't particularly feel it. Like I said, I didn't like it when I was working in Boulder City, because I felt like I wore a black hat to outside agencies, and yet in my own agency I wasn't quite sure whether they accepted me either. So it was sort of I felt like I was being used.

People like Al Jenez helped an awful lot. Al has real thick skin, and he just was like a bull. He got in there and did what was right. He couldn't get hurt. You couldn't hurt him. They couldn't hurt him. He would just, frankly, point out this is the way it is. So he probably was able to withstand all that. Some of the others had a more sensitive personality and it would be a hurtful thing. Like Lee Denson in Billings, he had a hard time. He was different anyway. He was a big game hunter and very much conservationist and belonged to a lot of organizations, hunting organizations. And I think that his whole career there he was put in a side room, so to speak. Then there was others. In Boulder City, I think Boulder City was always a step ahead of everybody else. Phil Sharp came in and Phil had a great personality. He incorporated himself in with the engineers to work with them, and Al had already set the stage for that. So, you know, I think that's really what helped.

I mean, I know from my own experience in 1981 I went to China. I was [part of] the first technical group to go to China after we reestablished relationships with China. They sent the commissioner and the head of the T-V-A [Tennessee Valley Authority] and the Corps of Engineers. Those heads had all gone there at a high level, political level, and established an agreement with China that we would send over a delegation of technical people to help them, advise, in the Three Gorge Project and one at Urton [phonetic], also, project. Well, I was one of the ones sent first in a group of ten. There was one economist, Sam Kennedy, and myself, and eight engineers. So we were there seven weeks–almost seven weeks, not quite–and living and sleeping together and eating together.

That was a good learning experience for me, although by then I was pretty well thick skinned myself. But it was a good test, because here we were sent to an area. You're on your own. You're with these engineers. One of them is a strong construction engineer, Rod Summerday [phonetic]. Another one's a strong planning engineer, Billy Mandershied [phonetic], and a group of others, engineers, Bob

10. Auburn Dam was planned as centerpiece of Auburn-Folsom South Unit of the Central Valley Project. Reclamation proposed constructing a multipurpose facility on the American River east of Sacramento, California. Auburn Dam was one of the projects targeted by so-called Carter hit list and was never built. For more information, see Jedediah S. Rogers, "Auburn Dam, Auburn Folsom Unit, American River Division, Central Valley Project," Denver: Bureau of Reclamation History Program, 2013, www.usbr.gov/history/projhist.html.

Strand and Bernard Peters, who were more specific in their field from Denver here and some others.

I was an outsider there, and they'd kind of chuckle about it. But they would accept me, you know, and it was my job to use my personal skills to educate them, as they were educating me at the same time. I mean, I was learning, too. I always felt like I got a degree in engineering by working here. I may not be able to take T-squares and put things together like an engineer does, but I feel like through all these experiences in all these offices, with the planners, with the construction people, and all these foreign assignments I've been on, that I really have–I know I've gained an acceptance with engineers, but certainly they've taught me an awful lot, and I feel like I'm an engineer in some ways. So in a way I did join them. But specific anecdotes, I think it would depend on–

Storey: Well, our time is about up today, but I'd like to ask you whether it's all right for researchers inside and outside Reclamation to use the information on these tapes and the resulting transcripts?

LaBounty: Yes, it is. Yes, it is.

Storey: Great. Thank you very much.

END SIDE 1, TAPE 3. JANUARY 19, 2000.
BEGIN SIDE 1, TAPE 1. JANUARY 21, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing James F. LaBounty on January 21, 2000, at about eight o'clock in the morning, in his office in Building 56 on the Denver Federal Center. This is tape one.

Last time we had talked about the Fish and Wildlife Coordination Act, and I believe you were talking about some of the field work you had done back when you were still at Boulder City in that earliest job.

LaBounty: In Phoenix, maybe.

Storey: Might be.

LaBounty: I'm not sure exactly where we stopped, to be honest with you. I mentioned about the Fish and Wildlife Coordination Act being the act that had, I thought, more–we

reacted to in a stronger way because it seemed to have more teeth.

Storey: It was affecting us.

LaBounty: Yes. It was affecting us. And I mentioned until that point we didn't look at reservoirs for recreation except in the legislation. It helped justify a reservoir.

Thunderbird Reservoir

There's a funny story. One time when I was in Oklahoma at Thunderbird Reservoir, which is a Bureau reservoir we turned over for municipal water use for the city of Norman. I was down there, we were considering doing some aeration research, meaning that the lake–research is geared around trying to destratify the lake, because as it sets up stratification at the bottom layers, you have an anaerobic zone, no oxygen in the water, and that causes hydrogen sulfide, which we all are aware of, and other things to dissolve. The chemical conditions are just right for that.

When that's delivered into people's water taps, of course, it's black, stinky water. We've heard of situations like that, and that's what was happening. Actually, I think they had put in an aeration system, which means simply they're bubbling air into–in that particular case, they were bubbling air into the water, and that helped to stratify the reservoir and keep the oxygen in the water, which was the key to it.

But we were considering doing this. The sufficiency of aeration is very low. It's 1 or 2 percent of energy transfer. So the engineers were constantly trying to increase that, because it's costly for power to operate some of these systems. So there's all sorts of schemes out there. I mean, there was inventors at every university, it seemed like, especially in Oklahoma. Well, we were looking at some of the ones that were out there that were kind of the classical diffused air. There's two stories here I'm telling, but one will lead to another, I think.

Storey: Okay.

LaBounty: So I was with an engineer from the Bureau, and we stopped to pick up the project manager, who was a large Oklahoma man with a very deep Southern accent and strong-willed, strong engineer. I always have been able pretty much to be perceptive of personalities and gauge how I should not maybe insult them, and what it would take to really set him off. In other words, don't bait him unless you feel you can win.

In this particular case, I got in the back seat and he and the engineer were talking in the front seat, and he finally turned to me and he said, "And you, what do you do for the Bureau of Reclamation?"

I said, "Well, I'm a biologist."

He said, "Hmm. Well," he says, "I want you to know one thing and I want you to know it straight. If this reservoir has any fish in it, fine. If it doesn't, fine. It's built here for drinking, and I don't want anybody mucking around with any other ideas. Got it straight?" And that was the end of that. He made it clear.

Storey: He was the Bureau of Reclamation's Project Engineer?

LaBounty: No. He was a district engineer for that reservoir. See, we had turned that reservoir–

Storey: He was the municipal employee.

LaBounty: Right. We had turned the reservoir over to the local people, so he was the local person.

Storey: For operation and maintenance.

LaBounty: Right.

Storey: We still own it.

LaBounty: We still own Thunderbird?

Storey: Yes.

LaBounty: Okay.

Storey: I believe so.

LaBounty: I'm almost sure it was Thunderbird, but it was one of those. I think it was Thunderbird. Well, we were out down there, actually, to go over to Arbuckle, which is another interesting story.[11] There was a group out of Oklahoma State

11. The Arbuckle Project regulates flow of Rock Creek, a tributary of the Washita River in south-central Oklahoma. The project furnishes new or supplemental water supplies to Davis and Wynnewood, Oklahoma, and to a (continued...)

University, of engineers that were trying to find new methods of aeration, and there was all sorts of schemes out there. This guy had a scheme of you build a raft and you put a motor on top of the raft, put it in the middle of the lake that needs aeration, and you put an airplane propeller underneath it in the water, underneath the raft, so the motor turns the airplane propeller, and you put a shield over that, I guess you'd call it, and that pushes the water down and around.

Well, the concept's pretty neat, actually, but he was an engineer, so he didn't understand exactly the biology of some of these things. Also, he was one of these real inventors that might be pretty focused. Well, it turns out the first time he tried this was on a little lake named Ham Lake, which is a private lake. He turned it on. I mentioned that the lakes became anaerobic in the summertime, Oklahoma big time. And this little Ham Lake was that way, and so the top layer of water, what we call the epilemnion, has plenty of oxygen in it. There was a commercial fish farmer growing catfish in cages, so he had all these cages all over this small lake. I don't know what it was, maybe a thirty-acre lake, forty-acre lake, something like that. Not too big. So this guy came in with his aeration device, and he had it all ready to go in August, turned it on, stirred up all that water without oxygen, with hydrogen sulfite, killed every fish in that guy's cages. So he wasn't very happy. So that was his first faux pas.

Arbuckle Reservoir

But then we funded his research, with the idea maybe to get over to Arbuckle Reservoir, which is Bureau of Reclamation, in my estimation maybe the second prettiest reservoir that Reclamation has, outside of Jackson Lake, I think. It's amazing how many people don't even know that's a reservoir. Just like Jackson Lake and it's beautiful. But anyway, it has its own problems, too.

So we had problems with aeration, with stratification problems, so we gave him money to build a big raft, I mean maybe, oh, I would say at least ten feet by ten feet, stout, designed by an engineer. Put this big airplane propeller underneath it with a shield over it. And, of course, then what do you do for power? Well, he ran cables out to it and he had to tether it, because they have some wind down there. So he had tethering cables and they had to be loose because the reservoir fluctuates, and

11. (...continued)
major oil refinery near Wynnewood. Sulphur, Oklahoma, also has a project water supply entitlement; however, conveyance facilities have not been constructed to serve that city. The project provides substantial flood control, fish and wildlife, and recreation benefits. For more information, see Christopher J. McCune, "Arbuckle Project," Denver: Bureau of Reclamation History Program, 2002, www.usbr.gov/history/projhist.html.

he had cables for power going out to it.

Well, they put it out there and it was operating. Finally, they got to the point where they'd go away for the weekend or whatever, and then come back and check it the next week. Well, we'd heard that what had happened was, for whatever reason, in not calculating that instead of the airplane propeller turning, the raft started turning and spent days turning around on top, tangling all the wires up in it. So they had to take a boat there and go out there and spend days going around the raft, twisting it back, to untangle it. So I don't know, we've gotten involved in some of these kinds of strange research efforts. I don't remember how this all started out with what I was talking about.

Storey: You were talking about stratification at Lake Thunderbird.

LaBounty: Lake Thunderbird, yes. I was trying to make the point that our mission was to reclaim, as we know, reclaim the West, reclaim the water resources in the West, and there wasn't much regard for the environmental values. In fact, we thought we were improving the environmental values, and, of course, depends upon your philosophy. We were improving the environmental values. We were making the place livable.

But somewhere along the line, that philosophy, as you get more people, the philosophy changed, so that instead of totally helping the environmental values, we were accused of harming some environmental values, the natural environment. So the Fish and Wildlife Coordination Act was really one that was passed so that game fishes and wildlife values related to hunting, because an economist can put values on them, it's always been difficult, if not impossible, to really put a value on a non-game species. But it's been done, and I know there's a lot of studies out there, but in the fifties that's what we came up with. So they did, they put values. The law stated we had to mitigate any kind of losses that occurred due to one of our projects.

Colorado Front Work and Levee System

The one I spent more time on with that subject was the Colorado Frontwork and Levee System, and it's still around, I think. I know it is. It's a law, and it's for us to do improvements for water delivery in lower Colorado River. It's a law. At times we had a large budget. Our Yuma Project Office was pretty heavily funded by that activity, and each annual construction budget under that was–it was an O&M budget, but it was really construction, O&M construction, and we dredged a lot of the river.

Just recently I was looking through some old notes, and back in 1969–1970 I went to a meeting where the person that worked for the Fish and Game Department, his name is Bud Bristow [phonetic], he eventually became Director of Arizona Fish and Game–he was giving a report to the Arizona Wildlife Federation on the status of how things were going regarding attaining some mitigation features for the Colorado Frontwork and Levee System for the dredging of the lower Colorado River. I mean, they claimed–and maybe it's true, maybe it's not–that the Bureau's intent was to straighten the river from all the way from below Davis Dam, through the Mohave Division, and then again below Parker Dam all the way down to the Mexican border. And, in fact, we did have plans to do that division by division. The river there is broken up into divisions. The Mohave Division is right below Davis Dam, and then the Parker Division and the Topock Division. The Topock-Parker, something like that. Parker is below Parker Dam.

But anyway, before that law came into really effect, I think, and I don't know the days, even, I mean the timing, but we had completed our work on the Mohave Division. If you see the Mohave Division, in other words, in the area of Laughlin now, Laughlin, Nevada, and that area, Bullhead City, Arizona, it is a channel river, totally channeled. Then it gets into Topock Gorge, which we helped actually save, because we put an inlet and outlet and allowed it to freshen rather than turn into a salty swamp.

But, anyway, Buddy Bristow was reporting on the status by division by division, and he said about the Mohave Division it was too late. We didn't get in there in time, so nothing's happened. But at that particular time, they were working with Parker Division heavily, and mitigation features consisted of replacing perhaps wildlife habitat, mostly loss of wildlife habitat, because if you dredge the river, there's a lot of marshland along the river, backwaters that dry up. Of course, that was our intent, to stop the evaporation and move the water faster. So we constructed a lot of backwater. We dredged the river, and then they put together their plan for our dredges, to mitigate the losses, and they usually included dredging out some of the backwaters. So there's backwaters called C-2, A-7.

Probably the biggest event during that time was the Cibola cut, where the river took an actual large horseshoe turn, and we just cut a line straight between the shortest route and dredged dry land and then opened that sucker up and let her go. For weeks after, maybe months, they saw silty water down in the Imperial Irrigation District because of that. Of course, that's very devastating to the ecology of the river, the aquatic ecology.

What's kind of amazing, I went back in, I think it was '86, and I took a tour of the river by boat from Davis Dam all the way to the Mexican border. I was able to go back after fifteen years and look at what these areas were like that we had worked on these mitigation plans and then this construction, and I was very, very amazed and impressed at how they had come back. Nature will kind of take care of itself. Of course, the river is not the way it used to be before the dams, and you're not ever going to have that. You have to manage it from top to bottom, in my opinion, and I think we're finding that to be true. But those backwaters were marvelous habitat for fishing and all sorts of birds and wildlife, and the dredged parts of the river were doing pretty well as far as aquatic habitat. We did some studies on the Parker Division to evaluate that.

So, you know, we didn't intend, I guess, to help nature along there, but we probably did, because the river really was just a big braided channel. In places you could walk across it and not get your ankles wet when there was a lot of water running down. I mean, maybe not that extreme, but it would move around within this flood plain. The Colorado needed a lot of work. That program doesn't exist the way it did anymore as far as dredging. We still use our dredges some, but–I mean, maybe I'm going on too much about this.

Storey: No.

LaBounty: Mittry Lake was another one that we did a dredging for wildlife. It's down north of Yuma. Our dredges, instead of dredging soil, they spent, oh, gee, I'll bet six, eight months dredging cattails to try and make open channels for fishermen. I would imagine it's a very pretty spot now to go to, and the fish were largemouth bass. I don't know, I haven't been down in that area for a long time.

But the only areas that we left alone totally was the Imperial Division, which is near Imperial Dam. We did a lot in the Yuma Division, around Yuma. I'm trying to think, right above the Imperial Division there's one more that we didn't do a lot of work with. Work kind of just stopped. I suppose funding became cut off.

The Fish and Wildlife Coordination Act caused that change in diversion of our activities from straight engineering. I suppose, well, we riprapped the river. We'd channelize it and then we'd armor it. We put rip-rap along the sides, and it was to get the water down to Yuma as fast as we could, Imperial, to control it, part of the master scheme perhaps.

Storey: What kind of changes did that cause biologically, or did we do any studies in that

direction?

Biological Studies along the Lower Colorado River

LaBounty: Yes, we did. We did a lot of studies. First, you have to understand the river. Once the dams were put up, the river changed environmentally. I mean, you had these large river fishes, which are the razorback sucker and what used to be called the squaw fish–now it's called the pike minnow for social reasons. Those fish lived in the river and they could exist in the silty conditions. They had their offspring rapidly. They had offspring in the springtime when the back water, shallow back water areas had water in them. The offspring would grow very rapidly, because these back waters were pretty productive. And then as they'd fill in the next flood, then a certain amount of them would get back in the river. That's they way they existed and evolved. So by putting the reservoirs in, we changed that.

There's a remnant population of razorback sucker in Lake Mohave and some in Lake Mead, actually. The ones that are in Lake Mohave, until recently, when they restocked some of them are larger sized, were all fish that were there when Davis Dam was constructed. So they're old. I mean, they're geriatric fish, is what they are, but there's been long-term studies that have gone on to try and save that species. Tom Burke [phonetic] out of Boulder City has been very instrumental in that.

So we changed the river then to these pulsating flows where it's scoured and it dropped all the sediment load. Then it's scoured again and it moved the river channel and these fish lived in there. And you had the mesquite bosques growing on the very sides, and cottonwood forests in some cases. Depends if they could withstand all the flooding. That's what the river was like. Then when the dams went in, this, of course, slowed the river down quite a bit. You had sediment moving from one different place to a different place than it did before, and the dynamics are incredible, engineering dynamics of all that. But that changed the river ecologically.

The river itself is not what you'd call a sportsman's paradise for fishing. It has been for wildlife. It was a major flyway for migratory species, and, of course, like all others, it's not so much anymore. But we did some things that we didn't realize we were doing in helping wildlife, and we're accused of destroying them instead, and studies that we did taught us differently. Maybe I didn't say that clearly, but Wayne Deason really was responsible for one of the studies on the Yuma clapper rail. It's a very secretive bird that lives in marshland, especially down in Yuma. You know about that?

Storey: I know about Yuma clapper rails.

Yuma Clapper Rails

LaBounty: Yes. I mean, we defended–not defended. We just sat and were abused by agencies for destroying the Yuma clapper rail habitat with our dredging program and with our management program of operations on the lower river.

Well, we did some studies through some people at Arizona State, and there's a publication that Wayne and Bob Omar [phonetic] did on this, actually, to show that we actually, by the dams and the way the system is, actually created more of their particular type of marsh habitat that they prefer, and the populations have actually increased due to Bureau operations.

We didn't intend to do that, and there's other cases where we didn't do it so good, but that was one of the cases. It's people pointing fingers and people saying things without data. It's the worse thing that can happen. It's the worse thing we can do. As a researcher, I just am appalled at that sort of thing. If you don't have the data, I'm going to listen to it. And the fact that I didn't know quite as much and couldn't be as outspoken as that, at least. So it was a hard agency to work for, to sit on the fence with. But, anyway, that's just some of the lower Colorado River stuff.

Storey: What about the other direction, where we had situations where things did become worse ecologically?

Ecological Damage

LaBounty: Well, you can point mostly to terrestrial, and we studied that, too. It isn't just the Bureau. When humans move around, they introduce the plants that they like where they're at. That's why in Phoenix you see Midwestern trees and stuff. They don't belong there. Well, this started a long time ago. A guy named Father Kino[12] brought in an exotic tree called salt cedar from the Mideast, thought it would provide good shade. Of course, in those times you can't blame anybody, because that's the difference in philosophy.

It's sort of like any of the old pioneers. If you look up John Wesley Powell, he actually planned a lot of dam sites, but he's considered one of the greatest

12. Father Eusebio Kino was a Spanish missionary who traveled throughout northern Sonara, Mexico, southern Arizona, and Baja California from 1687 until his death in 1711. See "Eusebio Francisco Kino," http://www.encyclopedia.com (Accessed 8/2016).

conservationists of all time. But if he were living today and did what he did then, he'd be pretty well criticized for his lack of conservation in a lot of areas. And it doesn't mean that he wouldn't have adjusted to our times. He probably would have. But his thinking then was like all of human thinking in that putting a dam isn't a bad thing, because we've got so much in this country. You know what I mean? So, you know, you can't blame people in the past. It's like the mining industry. We're real quick to say, "Look what those people did to this. They just destroyed this area." But, you know, that's what we did in those days. We didn't know better. I mean, you can't look back at what we did and we didn't do it. Somebody else did and they didn't know.

But, anyway, by putting the dams in and by slowing the river down, we, as humans, we introduced a lot of species. We created a lot of habitat that was ideal for species like salt cedar, and salt cedar on the lower Colorado and the Pecos River and the Rio Grande and even up into the Canadian border now, not so much up there, it grows up there, but it's just taken over, and it's a mono culture. It has really no good wildlife value.

Now, the minute I say that, I'll say that this was what we thought. Recently in the last few years, even, we've learned that it is a habitat for the willow flycatcher, which is an endangered species of bird that does live in there, and the biologists are busy studying it. So it's kind of ironic how things change. A few things during my career, we've turned totally around where we're doing something black and we turned it to white. Now we're doing white. One is, and I still can't get used to it, is salt cedar. Salt cedar was the scourge of the earth to Reclamation because it's called a phreatophyte. It used water like make mad, sucked it right out of the soil, and it was a scourge to wildlife managers because it replaced more valuable mesquite and arrow weed, which are also somewhat phreatophytic vegetation, but they had great wildlife value.

Habitat Restoration

So one of the things I worked on was to take these aerial photos of the total lower Colorado River and work with the Fish and Game to mark up areas of vegetation removal. In other words, what we were going to do was to rid that area of salt cedar and replace it with the native vegetation for wildlife values. I mean, our goal was to save water. I mean, there were calculations how much water we're going to save. Their goal was to provide better wildlife habitat. "Well, we can have our cake and eat it, too." I mean, this is hundreds of thousands of acres of land on the lower Colorado River.

The program actually got done by farmers, because they cleared the land to farm it. It's not all done, but it never was done. We did a lot of studies to try and determine what the best wildlife habitat was. Arizona State [University] did a lot of study. We paid them a lot of money to study even the reptiles and the snakes and the lizards in the area to find out what's best, plus the birds and the mammals, insects, all those things, to learn what's ideal habitat, what's the most optimum habitat for all concerned. Some of that still goes on a bit, but–I forgot where I was going with this.

Storey: I had asked you where the opposite had happened.

LaBounty: Where the opposite had happened.

Storey: You're talking about the research Larry White's been doing on willow flycatcher.

Willow Flycatcher

LaBounty: Yes, Larry's been doing a lot of that research. I guess I was trying to make the point that here I spent a good deal of my time with the Fish and Game working on getting rid of all the saltcedar that we can. When I came here to Denver, one of the groups under me is the Aquatic Pest Management Group, which their goal was to find new methods that were safe and effective, slowly moving vegetation from Bureau facilities. That included canals where weeds grow, and you have to pass water from Point A to Point B in an efficient manner, and if there's weeds they slow it down, and the weeds grow very fast and these are all introduced species, also. You can't use just any herbicide because it would kill the lettuce crop downstream. But saltcedar is a big deal, always has been. Long before me, saltcedar here in Denver, studies of it, were big time to get rid of it.

Well, now we turn around and we have groups actually studying how to protect areas of salt cedar for the sake of the endangered species. You mentioned Larry White's studies. So I, in my mind, have a hard time philosophically accepting this. But I have a philosophy, too. I'm not so interested in saving that particular species. I am the habitat and the species. What was that species' native habitat? Then recreate that some way and save them both. Now, I realize there's a law out there, Endangered Species Act. The philosophy doesn't get into that, and so the idea is, and many would argue with me, saying we need to save the species first and then we're doing the other. And that's probably true. But it's hard for me to adjust.

Sacramento-San Joaquin Delta Striped Bass

Another case like that is the striped bass in California. When we started our work in California in the mid-sixties with the Mid-Pacific Region on the Delta, Sacramento-San Joaquin Delta, the first thing that we were doing was working on the eggs and larva of striped bass. Striped bass is a species that was introduced from the Chesapeake Bay, turn of the century, into the Sacramento-San Joaquin Delta. Its habits, it lives out in the sea and then it goes upstream to spawn.

Storey: Similar to anadromous fish?

LaBounty: Anadromous, yes. Goes upstream to spawn, and its eggs actually–

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BEGIN SIDE 2, TAPE 1. JANUARY 21, 2000.

Storey: The eggs float downstream.

LaBounty: So the eggs float downstream and turn into larva as they're floating downstream. By the time the eggs reach the slow-moving water of the inner bay estuaries above San Francisco Bay, they're larva large enough that they start feeding on the species that are there.

Well, it's a pretty unique situation. Of course, striped bass are quite adaptive, and the striped bass fishery in California in the past has been just tremendous, both commercially and sports fishing, especially sports fishing. But it had declined over the years, and Fish and Game had spent a lot of money. They had a whole staff of people working on the striped bass problem, the problem being that if you drew an X-Y graph with a scale of 100, on the Y axis you'd have populations in the sixties that are at 100 and in the seventies at 50 and in the eighties down to one. I mean, it was that dramatic. Those aren't facts that I'm quoting, but I know generally it's pretty much like that. Where it's like 1 percent of 2 percent or 3 or 5 percent at the most of the population left.

So, why? Well, contaminants in the system. Pumping operations. That was the biggest thing. Our Tracy pumps, the biggest culprit, other pumps, too, like some of the municipal pumps–I'm trying to think–along the river, and their operation facilities like Shasta [Dam] and all the way up that far.

Anyway, we were called out to do some studies on these egg and larval fish in the mid-sixties, and Charles Liston went out to do that. That started a whole large program. Everything wrapped around these striped bass, you understand. They

even have a big seminar every year at Asimilar in March near Carmel at Pacific Grove near Monterey, and there's a couple hundred people that attend this seminar, this workshop, two- or three-day workshop, and it was focused on striped bass. I mean, other things, too, but mostly striped bass.

Well, then about in, I don't know the exact year, but I would say '92-'93, all of a sudden this started turning around. Now, I mean, to make a long story not quite as long, striped bass are considered the villain, because now we're into saving the native species that are out there. The Fish and Game is bent on that. That's where the money is, I guess. But, I mean, all this time of studying striped bass, to me, there was little or no mention of the native trout that lived in there, the salmon, that also went upstream. Now, there have been a lot of efforts, at Red Bluff in particular, and other places, to try and help that species, because it was also declining.

We have the unique situation there. It's the only situation where you have four runs based on season of salmon in a year–winter, fall, spring and summer. A couple of those runs are endangered. But that was never really talked about in these lower Delta investigations. I mean, millions of dollars were spent on meetings, like you have to have in California, and investigations and more meetings and papers on the striped bass, and now there is no activity that I know of on striped bass. Nothing. And I'm still kind of shaking my head saying, "Well, what happened there?"

It's amazing. I guess, if you wait around long enough, things will change, but then they turn just the opposite on you, like in the saltcedar and striped bass. Here's a plant. Here's an animal. We totally turned our–now, this always makes it kind of tough as a biologist when you're sitting with some peer engineers and they know the story like this, or at least bits and pieces of it, to try and explain, "Now, you biologists, what the hell's going on here? I mean, first you want to save the species. Now you don't want to save the species. You had to spend all this money, and now you don't care about the species. Why can't you make up your mind?"

And there's truth to that. I mean, I wonder, too. But all of it hinges around having the right amount of information on the total environment. If you're a true ecologist, you want to understand the total environment, the habitat, all the species within it, and we don't often get a chance to do that. But when we do that, then we'll understand and make a better decision. When we're focused on the economics on striped bass, we don't care about some of the other smaller native species that live out there. I mean, that isn't our concern. Now, the law caused a change and created a lot of money available to study it. Well, then people jump on the bandwagon and

study that. So that's not a good ecological approach. But, anyway, that's just a couple of strange examples.

Storey: Any more examples?

Lake Mead Fisheries

LaBounty: Oh, there's lots of them like that. Where we changed from one side to another? Well, I have to think about that. Yes, there's another good one of how resource managers, environmental resource managers have kind of done an about-face. Lake Mead was created, constructed and created, as a reservoir that had a worldwide renowned reputation as a black bass fishery. They had bass tournaments there, and it was considered one of the best in the world. Part of that's because it was a new reservoir, and before Powell came in you had a lot of the nutrients that were going right into Lake Mead and they would create this healthy food chain, very fat, healthy food chain. That changed when Powell went in, to some degree. In fact, at that point–

Storey: It changes when?

LaBounty: Well, when Powell began operation. It became the reservoir.

Storey: Oh, Lake Powell.

Storey: Yes. Glen Canyon and Lake Powell trapped all the nutrients from getting down into Lake Mead. So it becomes a better fishery than Lake Mead. Well, when that happened, the fish and game agencies were looking, "Well, now, what can we do? There must be something we can put in this lake to make it better."

Storey: Now, just clarification. If I'm remembering correctly from my fishing days, there are two major bass species that are freshwater species: largemouth and black bass. Is that right?

LaBounty: Same thing. Largemouth and black bass are the same thing. So, interchangeably. I'm not sure which is the official name. It's not a true bass, by the way. It's actually a sunfish.

Storey: Is it largemouth and smallmouth?

LaBounty: The smallmouth is a different species. And there aren't smallmouth down there.

Smallmouth live in colder water, a little different kind of water.

Storey: I didn't mean to interrupt your story.

LaBounty: No, no. That's okay. But black bass, largemouth bass, that's with Lake Mead. And me growing up in Las Vegas, I used to go out and sit in the coves and just have a ball catching these bass. They're wonderful fish, and there are still a lot of groups that are purists that will only fish for black bass or largemouth bass. They go around and have fishing tournaments. I mean, they are a purist bunch. They hate anything else.

In all of our wisdom as managers–and I won't take it personally because I didn't decide this, but I was part of it–we decided, "How can we improve this?" We've heard of two-story fisheries and Lake Mead kind of fits that. Two-story fisheries means you've got warm water on the surface, cold water down below that. You know that a black bass is a warm water species. You don't find it in Alaska, for example, in the lakes there so much. What do you find there? You find trout and salmon. So that's a cold water species. So you put a cold water species down below and a warm water species up above. Well, it's a good concept. Works in some areas pretty good. I'm not a big fan of it, but it does work. I mean, you've got certain niches within the lake if you can fill them, and certain niches within a food chain that you need to fill, maybe, if you're going to manage it properly. But you need to do it very carefully with all the knowledge available.

But, anyway, someone put some rainbow trout in Lake Mead. And, lo and behold, right above Hoover Dam at the deepest levels, 200 or 300 feet deep, they began catching trophy rainbow trout. These fish were growing two to three inches a month. And, of course, this is great. I mean, we'd already had a good rainbow trout fishery below Hoover Dam in Lake Mohave. I mean, in fact, one of the record rainbow trout size is mounted on the wall at Katherine Landing. I think it's like twenty-four, twenty-six pounds, something like that. So that tail waters of Hoover provided a tremendous game fishery out there. Talk about change from what it was to what it is, you know, and it still is a pretty good one, but again here's where things–well, that wasn't good enough.

Lake Mead Fish Hatchery

Well, to finish that story, I was working in Boulder City and Phoenix at the time when this concept was thought of. So the Fish and Game said, "Well, you know, this is such a great idea, let's build a fish hatchery on the shore of Lake Mead for

rainbow trout, to stock them." Because you've got to stock them. They're not going to reproduce anywhere. There's nowhere they can reproduce, habitat. They have to go upstream and there's really no where to go. Okay. Well, then we at the Bureau said, "Well, that's a good idea. We'll give you a bunch of money for that."

So we gave them some money, and I don't know who else did. The state of Nevada, of course, put in a big–Fish and Wildlife Service. B-L-M [Bureau of Land Management] probably. I don't know who all. National Park Service, probably. We all divvied up and built this fish hatchery on the shore of Lake Mead, which is still there. It's right near where the pumping plant is, the Merritt Pumping Plant is for the Southern Nevada Water Project or the Southern Nevada Water System of the Southern Nevada Water Authority. It's still there next to it. So we put that fish hatchery in there. Now we're stocking fish in Lake Mead.

Storey: Was it Reclamation's idea to put in the trout, or somebody else's?

LaBounty: It's Fish and Game's. We didn't come up with those ideas.

Storey: Nevada?

LaBounty: Yes. Nevada. Maybe Arizona. They probably did it together. Now, the Bureau, we didn't have the talent to come up with those kinds of things, and that wasn't our job at all.

Storey: So they put in the fish hatchery?

LaBounty: And it's a state fish hatchery. It's a state of Nevada fish hatchery. As you drive out to Lake Mead from Las Vegas along Lake Shore Drive there, it sits there before you get to the Lake Mead Marina, if you know where that is.

Storey: I've never done that particular drive. I go straight out and straight back from Las Vegas.

LaBounty: As you're coming down the hill going to Hoover Dam, you look out to the left down to the lake, that's where it is, somewhere in there.

Introducing Striped Bass into Lake Mead

But, anyway, that wasn't good enough. Someone came up with the idea, and, again, someone being the resource management agencies, that "The striped bass

seemed to be working out pretty good in some areas. Let's see if they'll work." So they introduced striped bass. Well, I mean, this happened in–I don't know the exact year, but I will say–and I could find out, but I would say in the late seventies, early eighties. Early eighties probably. The fish hatchery was built in the mid-seventies, the rainbow trout fish hatchery. So we had this black bass fishery. Now we've got this two-story fishery that's working pretty good. Certainly it's working at Mohave, because you even had a federal fish hatchery, still have, down at Willow Beach on Mohave. It's a federal Fish and Wildlife Service fish hatchery intended for rainbow trout, and we operate Hoover Dam to that benefit. We mix the water so they get the right temperature for the fish hatchery.

Well, anyway, the idea of striped bass. I just mentioned what people thought of striped bass now, today, in California, but there was a time when striped bass was the flavor-of-the-month-type fish. It grows fast. It tastes like candy. And it's true, it is. It's a very good eating fish. Fights like mad. Great fighting fish. Oh, it has all that and it occupies a fairly open niche, that being the pelagic zone, which is the open water area of a lake. Where the black bass operate more on the shallows, the largemouth bass, the shallow coves, and the rainbow trout down below.

Well, that seemed, by theory, to be a pretty good idea. You put those fish in, you've got a pelagic fish. And you had a lot of these thread fin shad, which are a fish that they eat, these black bass. Well, all three of those species are carnivorous. I mean, they're all top carnivores. They'll eat each other, if they can. In fact, that's what happened. The striped bass fishery just took off, just went bananas. I went out there fishing during those days, and, I mean, you'd think nothing of catching thirty- or forty-five-pound-plus striped bass in just the morning. It was just so easy to catch them. They'd be in–and they still are to a degree–in these great, big boils of fish. They were chasing these shads, which are schooling fish. They, themselves, are schooling fish, and all of a sudden they'd catch them and it would just be a ruckus, and it'd be a boil six inches above the water of these fish, and it would be maybe an acre of fish. Fisherman would run to their boats as fast as they could, throw a lure in the middle and get as many as you can that way. That would be one way to catch them. There'd be other ways, too. They lived in the deep areas. They lived in the deep areas. Yes, they can live in both stories of the reservoir.

So now what we ended up doing was these guys would tell me at the fish hatchery that they would load their boat up with rainbow trout, go out to stock the lake, and as they do they kind of trail them out, dump them. As they were dumping them, these striped bass are coming right behind [eating sounds], just eating them as fast as they can. So they just really chummed for the bass, striped bass.

Now, the same thing is happened in Mohave now. You've got a replacement of this really good fishery, tail water fishery, with striped bass. They're a very, very adaptable species. They're extremely powerful swimmers. They grow fast, have big mouths, and will eat just about anything. Well, the black bass fishermen just hate them. They just hate them, because it's not a black bass. They're purist. But here we made this decision, and now we've got these. So, you know, now they're good there now. Right now, I mean, nobody's saying, "Well, these are bad fish." I mean, the people that study native fish down in Mohave would say that, and a black bass fisherman would certainly say that. But the general population of fishermen that fish Lake Mead fish for striped bass.

Storey: These are the same fish you were talking about in the Bay-Delta?

LaBounty: Exactly.

Storey: So they can be fresh water rather than anadromous?

LaBounty: Well, they are really a fresh water species. They're both. Well, it's just like a trout.

Storey: Aren't striped bass the ones I'm thinking about where if you're on the beach on the East coast and they put up a striped bass alert, you get out of the water.

LaBounty: I don't know about–because of the–

Storey: Because they'll attack.

LaBounty: Oh, no. I never heard that. I never heard of that.

Storey: It must be another species.

LaBounty: I've never heard of that. Sharks. But not–no, they're not that–

Storey: They just chew on you. I mean, they aren't dangerous in the same sense.

LaBounty: Well, it may be, but I don't know about that. I never heard about that.

Storey: Interesting.

Introducing New Species

LaBounty: Yes. I don't know about that. But, I mean, here's a case where we again turned–you know, we introduced something and it wasn't good enough and we introduced something else. But every fish and game agency has its own philosophy on how to manage new waters. I think North Dakota always had a reputation for introducing just about what they thought would work without thinking too much about it. I'm not accusing them, but that's–Montana has probably exactly the opposite way. They have been so careful, and Wyoming even more so, to the point where they'll be managing for a game species and not even realize, because they haven't made a decision really, what kind of intermediate species they should put in that would serve as food for the game species. And so they have an open niche. But Wyoming has been very careful. It's not a bad way to be.

Colorado has an interesting approach. When Pueblo Reservoir was filled in the seventies, they decided to discuss, "Well, what are going to put in this reservoir?" I mean, the management team gets together and they debate all these things. Well, they did what I term as kind of the open-bucket approach. They took every top carnivore known to exist in this country and dumped them all in there. So the biggest, meanest wins. It's one way to do it. So that's why Pueblo Reservoir has such a diverse game fishery. And it's pretty good, actually. But, I mean, there wasn't very much–I mean, in my estimation, the most careful thinking going on there. But every agency has its own philosophy, and we never made those decisions. I mean, that isn't our role. Just like they wouldn't make a decision on how we operate a dam, we would never make a decision how to operate the resource.

Storey: I want to talk about this. I was going to ask you this anyway. We have a cabin on Lake Granby. We had very good trout fishing back in the fifties when Granby was filling.

LaBounty: Lake trout?

Storey: Well, rainbows or whatever was in the streams, actually. Then they introduced kokanee. For a while you got these foot long kokanee. Nice eating fish. Then they introduced lake trout and mitosis [mysis], is it? The shrimp.

LaBounty: Mysis relictae.

Storey: Mysis. Shrimp. And turns out that the shrimp caused problems in the lake, because they were supposed to be fish food, and it turns out they rose when the fish weren't feeding or some such thing.

LaBounty: No. I couldn't tell you about that.

Storey: Okay. But I'm interested in who makes which decisions and why and how we get involved in it all.

LaBounty: We as Reclamation?

Storey: We as Reclamation.

Reclamation Not Involved in Specie Introduction

LaBounty: We don't get involved in it at all.

Storey: We just let them go and do this?

LaBounty: We just let them go and do this.

Storey: What interest does Reclamation have in this? I mean, you're obviously aware of what's going on.

LaBounty: Maybe. Even today in those situations of management I would say that I don't know of a case where we are, we're involved in a decision at all or in a management idea. Now, we, as biologists, if we are working on a reservoir–and I spent fourteen years working on Twin Lakes, which is the largest natural lake in Colorado, has the same kind of situation. It had native species, the yellow finned trout and the rainbow trout, back when it was, say, the turn of the century. They've documented that. Then they introduced lake trout. I mean, this another one of those.

Storey: And it's become a famous lake trout fishery.

LaBounty: Yes. And it did. Midwestern mentality, "Let's introduce something from," home type thing, or northern. And it did very well there. It did in Granby, too. Better. But Twin Lakes was known to produce these very large lake trout. Before that they had introduced kokanee. Well, the problem is pretty simple. When you introduce mysis, you destroy the kokanee fishery. It's a scientific principle. Now, it happened in Lake Tahoe. It happened in Twin Lakes. It happened in Granby. It happened in Dillon. On and on and on.

Storey: That's because they all feed on algae?

Mysis Shrimp

LaBounty: No. It's because the mysis shrimp feed on the same zooplankton. It's a small–well, a rather large, actually, for a zooplankton. It's a microscopic or macroscopic animal, free-swimming animal that's called zooplankton. It's not algae but animal. And the particular kind that they like is called daphnia. They're called water fleas. Sometimes you hear water fleas. And we studied for fourteen years in Twin Lakes and never once found any of that species left because the mysis would take them all. They're predacious themselves. See, again, here's another case. Did we know what the mysis ate? No. We knew that they did well up in a pretty diverse–where things are balanced, and it's called the balance of nature is what this is, and we're upsetting the balance is what we're doing.

So kokanee don't survive. Well, now, what about lake trout? Lake trout are pretty adaptable. They're a carnivore. To grow faster they would need to eat fish at some point. At younger stages they eat mysis shrimp, and in Twin Lakes they never ate anything but mysis shrimp and maybe some suckers now and again that are there. But there aren't many suckers there. They're aren't many anything there. And the rainbows that they stock. But generally their diet, even up to large fish, I mean, I'm talking about ten-pound fish, are mysis. That's a lot of mysis shrimp. But there's a lot of them in there, see. That's why. And the way you know they're doing that, besides looking in their stomach, is the meat is just as pink as can be. Pink, delicious lake trout meat. And lake trout aren't the best eating trout. Usually the meat's white.

Storey: And oily, I understand.

LaBounty: Yes. And oily. But those up there are wonderful. They just like, again, candy. But we imbalance the system by introducing all these things. Mysis is one of those unfortunate, very, very unfortunate introductions. Colorado did it. Colorado is sorry for it. Colorado has tried to reverse some of it. They've studied it with their research people up in Fort Collins and studied the situation in numerous Colorado lakes and learned that, in fact, this is the case. Don't go introducing mysis anywhere else now, because we shouldn't have done it. Now, how do we get rid of them? But it was an intentional introduction. I mean, it's a matter of record where they came from, what lake they came, Clearwater Lake in Minnesota, and were brought in some date in 1954 or something like that. I don't know exactly. '57. And in a bucket. And they tell how many. And they dumped them in the lake and they took off.

A lot of lakes they didn't take off. I mean, they need some pretty specific conditions themselves. They're kind of an eat little animal, actually. And they do, they swim. Their habits, they're a nocturnal animal. They move around at night. They stay on the bottom during the day, and if you went to a lake and sampled the water column and you never did it any time but the day, you'd never find them. But the minute the sun goes down, then they start coming to the top to feed on these unbeknownst to the zooplankton that are more used to maybe daytime conditions and they feed on these shrimp.

So Granby is a similar case. We weren't happy with the rainbow trout fishery, so we put lake trout in. We didn't really have enough food for the young lake trout, so we put mysis shrimp in. What happened to the kokanee fishery? Gone. I don't know. Are there still some kokanee there? I don't think.

Storey: There used to be. I haven't fished very much last five, six years.

LaBounty: I don't think there are. I know the manager up there. But it is a good lake trout fishery. But it's another case of you can't blame the people back then, because you just didn't know better. But we do nowadays. We need to think about our actions. Every action we take, we need to think everything. You can't ever just do one thing. You can always have a cause and effect. You have to understand what the total effect is when you do these things. And animals and plants are not like rocks, they move. They move. They reproduce. They kill. They do all those things.

"Animal and plant populations are very hard to understand"

So animal and plant populations are very hard to understand, and we make bad decisions regarding them because we don't fully understand everything there is about them. This is where it's hard for an engineer to understand why a biologist would make these kind of decisions, because engineering is a very straight, structured field, although some would argue again saying, "Well, now, we have our problems, too." And they'd cite plenty of examples, and I know some of them myself where engineers have made errors based upon not having enough knowledge also. But it seems as if resource managers have been really good about that. I mean, you can go back to the kudzu issue in the east. Kudzu is a plant that–

Storey: Yes. I know kudzu.

LaBounty: The highway department introduced in North Carolina to stabilize the soil. It did a great job of that, but now it envelops houses and power lines and trees and kills

everything in its path and grows at the rate of two and three feet a day. I mean, it's just a horrible species. One time I was on a bus and we were on a tour in Tennessee and this guy from upstate New York was there, "God, look at this kudzu." It was at it's kind of peak in the summer. We were all kind of moaning about this kudzu. He says, "I think it's great. I'd like to have it up near where I live in Cornell, New York." We're about wanting to strangle the guy, you know. But, I mean, this is what you get, that kind of attitude.

The same thing with hydrilla. Hydrilla is an aquatic weed that again it grows very rapidly. It clogs our canals. It's used to competition. It has several ways of reproducing, by seeds or by rhizomes or by if you break off a piece and throw it in it grows. And we introduced it, for one reason or another. I can't even remember the reason for that.

Storey: When you say we, do you mean Reclamation?

LaBounty: No. No. When I say we, I'm talking about humans. Whenever I say we, I think I'm most of the time in the natural resources field talking about we as humans. I didn't do it. Reclamation didn't do it. We had nothing to do with any of that. I can't name a place where we're responsible for introducing species. It's not something we get into. We always rely on U-S-D-A, [U.S. Department of Agriculture] A-R-S, [Agricultural Research Service] or the Fish and Game.

Storey: Agricultural Research Service.

LaBounty: Someone like that to work on those kind of issues. We study them. Purple-loosestrife is a fairly recent invader. It's a horrible thing. It took over the whole Columbia Basin Project. I mean, literally the whole thing, all the wetland vegetation was replaced by this beautiful–actually, it has a beautiful purple flower on top of it. It looks like a lilac, and it's just gorgeous, and people would plant it in their yard as an ornamental.

Storey: Not realizing.

LaBounty: Well, it will reproduce again in several ways, but the main thing is it just produces literally millions of seeds and they're very small and they blow everywhere, and it grows very rapidly, can out-compete the native plants and just a short time and wipe out everything that's there, all the cattails, everything. It has no wildlife value. Now, you heard me say that before for salt cedar. Except for bees. It is good for bee production.

Storey: For what?

LaBounty: Bees. Honey bees.

Storey: Oh, bees.

LaBounty: Honey bees, yes. But it has just now–

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BEGIN SIDE 1, TAPE 2. JANUARY 21, 2000.

Storey: This is Brit Storey with James F. LaBounty on January 21, 2000. We have a big research program.

Competition Among Species

LaBounty: On purple loosestrife. Deborah Ebberts [phonetic] is a great research young lady, and she's been looking at biological controls. What happens is there's two things. In areas like the West where there aren't a lot of animals and plants naturally, the ones that are there have evolved with very little competition. So you have a relatively simple, sometimes even mono-culture plants or animals without something to compete for it. So it's sort of like living on an island on somewhere for generation after generation after generation of people. You're getting along with each other and the outside world comes in and you might have some mean people come in and deciding they want to take your land over, and you're not very strong, you're not equipped to handle it. That's what these plants and animals are. They're not equipped. It's not in their genetic makeup to be able to handle the introduction. So they just wither and die. They get eaten.

There's one fish, for example, that lives in a little called Devil's Hole, Nevada, that's called the friendly fish. It only gets to be an inch or so long. It's a pupfish, as I mentioned, a different species. An inch or so on length and it evolved in this water-formed cave. Most of the time, if you walk up to fish what do they do? They scatter. You walk up to this fish, it doesn't. You can actually put your hand under the fish and pick it up out of the water and it won't go anywhere because it has no known natural enemies. None. It never has, you know, for long periods of time, tens of thousands of years. But it's kind of typical–that's an extreme example–of things in the West.

Then on the other hand, you have these other species that have evolved in a very

diverse, like tropics especially, an environment where it's, by God, you better get all you can as fast as you can and fight for it. I mean, I don't mean to be anthromorphic about it, but that's kind of what goes on genetically. They have all the tools to survive, first off, and to prosper, second off. So a species like purple loosestrife, which is a plant that lives in wetlands, like I mentioned, it has all these seeds that will blow everywhere and it grows very rapidly and can produce by underground tubers and several other different ways, and the native species kind of lopes along, "Well, nothing's going to bother me. I'll just reproduce one or two. That's all I need to do over here. It's just an empty space." I mean, again, not to be anthromorphic but that's what happens.

Where do all these species come from? Like purple loosestrife comes Europe, and if you go to Europe and find purple loosestrife rather than finding this as far as the eye can see like in the Columbia Basin or even in some places in Colorado, even in Lakewood. We had it around these little lakes around here. As far as you can see–not here but Columbia Basin–you see these purple flowers. You'll never see that in Europe. You see one here, one there. There's some old roofs. I saw a whole bunch growing on the roofs, not on the land.

Well, the reason for that is because it's a balanced system. Nature's balanced. Their natural enemies are there. So they keep them under control. Now, we bring that plant over here without its natural enemies, so there's nothing to control it. So now the job is instead of using herbicides like we used to do and spraying them and polluting the environment, we are studying biological control. You've got to be careful with this, but in the case of purple loosestrife there are specific insects, three of them, that will eat nothing, but that will be predators on nothing but purple loosestrife, one on the seed, one on the stem, one on the root. Once the loosestrife is under control it just lopes along at a–population will go like this to control it and then it will just go down.

Storey: It will go way up high and then drop off and plateau out.

LaBounty: And that's its natural enemies. Well, we need to find those. It's real difficult for some things. But in this particular case, we, as Reclamation, have participated in some of the cutting edge research on that, and Deborah's has been very honored. She was researcher of the year and everything else for her efforts in doing this in a very quick manner. In fact, the Columbia Basin Project in just a few years has–just a couple of years, actually–we're seeing huge progress in controlling purple loosestrife.

But, now, see, now we have another problem that we didn't think ahead of, even as good as she is and everybody else is, another challenge. Not call it a problem but a challenge that we as Reclamation and as natural resource managers face. Consider the Columbia Basin Project. Well, what is it? We irrigated land that didn't have much vegetation on it, but then it filled in with all this wetland vegetation. So it's not a natural wetland to begin with, but it's a wetland that we'd like to protect. So now you get rid of all the purple loosestrife, just wham-bang they're gone. What do you replace it with? I mean, it happened so fast we haven't made that decision yet. So, I mean, someone needs to think about that next. So it's always something. You can't ever do one thing without something else.

Storey: I'm still interested in this interface, I guess we might call it, between Reclamation with these other people. There are some classic examples, I think, like hydrilla, you mentioned, purple loosestripe, the zebra mussel, the mitten crab that are causing–

LaBounty: I didn't mention the mitten crab, but it's another one.

Storey: That are causing us problems, where Reclamation becomes involved because our operations are being affected by these plants and animals.

Effects on Reclamation Operations

LaBounty: That's the key.

Storey: Is that the only time we become involved?

LaBounty: Pretty much. I'm sure there's cases where individual employees are interested, for one reason or another, in some other aspect of it or some aspect of it that would lead us into an area. But we have to stick to our mission. We don't have a lot of money. I mean, for research in our agency it's a very small amount of money, so it's not something we can–our research program depends on a steering committee that looks at the programs and decides, and in their mind is this mission, what the Bureau's mission is. So just to go study something out in–well, I'm trying to think of an example, say, just a fish lake out here in the middle of Colorado.

There would have to be, "Why are you doing that?"

"Well, I thought I'd help the Fish and Game."

"Well, are they going to pay you for that?"

I mean, we could get involved then, but in decision making, unless it's individuals who serve on a county board or some board like that, it isn't in our project's duties to make these decisions. Ours are related to water, and where they interface then we do.

Storey: Okay.

LaBounty: We even have to watch it with the Park Service, because let's just take Lake Powell or Lake Mead, those are Bureau reservoirs, but we left the management of those as recreation facilities up to the Park Service. That's their job. So where does this start and where does this stop?

Storey: That's what I want to explore, that ecotone there.

LaBounty: Yes. And it varies. It varies. The Park Service, most recently now they're talking about these surplus flows in the Colorado, what to do with them, how to help California out. Well, I don't think people want to help California out outside of California, but California would like to be helped out of this. They're using too much water. Well, this has all sorts of ripple effect upstream into Lake Mead and Powell. But I met with the Park Service last week on some other matters, and this was brought up again and again. The Park Service attitude and philosophy is different than ours in that they have a different chore, but they're there to protect the natural resource, the way it is. They may be slow in making some of the decisions, but their decision is always geared toward protecting the resource for their mission.

Well, when it comes to something like that–and the reason I'm pointing this out is this is where it just, in my mind, I thought this is really where they just don't have any say, and that is one of the ripple effects is that Lake Mead may drop fifty, eighty feet. Well, the Park Service has a great interest in that. You've got all the facilities around the lake that they manage and their concessions. It's their concession, not ours, that are going to have a fit over this. So you'd think the Park Service would be protesting. Well, they may be, but they weren't. It's just sort of they know that those are decisions that they just can only give their opinion.

Now, I'm not saying they're always this way. It depends on the issue. If they feel like they can have some influence, surely they will. But I think history has told us that the economics of water or power generation from our plants is not something you can go in there as another agency and have much to say about it. That's Reclamation and D-O-E's [U.S. Department of Energy] responsibility, and they certainly will participate in a meeting and, maybe, like I say, express their opinion

and say, "Well, gee, you're going to drop this lake eighty feet, and look what it's going to do." And you say, "We know and we don't like it, but our hands are tied. It's based on law and all this and that."

Well, on the other hand, if they make a decision that they're going to put–oh, I don't know what a good example would be–Park Service decision, a new road along a park. Again, that's their decision and we're involved in their meetings and I'm sure if some individual had ideas. But if we said, "We don't want that there in the park. We don't want it next to our reservoir." Well, that wouldn't be appropriate. That's their decision. So I think it's, you know, look at your mission statement. Our mission statement is to manage water and resources in an environmentally and economically sound manner. I mean, that's not the whole mission but it's pretty much ours. So anything that goes along with that, that's strictly us.

Another thing that we don't do is regulatory stuff, and this is where you think, "Well, you know, if we see bad water quality coming along, isn't there something we can do about it?" Well, we can understand it, but that's delegated to E-P-A [Environmental Protection Agency] and the E-P-A then delegates it to the state health departments or environmental agencies within each state, and they're the ones that are regulatory agencies in that particular–but we're not a regulatory agency.

It's the same thing with building a dock on a river. I mean, we're not the regulatory agency. That's the Corps of Engineers regulates that. So we may care and we may protest that, and we certainly would, you know, if we didn't like it. But we'd have to have a reason. How does it affect your mission? If we just say we just don't like it, I don't think they'd accept that. Their decision would be, "Well, it should be put there." If we said, "Well, it affects our water delivery downstream, and here's how it would happen. So we don't want it there," well, then that would change it. I don't know if this gets at answering your question.

Storey: Yes. This is very interesting.

LaBounty: The roles of different governmental agencies and the states, it changes from state to state. It changes from park to park. It changes from region to region. I mean, I've seen it applied differently. In California our role is very diminished from what it is in Nevada, in Arizona. In Arizona it's changing, too, though, because the state's taken over there.

Storey: Let's turn this question around. Let's see if I can do this and ask the question differently. [Tape recorder turned off.]

Storey: Before we get back to what we were talking about, you were talking about Reclamation and how it deals with special groups of people.

Reclamation Dealing with Different Groups

LaBounty: I think in general we're people oriented. I've had it said to me by many a boss, supervisor, that we need to think about the good of Reclamation in dealing with people or dealing with anything. And that's true. We have to think about our mission. But I've always had a philosophy that first and foremost walking around on the face of the earth we're human beings to each other. It doesn't matter what we are. First and foremost we're human beings. Then we'll go from there. But let's treat each other that way.

So I also had a philosophy that my job is such a part of my life that I don't come in at seven and leave at four or whatever. I mean, I may do that a lot of days, but I don't even look at the clock when I come in. I don't even look at the clock when I leave. It's part of my life, on and off work, and I accept that and love it that way. But also the agency's done that, because the agency's very people oriented. I mean, we help each other. We act like a family. It's a small agency. It helps. We know a lot of people. Everybody knows a lot of people within the agency. I mean, the crossover of people that you know and I know there would be tons of them if we started getting into it. And that doesn't happen everywhere.

So it's a people friendly agency, so we help different groups of people whenever we can. Certainly we've always tried to help under laws, under the E-E-O [Equal Employment Opportunity] programs, to help minorities and women to include them in what we do, and it's a difficult task in an engineering organization, when you go to engineering schools and you don't have the diversity within the engineering profession and haven't had. But a few examples that I've seen that I really like that are high points are some of the kids that we've brought in, actually, who are underprivileged or retarded in some–or I guess you'd call it mentally challenged in some way or another–and I've had personal involvement with a couple of them. I don't know if I mention names or not.

Storey: You can if you wish or you can just talk generally. Whatever you're comfortable with.

LaBounty: One person in the mail room, for example, Randy, he's been here, I think, over twenty years, twenty-two, three years. In my early years I was in Toastmasters and very involved in that, which is a group that teaches you how to speak effectively.

And Randy was in that. His mom and dad decided to get him in that. But Reclamation allowed him to do that and made him feel good about himself in communicating. Thought that was important, his supervisors, whoever they were at the time.

To this day, Randy loves his job. He feels delivering the mail, when he comes, is very important. He'll say to me, "You know, Jim, I remember what your code was when you came." You know, little things like that. Now, he's not going to remember a lot, but to him getting the mail over–yesterday I ran into him or day before yesterday and it was windy and he had his mail all covered up. To him it was important that the mail did not blow away.

Well, what a wonderful thing, because here's someone, like all of us, it doesn't matter who we are. We are who we are, and he's accepted who he is and what he's doing. I always feel sorry for someone who is really unhappy because they didn't attain the job above them, the boss's job above them or some other job, and were so consumed by that that they were never happy who they were any more. And you and I know people like that. And we all have applied for things and not made it. I mean, that's the nature of it.

But these kids, of all, you know, you'd say, "Well, they're working in a very lowly job." Well, they're not. They're human beings providing a service, helping other people, and that's the way they look at it. But the agency's had good supervisors over to teach them how to do that. We had Joe Robaugh [phonetic], who actually works in the copy unit. His job is to copy. It's not something a lot of us do, but to him that's a very important job and he feels a great responsibility.

When he first came to the agency, his mom and dad came to see me, because we decided that we would try to have him work in our labs and maybe do some simple tasks. And, of course, I didn't know how simple they needed to be or anything else, and so I had him actually trying to count some microscopic animals under the microscope and stuff. He still today remembers that experience. To him that was an important experience that somebody would give him that responsibility. Nobody had ever given him that much responsibility or even thought that he should have that much responsibility. Here's some scientists who have trusted him to do something like that.

Now, I mean, I've had a lot of technicians who they think this is really below them to do that and a lot of professionals that think it's almost above them to do that. I mean, it varies all over the scale. But here is a young man who's pretty highly

retarded and who it made him start to feel good about himself where nobody had done that before.

Well, it didn't really work out for him to work for us, because he needed such close supervision. At the time, we didn't have very many people. So we tried to look around for other places and they finally put him over in the Xerox unit. His supervisors over there have been just as good. It's kind of embarrassing. He still calls me his boss. He says, "I still tell them you're my boss." But I'm sure they accept that. This is twenty years and he's still–

[Telephone Interruption]

LaBounty: Not to belabor the point, but I think it's an important point about the agency of how we help people at all levels, and I hope that continues. I hope that remains a strong point. Maybe this occurs within other agencies. I don't know. But it certainly doesn't out in the private industry a lot. I know that. Is that all you wanted me to–

Storey: Yes. I appreciate talking about that. I was trying to turn around the question, and I don't want you to think I'm being rude. But basically the question is if we aren't involved in all of this management like at Lake Granby and if we don't regulate water quality and so on, why do we need research biologists? Why do we need a research program in biology?

Why Reclamation Needs Biological Research

LaBounty: Because the things that Reclamation does under its mission are affected by a lot of things. If we're delivering water in the All-American Canal and, for whatever reason, we can only deliver 10 percent of what they're asking for, don't you think we want to know why? So, now, if that reason happens to be weeds growing in the canal–this is a true story, too–then don't you think we need to–I mean, who else is going to care? The water district's going to care. We're going to care. But who else is going to care? Nobody else is going to care. So we need to perform research. We could say, "Well, there's a lot of tools on our shelf. Use 2-4-D and spray them." But then you're going to kill all our crop, because there's going to be residues in it in the water that they irrigate with.

Well, we can't do that. So what we did is we worked on what's called grass carp. Grass carp is a species of fish native to Europe, native to China, actually, was brought into Europe. It's like a cow in a body of water. It's not an actual carp. It's a big minnow. It consumes vegetation. That's all it eats, nothing more. Just wipes it

out. Grows rapidly. And, of course, you think, "Well, that's good for a canal." But what about the wetlands next to the canal. So you have to control it. You have to manage it. We need to do research on it. That's one aspect. What if it reproduces and gets everywhere? Do we want that? No. No. No. That would be horrible, because, gee, if it got into some of the bogs and stuff it would destroy all that, destroy all the habitat for the game species. So we don't want that. We don't want it to reproduce.

So we didn't actually do the research on trying to find sterile grass carp, but others that had economic benefit that they could achieve did and found the sterile grass carp. We worked with them, our biologists worked with them, but we worked closely on a team that included Imperial Irrigation District, Coachella Irrigation District personnel to learn how effective these grass carp could be. Well, the short of that story is they were so effective and they did develop the grass carp. California accepted it as species we could introduce, and the Imperial Irrigation District now maintains–they constructed, they operate and maintain a fish hatchery for grass carp to manage the weeds in their canals.

So there you go. Why would be interested in doing research? Well, why would we be interested in owning a fish hatchery? Why would the Imperial Irrigation District be interested in owning a fish hatchery? Good question. Well, because they have to fulfill their mission, and nobody else is going to do that. Who else would be interested in it? If you said, "Fish and Game, could you do this for us?" Well, they'd say, "Well, we don't have the money and, plus, that's not in our mission to do that." And maybe if you gave them enough money some Fish and Game agencies might do that. But that's where they're only there sitting at the table making sure you doing it right, because they manage the natural resource. That's just one example, and I can give you others.

Storey: Well, I would like others, but before we go on it sounds to me like an oxymoron. How do you have a fish hatchery for sterile grass carp?

Fish Hatchery for Sterile Grass Carp

LaBounty: You have a stock of ones that aren't sterile, and you strip the eggs out of those females. You fertilize them by stripping the milk out of the males. You blend that together and then their going to produce young fish. This is the common way of doing fish anywhere. But then to make them sterile you put them under a certain amount of pressure, not to destroy them but it disrupts the genetics. They need to check each one of them. There's very easy characteristics of the cell. For example,

the nucleus of the cell is much larger in a sterile grass carp. Statistically they can just measure them. So they have grass carp that are not.

Storey: Are not sterile?

LaBounty: Just to reproduce.

Storey: But they create sterile ones. Now, when you say pressure, we're not talking ecological pressure.

LaBounty: No.

Storey: We're talking physical pressure?

LaBounty: Physical pressure, right. In a big tube of pressure. It's also done by heat, I think, and I'm not sure what they're using. But that's what they found to do. It's a fairly simple matter of doing it. I think the Hungarians had something to do with that finding.

Storey: That's interesting.

LaBounty: Yes.

Storey: Other examples, please?

LaBounty: More examples of?

Storey: Why we need to do research. For instance, one of my notes the other day was that you had been working on a station, sampling station up above Hoover. What are we doing?

Hoover Sample Station

LaBounty: This really gets into that ecotone area, that fringe area that you're talking about in some people's mind, maybe. The Bureau is the water master for the lower [Colorado] river. We're the law. The Secretary of Interior has that responsibility. It's delegated down to the Regional Director. So we have contracts to deliver water, and one of the contracts we have is with the Southern Nevada Water Authority through the Southern Nevada Water System. We deliver water. They get it, actually, because they're a Bureau project in a way, and then they sell it, market it.

It's drinking water. Metropolitan Water District, when we constructed Havasu in the late thirties, I guess it is, or forties.

Storey: Havasu's behind Parker?[13]

LaBounty: Behind Parker, right.

Storey: Parker was begun about mid-thirties, as I recall.

LaBounty: We started studying in the mid-thirties, I know. But that's a affordable for Metropolitan Water District to supply water to Southern California and also now to Arizona. When we constructed those projects, they were all constructed for irrigation and flood control and power production not for drinking water supply. But slowly they've become drinking water supply reservoirs. So it's not something that we looked at. We studied the hydrology and we studied the watershed, how much water is going to come in. But the water quality aspects of it were something we just did little bits and pieces with, and only because we were interested in the data, just to have.

Well, this is intensified as time has gone on, and as we've developed these more for drinking water supplies, we realized that within our mission of managing water in an environmentally sound manner includes understanding not only something about the quantity of water that's going to come into the reservoir but the quality of that water as it comes in. We have large programs like the selenium model that Jerry Miller out of Salt Lake City is putting together–

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Storey: . . . that selenium get in. How much?

LaBounty: Where is the selenium? How much? But in the case of Boulder Basin–did I talk about this already? I don't remember.

Storey: You just mentioned that you went out and sampled, I think, once a month.

13. Constructed in 1938, Parker Dam spanning the Colorado River between California and Arizona near Parker, Arizona, is a concrete arch structure. 320 feet is below the original riverbed; only about 85 feet of the dam's structural height is visible. For more information, see Toni Rae Linenberger, "Parker-Davis Project," Denver: Bureau of Reclamation History Program, 1997, www.usbr.gov/history/projhist.html.

LaBounty: Okay. Boulder Basin, which is right above Hoover Dam–it's the large basin that Lake Mead drains into–you have three sources of water that go into Lake Mead. You have the Colorado River, which produces about 98 percent of the inflowing water. It comes from [Lake] Powell through the Grand Canyon. Then you have the Virgin River, which is an unaccounted for amount of water, but 1 percent of the flow that comes in, unaccounted for in the compact, by the way. Nevada's going to claim it.

Storey: Yes. But it was adjudicated in *Arizona v. California*,[14] I believe.

LaBounty: Oh, okay.

Storey: But anyway, go ahead.

LaBounty: Then there's Las Vegas Wash, which is about 1.5 percent now, something like that, maybe a little more, of the flow. Las Vegas Wash drains the watershed that Las Vegas, Nevada, sits in. It's a fairly small watershed. It goes through the Nevada Test Site, top of Mount Charleston and Charleston Mountains around there, and the area out to Boulder City, and it all drains into Lake Mead though Las Vegas Wash. The creek itself was a natural creek called Las Vegas Creek. It had a live flow in it. I wish we could get more ancient history on this, because I'd love to see it. But I've

14. "One of the longest-running water rights cases began in 1952 with the filing of an original action in the Supreme Court by Arizona against California seeking a division of the waters of the Colorado River. The United States subsequently intervened to protect federal water rights, including reserved water rights held for the benefit of five Indian reservations (Fort Mojave, Fort Yuma (Quechan), Chemehuevi, Colorado River, and Coocopah). Nevada, Utah, and New Mexico also intervened. The Court appointed a special master who conducted extensive proceedings and later recommended a division of the Colorado River's waters.

"In a detailed 1963 decision, the Supreme Court largely adopted the Master's recommendations, 373 U.S. 546, and subsequently issued a decree in 1964. The Court recognized that the Colorado River Compact provided for a division of water between Upper Basin States (Colorado, Wyoming, Utah, and New Mexico) and the Lower Basin States (Arizona, Nevada, and California). But the Compact did not provide for a further subdivision of water among the three Lower Basin States. The Court concluded that the Boulder Canyon Project Act, which authorized the construction of the All-American Canal and other Colorado River diversion works, accomplished that task.

"The Court also determined that the United States had reserved water rights for five Indian reservations in accordance with the Court's earlier decision in Winters v. United States, 207 U.S. 564 (1908). Winters held that the United States' creation of an Indian reservation reserved sufficient water to irrigate those reservation lands that are capable of growing crops. The Court adopted the Master's findings regarding the amounts of practicably irrigable lands on the various reservations, the corresponding amounts of water that the Tribes were entitled to withdraw from the mainstream of the River, and the priority dates of those rights, ruling that "enough water was reserved to irrigate all the practicably irrigable acreage on the reservations." For more information see, United States Department of Justice, "Arizona v. California, " https://www.justice.gov/enrd/arizona-v-california (Accessed 8/2016).

heard there's some out there. It even had, maybe, native fish in it. It ran a mill right in the middle of Las Vegas valley there in the twenties and thirties. I know growing up here we used to go out to springs that were live, and some of them were capped that were parts of this Las Vegas Creek.

Well, it's a big watershed. I mean, not a big. It's a small watershed, but a drainage area that drains that whole area, and you have three kinds of flows going. You have the surface runoff, which doesn't have much live flow that's natural anymore. But it has the treated affluent from all the sewage treatment plants. You have three of them, the city of Henderson, the city of Las Vegas, and Clark County. All of their treated affluent goes into Lake Mead through Las Vegas Wash. Then you have the shallow groundwater, which is very saline and also contains a lot of contaminants that are vestiges of our activities in Henderson, a chemical plant there in World War II and other things. One of them is perclorate. It's a rocket fuel that gets in here. Then you have the urban runoff. Every time someone throws something on the ground in Las Vegas or spills something in a hospital, eventually that gets into the drainage going into Las Vegas Bay in the Boulder Basin which Las Vegas Bay is part of the Boulder Basin. So those three main sources, urban runoff–then you have the flood flows, too, which is a fourth–urban runoff, shallow groundwater, and the treated affluent make quite a flow going into the lake.

Storey: So the Boulder Basin flows into Lake Mead, the water from that?

Drainage Basins Feeding Lake Mead

LaBounty: No. The Boulder Basin is the lower basin where Hoover Dam is on. Hoover Dam is on Boulder Basin.

Storey: You mean the lake is on Boulder Basin?

LaBounty: Boulder Basin is one basin of the lake. If you drew a–

Storey: I'm asking this because I thought you said it wrong earlier.

LaBounty: I might have.

Storey: And I think maybe you said it correctly.

LaBounty: Okay. Hoover Dam is here.

Storey: Right.

LaBounty: The Colorado comes down here.

Storey: Right. Flows into Lake Mead.

LaBounty: The Virgin River flows here. Okay. There's big basins up here. The Virgin Basin is the big basin that goes up there.

Storey: Right.

LaBounty: This lower basin is Boulder Basin.

Storey: In effect it's Lake Mead.

LaBounty: Well, it's just one basin of Lake Mead.

Storey: Okay.

LaBounty: Of surface area it's probably only one-fifth or sixth of Lake Mead.

Storey: Okay.

LaBounty: But it's the lowest basin. So in here you–

Storey: The one right behind Hoover then?

LaBounty: Right behind Hoover. So we have the Colorado River flowing in here and we have Las Vegas Wash flowing in from this direction, from the west, and from the northwest we have the Virgin River flowing into Boulder basin. So it's a mixture of all those flows that come in. At Saddle Island, which is six miles downstream toward Hoover Dam from Las Vegas Wash this is where the water is delivered to Las Vegas. This is where the pumping plant is. So here's all these three flows coming in here, treated affluent, six miles upstream from the drinking water supply. During the forties and fifties and sixties is a big marsh up here, a large area, the Las Vegas Wash.

Las Vegas Wash

Storey: And a big wildlife area for birds.

LaBounty: Not any more.

Storey: Or it used to be.

LaBounty: Not any more. It's all been head cut so there's just a channel now that goes into the lake. There's an effort to reestablish that as wetlands.

Storey: As a natural filter?

LaBounty: Yes. So there's all sorts of schemes that we're dealing with, and I'll be dealing with that after I retire. That's one of my main work with these people. It's big, big, big time stuff, because they realize that this can't go on. Drinking water is and can be affected by the conditions of the water, quality of the water, coming in. They treat it. They know how to treat it. There's not really any danger. But in 1996 there was a cryptosporidium outbreak, which is a pathogen which causes people who are weakened anyway such as AIDS patients, especially, not only to be sick but to die, and there was thirty-some deaths attributed to it, to the cryptosporidium outbreak. And the only source of cryptosporidium can be from the drinking water. Milwaukee had a large outbreak of that same thing. But Las Vegas has had a very famous case, too.

Studying Las Vegas Water Quality

So they know, they being Southern Nevada Water Authority, they're very wise, very good people who understand this responsibility that they really have to take upon themselves, not only for that but for all the other pollutants that get into the lake and could make it to the drinking water, because geographically this is a reverse situation. You should have the drinking water above where you're dropping all your drainage from your basin.

But people need to understand that when I went to high school in Las Vegas there were only 50,000 people, and now there's a million and a half people. When the Southern Nevada Water system was designed there were only 120,000 people or 200,000 people. So the lake was the filter and remained that way. But now it's changing and, of course, the population is expected to double. So you're going to have the affluent doubling. Nevada is going to get more water out through that system, because they're doubling their pipe capacity, essentially, in hopes that they will get more water, either trade it from Arizona or buy it or whatever. So there will be more water coming in. That's the drinking water supply that they depend on. So they're very vitally interested in that.

Also, downstream Metropolitan Water District are so vitally interested in it–and here's where you get the crossover–once they learned about this rocket fuel, this perclorate, coming in, there's a state law that you can only have so much of this perclorate in drinking water supplies, regulated by the state of California. The ones that they regulate are Metropolitan Water District, because they're the drinking water supply. Now, they may not be responsible for putting that in there, but they have to mix it so they cannot get above a certain level. The same with all drinking water systems.

So they start looking upstream and find–they didn't find it but find out that it's coming from Henderson, the groundwater in Henderson. So they would like to get their lawyers out and say, "Look, you need to clean that up, because we have a problem because of you." Of course, Southern Nevada is the same way. They want that problem fixed. Well, it happens it's Kerr-McGee and PEPCON are the two private concerns that produced this rocket fuel. They have since moved their plants, but they have taken the responsibility of cleaning this up. In an amazingly rapid rate of time, they have isolated where this is coming from within the basin, the groundwater, and are now treating it at the site. So I've heard, I haven't seen the data yet, that it's reduced by 60 percent already, and this is just within the last two years that we even knew about this.

Reclamation's Role in Ensuring Water Quality

But, you see, Reclamation has the deepest pocket in all this. I mean, these are water users, and they're responsible for delivering water of a certain quality. We write in our contracts a stipulation that we are not responsible for the water quality as it's returned from the users after they buy it. I don't know what that says about what we supply to them, nothing, but it gives us some responsibility, along with them, to manage the resource in an environmentally sound manner. So the only way we can do that is to collect information, knowledge, to be knowledgeable about the subject. We can't possibly participate in any decisions unless we are knowledgeable.

Now, the only ones that would be interested in setting something like rocket fuel and drinking water would be the regulators or the people supplying drinking water. So those are the people that even though–now, you'd say, "Well, isn't that E-P-A's responsibility?" Well, as a regulator, but not just only that. I mean, that's it. Nobody else cares. So that's why we have to take that responsibility and understand–and that's why I've studied the last ten years I've studied this portion of Lake Mead very intensively.

I could tell you ecologically what that basin looks like from top to bottom on any day of the year from my mind, because I understand that basin so well. There's a lot of aspects of this that we could get into, because it involved that. That flow coming in is actually a density plume that goes through the lake. It's a river within a river. I think I threw most of them away, but there's a lot of newspaper articles that were written about some things that I've done. I made front page of the newspaper. I think I saved one of those. I don't know. Maybe you don't want to see them. But, anyway, that's kind of that story. That's probably more an answer to that than you really wanted.

Storey: No. Tell me more. Tell me about this river within a river. Did you identify this?

"A river within a river"

LaBounty: Yes.

Storey: You suspected it was there?

LaBounty: No.

Storey: How did this go?

LaBounty: Well, when we as limnologists, which is a branch of science that studies the ecology of fresh water versus oceanographers, we go out and we start sampling from top to bottom, usually in the deepest part of the reservoir. In this case of Lake Mead, Boulder Basin, we had fourteen sampling–we had seventeen sampling stations total. We ended up using only ten or eleven, but, anyway, we had a number of samplings in a sequence from the [Las Vegas] wash to the Hoover Dam, to the one you mentioned above Hoover Dam. That's our last station. And we sampled the surface and then each meter or two meters down for a lot of different things. We have an instrument that we drop down. It's called a multi parameter probe, which will measure the temperature, dissolved oxygen, p-h, and specific conductance, which is a measure of the salinity of the water at each depth as we go down.

While water stratifies, as I mentioned earlier, we know that ice floats, so it must be the lightest water, and it must be lighter than the water underneath it, which it is. It's a better way to say it is lighter. Water is the most dense at four degrees celsius, 3.96 to be exact, and so lakes mix at four degrees. And when they freeze–Lake Mead doesn't freeze. It doesn't ever get to four degrees, actually, ever. But when lakes freeze than you have zero degrees, which is ice on top and right underneath it's

zero and then the bottom would probably be four degrees. When the ice melts, the lake turns over, meaning that it mixes from top to bottom, usually at three or four degrees after the ice is melted. It keeps stirred. Well, then it starts warming up in the summer and the water is more dense the further away you get from four degrees. So when it gets to twenty degrees, which is sixty-eight degrees Fahrenheit, twenty degrees celsius, that water is on top of ten-degree water or the four-degree water, if it's left.

Well, that's what we look at in Lake Mead first off is the stratification. Stratification happens in layers. You have a top layer, which is called the epilemnion. It's the mixing layer that can mix during the wind, and it's a various thickness. In the case of Lake Mead during late June to mid-September it's nine meters or about thirty feet thick. Then below that we have what's called the thermocline. It's an area of change where the temperature lowers very rapidly, usually about one degree celsius per meter of drop or a little more, a degree Fahrenheit per 3.3 feet. And then below that it's called the hypolimnion, that that's the rest of the water and to the bottom. And there's a big reservoir of water down below there that's, you know, in a case of a reservoir it's a very interesting thing to study because that can be the water supply, and it is, for Las Vegas. That's where it comes from. And the Colorado flow kind of seeks that level because it's colder.

Well, Las Vegas Wash is warm, warmer flow, and it's also highly saline. Well, I mean, this gets real technical now, but if you put sugar in water, it sinks, and if we ever do the science experiment we know that the higher the dissolved solids in the water the heavier the water is. I mean, it's natural to think that. And that's true. The temperature has a greater effect when it gets higher than the salinity does on the density of water. So a temperature, when it's a ten degrees, for example, celsius, it will hold a lot more salts or be less dense than water that's six degrees. It's almost logarithmic.

So we've got this flow coming in of about 250 cubic feet per second–here I go into English now, units, English units–and it's kind of a constant flow, fluctuates a bit during the day. It depends on the operation of the sewage treatment facility. That water flows into the lake and seeks a level of a density of where it floats. That happens to be right on top of the thermocline, right within the top layers, because that's what the temperature, saltiness of the water equals density, that's what the density allows it to do. So it floats along that layer out into the lake. We've measured that from anywhere from two to five centimeters per second flow. We just did some work. Our hydraulics lab just did some work on that. So it's a pretty good flow that goes out there.

Now, as it goes out, it mixes. It mixes with the water surrounding it, and so it becomes more dilute as it goes out in the lake. It just doesn't remain a concentrated flow of Las Vegas Wash. So by the time it reaches Saddle Island, it gets pretty diluted. When the runoff down the Colorado is low, like in '93, '94, and '95 and '96, the lake doesn't dilute the flow nearly as much and nor does it have this flushing effect. So we can see that plume or river within a river at the face of Hoover Dam, right along the layer there. As the lake warms up, that thermocline sinks. As it warms up, it sinks to a point and then stays. Then as it starts cooling from the top, it sinks rapidly, because it's mixing cooling and it's forcing it down, mixing it. It's breaking it down and forcing it down.

Without getting into the dynamics of that temperature exchange, but from the Colorado River we have water that's of, what we'd say, a lot higher quality, quality meaning total dissolved solids, are much, much lower, one-fourth of what it is coming in Las Vegas Wash, 400 percent fresher, in other words. You can say it a lot of ways. So that has the same characteristics, but it comes in cold and so it sinks. Like I said, temperature has a bigger influence than the salinity. So it sinks below the thermocline. But it also forms a river within a river. You can see it all the way from where it comes in, where the Grand Canyon empties into Lake Mead, the first part of Lake Mead, all the way to Hoover Dam, and a string of stations all the way down the lake, if you sampled the profiles, you can see the Colorado River at every point right up to the face of Hoover Dam and even up into Las Vegas Bay. It backs up in there at a certain level. And then it, of course, becomes more diluted also.

So we didn't understand this about that lake. You asked if I found this. Yes, I did find it. I mean, other people have found it in other reservoirs. It's been published, and engineers actually worked on them. They call them inner flows. They're overflow, underflow, or inner flow. It depends on whether they're on the bottom or the top. And the Tennessee Valley Authority it's a common thing to see these inner flows. But nobody had ever documented it that I know about in Reclamation reservoirs and certainly not in Lake Mead. I am told by my fellow scientists these are the most classic and best representative of that phenomena scientific principle. I published it. Anywhere. Because you have this dynamics of two different kinds of flows coming together, then actually what you'd consider the saltier water sitting on top of the less salty water, and then the same water column going in different directions. It's kind of interesting.

Storey: Now, where did you published this work?

LaBounty: I published it in the *Journal of Lake and Reservoir Management*.

Storey: Let's branch off into a new area of conservation. What kinds of constraints were placed on your publication? Did you do it on office time, on your own time? Those kinds of issues.

Reclamation Publication Restraints

LaBounty: That's always been a changing thing in research. I think the longest, most common rule of thumb of that, and it's not written, is that if you're going to do a publication you should spend half your time on your own and half office time. Now, the publication needs to be related to Reclamation activities. In that particular case, you know, it was a product that we needed to produce for results of our research program. The Research Director that we've had most recently, he recognizes that that's the most important thing to do is to have a peer review publication. In my early days, earlier days–

Storey: This is Stan Ponds you're mentioning?

LaBounty: Right. Right. Stan Ponds. In my earlier days, the research component was not unlike other components within Reclamation. The most important thing you could do is provide a report for the customer, whether the customer is someone in the region that paid you to do this or whether the customer is research. There's a standard law. Now, say, you did reports. When we had a Reports Branch and Warren Foote was the head of it. You've probably heard of Warren Foote somewhere along the line. He was great. He just did a great job, his staff did, of editing our reports. But they mostly did engineering reports. They did ours also. But those were what we call gray literature. I mean, they're certainly there. I've got more of those than I have anything. But that was our job was to produce those reports.

Now, you want to do a publication? We'd have to ask permission to do that, and we'd have to get a signed statement from the Chief Engineer saying it was okay to pursue this, and then they'd have to review it and send it to Washington for policy, and then we could send it for publication. This is unlike other agencies with scientists in it, because we both have research-graded people. We got rid of ours for a number of years, but the Agricultural Research Service, the U-S-G-S, [U.S. Geological Survey] probably others, have research-graded people. Their grade depends upon having two or three per year peer review publications. I mean, that's their job, and they're expected to do that as part of their job. That's what they get

paid for. But we never took that approach.

I think, like said, we're closer to that now than we ever were, because our director and our current management feel a little more that this is really more important than the report, maybe. Although, you know, again, I have to say if I'm doing something for the Casper Office–I'll just pick that one–and they'll probably want me to investigate X, Y, Z, I come up X, Y, Z solved, here's what you've got wrong, here's what the management implications are, here's my suggestions of what you need to do. Well, they could care less about whether you publish that or not.

If I said to them, "Well, now, you know, I've given you a report."

"Yeah. And we're happy with it. You did a good job. You did exactly what we asked you to do."

"But now I'd like to publish this and it's going to take me a staff month to do that. and the publication is going to charge me 800 dollars to publish it."

"Oh, no. No, we don't need that."

So then where are you? You're really on your own. So what I'm saying is the Bureau hasn't been one to promote that type of method of getting our work out as scientists, and it's hurt us a little bit as scientists, individually as scientists, unless we've been aggressive enough to get some publications out. I've gotten some, but not nearly as many as I would have if I was part of a university or part of the U-S-G-S. But I've got a lot of reports. But if you ask a research-graded person at the university, they wouldn't count those. Those wouldn't count as part of your record. They'd say, "They don't count." So if you're applying for a job and you're up against someone else, you wouldn't get the job. So it doesn't do us much good as scientists. You probably know this.

Storey: Tell me about paying to publish an article.

LaBounty: Well, journals have a page charge. I'm editor of a journal. I'm editor of *Lake and Reservoir Management*. I've never charged anybody, because if they're a member and they have subscribed to the journal, then that's part of the perks. Now, some organizations, I think the American Fishery Society, no matter what they charge so much, 80 dollars a page or whatever, page charge. So if you publish a ten-page article, you pay 800 dollars. We budget for some of that, tech transfer money for some of that. That's a normal thing.

Storey: That's a normal thing? In the history field I've never heard of such a thing.

LaBounty: Really. Yes.

Storey: You submit the article and if they accept it they publish it.

LaBounty: No.

Storey: That's interesting. Can you tell me about some other publications you've done?

Pure Science Publications

LaBounty: Well, I've done everything from what you'd probably consider a pure science publication, which is naming a species I mentioned earlier of pupfish in Death Valley, which is published in the Journal of the American Society of Ichthyology and Herpetology, *Copea* it's called. And I published chapters of books, to articles. I was editor of a *Lakeline* magazine, more than anything. I did an editorial for that every quarter. That was the most fun, I think, because I was able to use my experiences to try and make a point. I really enjoyed that, and they were very well accepted. So that was kind of the publication I enjoyed more than anything. Like I enjoy this. It allowed me an opportunity to vent what I was thinking in my mind. But then there's the scientific publications, and I haven't done a lot of them, but I've done, I don't know, forty or fifty or whatever it is–I don't know how many it is–on the various subjects, mostly would have to do with lakes and reservoirs.

One I'm maybe most proud of is one I did after coming back from China. I was over there in 1981 on the Three Gorge team. I published an article on the environmental effects of constructing the Three Gorge Project, and it was published in *International Water*, the *Journal of International Water*. That was a tough publication to get approved by the Bureau, as you well might imagine. But what I tried to do was to, with my experience and based upon a lot of anecdotal data that I had collected by being there up and down the Yangtze River and talking with people who before that time the Chinese would not have been able to express any kind of an opinion at all, I was able to get them to express some and read between the lines, so I'd get some knowledge. Besides anecdotal it would be a little bit of some science behind it.

There's a lot of stories about that, of course. I made a lot of notes, which are all over and locked up because we had to give them all up when our relations with China went downhill, and I don't even have access to my notes any more. You

know that, though, don't you?

Storey: Yes. I know that the Chinese have said that they consider that restricted information because it was done for them. They're our client, is the way I understand that.

LaBounty: The other day I wanted to get a copy of the trip report we wrote, because it had a lot of information. I just wanted to take with me. I can't. But, anyway, that's part of working for the government. But I did that publication before any of that happened. So it was good. It was thoroughly peer reviewed and well accepted. It was translated into Chinese, used in classrooms in China. So they accepted it. They asked me to come back the next year and give a paper on it. I did in Beijing. Paid for my trip.

END SIDE 2, TAPE 2. JANUARY 21, 2000.
BEGIN SIDE 1, TAPE 3. JANUARY 21, 2000.

Storey: This is Brit Storey with James LaBounty on January 21, 2000. You were talking about Three Gorges and being invited back to China.

Speaking Engagement in China

LaBounty: Well, I was invited back just to speak. But I did this publication and, like I said, they accepted it and the environmental community accepted it pretty well. Some of them really liked it a lot and some of our engineers didn't like it too well, because they thought I made a statement the to the Chinese Three Gorges is the same as the Grand Canyon is to us. Well, the implications there are pretty tough since we already had two dams that failed. But, now, Dan Beard[15] loved it. He said, "Boy, it's nice to see someone in Reclamation talking like this." Well, you can imagine. He didn't much favor Three Gorges nor any construction of dams anyway.

So, you know, I was loved and hated–no, not hated–for this crude publication. But that's the one I'm really more proud of, because I feel like I had more of an impact on a larger–at least it made the Chinese take notice. I put together what the environmental effects were in categories, downstream effects and reservoir effects,

15. Daniel Beard was Bureau of Reclamation Commissioner under the Clinton administration from 1993 to 1995. Mr. Beard also participated in Reclamation's oral history program. See Daniel P. Beard, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, from 1993 to 1995, in Washington, D. C., 2009, www.usbr.gov/history/oralhist.html.

population effects, and they formulated their environmental policy based upon that, I hear. I hear nothing more about Three Gorges other than it's under construction. That publication probably is just part of the dust of it now.

Storey: You drafted this. Then it had to be reviewed. Did you feel that what you wanted to say was constrained by that Reclamation review process?

LaBounty: No.

Storey: So they accepted everything you said right off the bat?

LaBounty: Well, Phil Roth, who was the leader of the team at the time, he was the first one to take a look at it, and Phil was and is quite–he'll shoot from the hip a little bit, and he accepts things the way they are. So he was really kind of the Bureau's person to review, although others did. He had me correct some things and maybe soften them. I have a tendency to be a little more flagrant in some of my statements–typical environmental person, I guess–and I understand when someone shows me, "You shouldn't really say this. You don't have enough information to say it this way." I understand it. We're all like that, I guess, though. You get a certain passion about things. I mean, the resulting publication I'm very happy with. I wouldn't have done it any different.

Storey: I have a similar discussion with historians all the time when they're writing about Reclamation. You can say anything. It's the way you say it that's important.

LaBounty: Yes. I guess that's true.

Storey: And so we do have that conversation.

LaBounty: Well, I think after you've been around a while you know that in the back of your mind. So you tailor it to begin with that way, and you get your point across.

Storey: And you can say exactly the same thing you can say without being offensive about it I think. But, anyway, well, I would like to go on and on, but we're already almost half an hour over the time I told you I'd be here. So I'd like to close for today and ask you again if you're willing for the information on these tapes and the resulting transcripts to be used by researchers.

LaBounty: Sure.

Storey: Great. Thank you very much.

END SIDE 1, TAPE 3. JANUARY 21, 2000.
BEGIN SIDE 1, TAPE 1. JANUARY 25, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing James F. LaBounty on January 25, 2000, in his office in Building 56 on the Denver Federal Center at about eight o'clock in the morning. This is tape one.

Let's see, I mentioned that about drowned towns. We were talking and you were going to tell me a story, I think.

Drowned Towns

LaBounty: Of course, Saint Thomas and Lake Mead is the famous one that's down there. But we were talking about the one on Falcon Reservoir[16] that in the last few years during the drought down there surfaced and became–they even inhabited the town. But some of the ones that I've run into have been kind of strange stories.

There's a reservoir in northern Spain, and I just can't think of the name of it right now. If I had my map I could. But it's in northern Spain and it's near Sau Reservoir. It's above Barcelona, toward the French border inland. This reservoir has a church steeple sticking up above it. Oh, way up. It's real noticeable. Beautiful. Makes a gorgeous picture. It's on postcards. It's like a 13th- or 14th-century church that they just drowned out the whole church and the steeple sticks above the reservoir. So kind of in the middle and here's a church steeple sticking out of the top.

It kind of got me. As an American, we'd probably do something with it. But not that they don't, because there's another situation over there, Riaño Reservoir, which filled in 19–get my dates right now–when did I go over there the first time? '89? Well, maybe it doesn't matter. It's probably like 1988 or '89, and it's a reservoir up in Pico de. Oh, shoot. I'm forgetting. It's north of Madrid toward Santander in that area of mountains, Pico de, Motanas, or something.

Storey: And how do you spell the name of this place?

Riaño Reservoir

16. Falcon International Reservoir is on the Rio Grande 40 miles southeast of Laredo, Texas.

LaBounty: Well, it's Riaño. R-I-A-N-O. Riaño Reservoir. It's in a beautiful area of Spain, gorgeous reservoir. There's a good story about it. I did the publication in it, as a matter of fact. The historical part of it's fascinating. It's in a prime brown trout fishery of this part of the earth. I mean, the brown trout fish in this part–and they're native to Europe, brown trout are–is just phenomenal. So we went up there to visit, and they were just filling it. They filled it that year. There's a power plant on it. It's a high concrete dam and has a nice cold stream below. The reservoir was filling for the first year, but it was getting pretty full. I think they had a little water the year before.

The project engineer was a young, brilliant civil engineer whose passion was fly fishing. So he appreciated it. But he had no knowledge. Again, this goes to how it's good to cross fertilize in academia, academic fields, because he was really tickled that I was going to visit there, because biologists didn't pay too much attention. I mean, the fishery managers did, but not ones that they didn't study. These are pretty single purpose. There's a couple of things about this reservoir. One is that it sat there for ten years, the dam constructed and water flowing through it, and they couldn't fill it because it's one legal action after another. A lot of it's due to historical, which I'll get to in a second, but not a lot to do with the fishery because there's so much fishery up there.

But it was filling. So we went out on a boat and we went into these side channels, and it's just teaming with these huge brown trout.

He was, "See. Look what a fishery this is going to be."

And I said, "No."

And he asked, also, "But you need to tell me why they're getting fungus and stuff on them."

I said, "Because they're not a reservoir fish. They'll never live in your reservoir. They'll live in the upper ends where it's cold enough, but this reservoir is too warm and it won't support your brown trout fishery. The streams around it will, but . . ."

He was just devastated by that fact. I mean, that's why managers come in and take out the fish usually that are living in a stream that's being impounded because those fish are not usually not going to survive in a reservoir environment. You have to manage it with reservoir fish. Well, I mean, that's one thing. Like I said, he was devastated and wanted to know what to do. He had visions of going out fly fishing

all over the reservoir. Right now it was fine. There was these big fish, but they're just going to die before the end of the year. I mean, that's the way it is.

But the reason the dam had been stopped is because of the cultural, historical problems that they'd had in the area. It's a beautiful valley. Old. It goes back, you know, I think five, six generations you could easily follow the people that lived there. The town of Riaño, which is right in the valley, they built all their towns down in the valley because it sheltered them from the wind. Well, the engineers didn't think about that either. But they had to move the town of Riaño. It wasn't a very prosperous town. Small town but not very prosperous. Typical like we would think out in some of our country, I mean, where the kids are moving to town and things like that. They relied on tourists, fishermen and stuff, driving through.

They said, "You'll have more tourists because of the reservoir." Which is true. "We'll, build you a whole new town. We'll build it over here."

"Where?"

"Over on the side of the reservoir. You can look out and see the reservoir."

Well, the people protested just vehemently, because they knew that it was going to be windy up there, and the new town is not going to be down in the valley. It's different. Totally different. Well, that part of it they negotiated and negotiated and they built them a new town.

Well, then in the process, they wanted to move some of the structures. One of them was an old church. The church, and I don't know the exact dating on these things, but went back, we'll say, three hundred years, something like that, or four hundred years. I don't know. A long time. Longer than we would have here. So they said, "Okay. We'll move the church. We'll move the church and we'll move the town. We'll put it in a nice place up in this new town."

So they go ahead and start doing that. The town downstream about four or five miles said, "Wait a minute. You can't move that church and the doors. That church used to be in our town. That's our church, really, if you go back far enough." The doors were solid hand-carved doors, and it was a beautiful brick building. They said, "No, if you're going to move the church, move it back to where it originally was, not up on the hill." So they sued over that and it lasted a long time for that. Well, to make it a little shorter, finally they settled on where they built the town downstream a new church, moved the old church up on the hill in the new town, the

old doors went to the new church. So they settled on it that way. But it held it up for a long time because of the historical and cultural aspects of Riaño Dam.

That was 1988, I believe, I visited the first time, and then I went back. I did an article for a journal and documented these thoughts and interviews, because I thought this was pretty unique. Then I went back two years ago. I wanted to go back there again. When I went to Spain I said, "I want to go back to Riaño. First of all, it's a beautiful place, and I want to talk to that same engineer and talk to the people in the town. I want to interview some people, and I want to just kind of do a little investigative reporting on my own to do a follow-up article, what has happened in ten years." It had been just ten years. That isn't done very often. Of course, it isn't a scientific study, but there wasn't a lot of scientific data beforehand. So it's all anecdotal type stuff, which is fine.

So I went back there and I learned a lot. I learned some things I expected. Of course, the brown trout fishery was gone. They had put in some warm water species of fish, which were doing fair, but the reservoir fluctuated so much because it's so heavily used for power generation it isn't really that good of a fishery. So the people still fish the streams around there. The fishing down below had improved.

This same man who is interested in the environment and fishing, only because of him did they keep the oxygen levels up, because the oxygen levels in the lower parts of the reservoir become quite low in the summertime, and so the oxygen in the releases is low for four or five miles downstream, which precludes any kind of a trout fishery. So he, through his politics, found a way to use a multilevel outlet and mix that and get the right mix, not constantly but at the right time. He has monitoring within it to do that. Well, someone who didn't have this passion for fishing, unless they were pushed by somebody else, wouldn't do this, and in this case probably nobody would. But, anyway, the fishery down below is a better fishery.

The people have accepted it as time goes on. It's just a little Spanish town now, little village. Nice. It looked new when I was there the first time, but it was ten years old. We ate there and everything. And I asked the people. They said, "Yes, we're happy. Fine." I mean, you know, they still grumble. But they accept it, like people do, what they have. I'm sure a lot of people have money. And the church is there with it's carved doors that someone copied the old doors which are down on the new church downstream. So I saw both churches. It's kind of amazing what they would spend. So we think we spend all this effort in the United States and nobody else in the world does this. No, that's not true. There's some pretty good

stories out there. But that's the story of Riaño.

Storey: Do you remember the kinds of species they put in? They were European species?

LaBounty: I have that around here. Yes, they were European species. [Telephone interruption.]

Storey: We were talking after we turned off the tape recorder the other day about how you have different perspectives from different offices in Reclamation. You said you could talk for a long time about that, how people out in the area offices say, "Oh, my God. What do they do in the regional office. They're just wasting time and money." And it goes on and on throughout Reclamation. Could you talk about your perceptions from the various offices you've been in? You were in the regional office. You were in an area office, what we now call an area office. Then it was project office. And then you were in Denver.

Perceptions on Reclamation Offices

LaBounty: Well, it's one of the things that's really bothered me about the agency. I mean, I love the agency. I love the mission, and my career I've been very happy with. But I'm a sensitive person, so that doesn't help. But I've always been very aware of this particular aspect. It's part of life. I understand. I mean, that's why we have the Denver Broncos and the Kansas City Chiefs. Same people working for the same company will fight like cats and dogs on Sunday over a football team. I mean, it's human nature, so you can't change some of it.

Reclamation's a small agency, and there's a lot of camaraderie that exists between it. There's a lot of cliques, a lot of cliques within it, different groups. You know that. We all have our own cliques. That kind of helps. But when I was in the regional office, I started off there very naive. I didn't understand the hierarchy too much. But I learned. That was one of the things I had to learn. I knew there were these project offices. At that time, we had one in San Bernardino and one in Saint George and one in Blythe, Yuma, Phoenix. I think that's all within that [Lower Colorado] Region. I didn't get any feeling at that particular time of animosity or hard feelings against those offices. It seems as if with the Blythe Office and the Yuma Office, the Yuma Office, in particular, was just considered like an empire.

The project manager down there was named Tim Moser [phonetic], a gentleman, a real gentleman. He's dead now. But I can remember that he was considered a little bit like the emperor of the river, and there was a squabble between he and the

B-L-M. They called it then not the Bureau of Land Management but–what did they call it. It was an agency that was folded into the Bureau of Land Management.

Storey: I've forgotten the name of it right now.

LaBounty: River? Lands? Colorado River Land Office. That's what it was. Colorado River Land Office. It was in Interior, but it was separate. Then Arleigh West sat up in Boulder City as the king. Every regional director was the king. But that office was different because of that. Well, they all were different. I guess they were all different. Phoenix was, again, different, because they were on the verge of this big project that was just passed and was just about to get funding, and Cliff Pugh was the Project Manager down there.

When I went down there, I started to see what people thought of each other. I started to be quite aware of it. I mean, really aware, because, I mean, those folks down there had nothing good to say about anybody in Boulder City. There was no camaraderie at all. They considered themselves a separate region. They even had me convinced that's what was going to happen. It was going to be made into a separate regional office or the regional office was going to be moved there, because that's where all the money was coming, and moved out of Boulder City, which would have been a real shame, because of Boulder City's uniqueness in having its own building. I don't know of any other regional office that actually owns its own property like we do there, and it is historical. It is the Bureau, as far as I'm concerned. But I think they felt the people in Boulder City were just, more or less, pests. And that's never really ended. I don't have a lot to do with those people down there, but it never really ended.

Then toward Denver, since there was a Chief Engineer, there had to be a respect by the engineers, because the Chief Engineer had yea-or-nay power. Had a lot of power. So it wasn't like the regional office. It wasn't thought of that way where they are just a pest and the regional office is taking part of our money and using it to pay salaries and what are they giving us for it. Denver you'd hear a little bit that they cost a lot. You always heard that, and you still hear it today. But I think it was more out of respect. There was a lot of attention paid to, "Well, I suppose the guys in Denver aren't very happy today because the Broncos are losing," or whatever. So it was always an awareness amongst the engineers of what's going on in Denver.

When I came to Denver I was sensitive to all this, because I felt like, well, the Technical Center, you've got to kind of work at it with these people. You've got to work on the relationships. You have to be one-on-one personal relationship to try

and make this work, because it's not going to work office to office just as a business relationship unless you have the power of the Chief Engineer, which in research we didn't have that at all. Some of the research projects did but we didn't. Ours was just, you know, we had to convince them they needed us.

So it's always made it very difficult, and that's really never changed. I was talking to some people yesterday about that and giving them advice. I said, "In order for us to survive, we've always survived on soft money. Our positions are hard, but our money is soft. You never know from one year to the next exactly what your budget's going to be. There's two ways of doing it. First of all is to get as close to your money as you can. The best way is if you have the Budget Review Committee approve of a measure that's funded by the Department and is approved by Congress and it's a line item and your name is there for that million and a half or two million or whatever that program is, you're the Program Manager, you're as close to the money as you can get. That's probably going to stay. As long as you're good at your politics at that level. You don't have to deal with it. But the minute you have someone in between, you're not close to your money, and the farther away you are, the softer that money becomes."

Working with regional money is like that, because you have to rely on what happens within a region, plus what happens with their budget. So if you are kind of the afterthought, and I often thought the things that they paid me to do was just hush money almost. I mean, I don't mean it in that way, but it was, "Well, let's keep LaBounty happy," type thing. I mean, there's a lot of times I think that happened. Now, that was okay with me, because I felt like, "Well, I need to do some educating. I know more than they do about what they're doing. So I'm trying to help them out." And usually it ended up that way. I was always sensitive to not overspend budgets and not ask for more than I needed and try to violate the rules that had been violated by Denver.

It's a kind of funny relationship between these offices, and I've seen it in others, too. Having quite a bit to do over the years with the people in Bismarck. I think they've very similar in their mental attitude toward the regional office that Phoenix has. Or maybe it's better now. I don't know. I haven't been up there for a few years. I know for years they'd have a meeting and I'd say, "Well, isn't So-and-so coming over from the region?" They'd say, "No, we don't need a region. We don't need a region." They just needed themselves.

When Dan Beard came in, he gave them more autonomy and called them area offices, and now, I suppose, there are cases where they really don't need the regions.

So the regions have been scurrying around looking for what their role is suppose to be in some of this. So, I mean, it's a constantly changing environment. You wait long enough it will change more. I don't know if that's how you wanted it.

Storey: What about the Washington Office? Perceptions from the different spots in the organization?

Perceptions of the Washington Office

LaBounty: That's just as variable as night and day. I mean, I've heard Disneyland East. But I think overall, in general, if I think about it, I think that the people, the population within Reclamation, understands that's where the Commissioner's Office is. The way it's set up now, we all know that those people work very hard back there, because they're understaffed. That kind of stuff needs to be done. I mean, I think the minute someone has ever started to moan and groan about Washington, whoever they're working for has found a way to get them back there on a detail and leave them back there for a while, and maybe they'll find out. Some stayed and loved it, loved that kind of work. It's different. We both know it's a different–your day is different there than it is here.

But I never have noticed any. I guess the biggest complaint that anybody would ever have is Washington's demand on having something done immediately. And you know you've run into that, I'm sure. I mean, it's, "Couldn't you have told me about this three weeks ago? You knew. I can see the dating on the letter. And you want me to do this by tomorrow?" I mean, how many of us have gotten something like that. But that's the way Washington runs. The thing of it is, you can grumble all you want, but your whole program may depend upon you answering the question that's there.

Storey: Your fisheries biologist down at Boulder, for instance, became a [unclear] and he was very uncooperative. What was it? Sucker of some sort.

LaBounty: Tom Burke?

Storey: I don't know. I don't remember his name. But, anyway, they have completely time frames in Washington.

LaBounty: Wait a minute. Explain to me what you're saying there, because I'm interested in that. The fishery biologist in Boulder City. That's Tom Burke. The one who works on the razorback sucker.

Storey: Why don't we talk about it later?

LaBounty: Okay.

Storey: Because I'm interviewing you. We don't need to have this on the tape.

LaBounty: Well, I've known him a long, long time and have my–well, I don't want–

Storey: Well, he isn't very cooperative. [Laughter]

LaBounty: You just struck a nerve is what you did.

Storey: Let's talk about some of these unanswered questions. You mentioned the Grand Canyon. You mentioned that the black bass gave way to the striped bass in Hoover, and you've talked a lot about that already, how they introduced different fish for different reasons, the rainbows and so on. You talked about how the whole system altered. Are we talking about the biological system and the fisheries introductions? That's what you were talking about?

Biological Systems and Fisheries Introductions

LaBounty: Well, it's both. When a person says a species is endangered in the lower region and someone asks the question, "Why is that species endangered?" The top two reasons are impoundments and introduced species. So they're both altered and changed the biota, botanical, the plants, and the animals. You slowed the water down so you're not having the scouring.

So you have the braided channel and some bosques out on the site of cottonwood, way out, way, way out that survive a lot of years and then get dumped by some big flood. You have these big river fish living there, and then you impound them. So you've changed the characteristics. You've cooled the water down. The Colorado River, as you know, is a very silty river, naturally, so it makes it a clear stream. So instead of leaving sediment you have it picking up sediment. The water kind of holds the sediment. So it moves it from one place to another, depending on the flow. Then you have the impoundments.

As I mentioned about this project in Spain, the impoundments–fish are different. I mean, fish come from different places. When you think of a sunfish or a black bass, you think of something in a lake or a reservoir. When you think of a trout, you most of the time think about streams. So, I mean, fish come in those two categories.

Then there's cold water and warm water fish, too. A bass, you're probably going to need a jacket to go. On a day that you went fishing for sunfish in the summer, you don't need a jacket. But you're not going to catch trout. Up in the mountains you're going to catch trout. In the afternoon you probably need a jacket. So they're cold water fish. So those are kind of how the fish break down and managers, knowing that about all these different species, use these fish for these different niches.

There's different philosophies on that, but some of them are not carefully thought out. So you not only have to introduce the fish, what are they going to eat? You have to introduce what they eat. So then what you do is you mess up the food chain that exists there. So, I mean, I guess I did talk about the kokanee and the mysis shrimp. You can't do one thing without doing another thing, without doing another thing, and where does this all end unless it's very carefully thought out. The best way to manage it, the Israelis do it this way and there's some cases in the United States where we've done it this way, is to manage it from the bottom of the food chain up, work your way up, start introducing things at the bottom and introduce right above it. Instead of starting with the top carnivore and then say, "Oh, gee, now we've got this northern pike in here, what is it going to eat?" Well, the trout you'd left in the reservoir that people were happy with catching. Oh, well, that's too bad. That's happened in Colorado. I mean, we've got northern pike everywhere on these high plains lakes, because somebody introduce them. I don't know. But northern pike will eat everything up in from to fit. They're terrible. They eat all the trout.

Storey: Voracious?

LaBounty: They're voracious. So the trout fishermen that were so happy with these lakes when I was younger here, I mean, that was the thing to do is go out. You know, too, from growing up here that that's the way it is. So they need to be well thought out. The fishing public are not generally very patient. They want to go out and get meat. So that's why the stripped bass is so popular. It grows very rapidly. It lives in schools. It's a very good eating fish. Fights. Fishermen love that.

Storey: Are those the big black-looking fish that you see down along the shore right there at the dam by the old visitor's center?

LaBounty: No. They're carp.

Storey: Those are carp?

LaBounty: No. You'll see some stripe. But stripers are silver, silvery and they actually have

stripes on them. They're a beautiful fish. If you go down to the marina, a lot of them have decided to hang out with the carp and feed on bread. It just shows you how varied their niche can be. I mean, they're competing for bread with the carp now, which is kind of interesting.

But, you know, another interesting story. I don't think I told this one. But when I was in China, I was out in this big reservoir in Danjiangkou Reservoir, a large reservoir in central China near–

END SIDE 1, TAPE 1. JANUARY 25, 2000.
BEGIN SIDE 2, TAPE 1. JANUARY 25, 2000.

Danjiangkou Reservoir in China

LaBounty: It's near the city of Chongqing. No, that's wrong. Chongqing is up high and Shanghai is down below. It's in between. I just can't think of the name of it right now. It doesn't matter. But, anyway, it's a large reservoir, a large hydropower reservoir. We went out on this boat and I looked out. There was ten of us on this large boat. It was a large boat and there were ten Americans and thirty Chinese. So it was a big boat. I looked out in the distance, and I saw some guys, looked like guys, with two boats doing something.

So I was curious. As we got closer, I said to someone, "What are they doing out there?" I could see they were casting nets and catching fish. And I said, "Oh, they're fishing in the reservoir?"

And they said, "What?" I mean, the translator was saying, "Fishing? What do you mean fishing?"

I said, "Well, they're catching fish."

"Yes. They're catching fish. They're catching fish to eat."

I said, "Well, it's amazing. In our country, this big reservoir with all this habitat"–and it had a lot of habitat–"would be a fisherman's paradise."

And they said, "What do you mean, fisherman's paradise?" And they're translating this back and forth to the Chinese and now they're very curious of what I'm talking about.

"Well," I said, "in our country fishing is a very popular sport." Well, in China, you have to understand, they didn't have time for any recreation, much less fishing. So I quickly started to understand that this doesn't translate.

So they said, "Explain to us what you mean by fishing? What do you do and what do you use? What do you do? Why do you do it?"

And I explained to them. I explained what a fishing pole was and how you go out and different ways of doing it, casting out and trolling and setting bait down and waiting with the bobber. And they just laughed and laughed and laughed amongst themselves and chatter, chatter, chatter. And I said, "What are they saying?"

They said, "Well, they can't understand why you would even bother with something like that when you can go out with these nets and catch them. Why would you waste all that time? It's so inefficient."

The concept of relaxing didn't exist for that sort of thing, and they knew nothing in China. I mean, they're dedicated to their twelve-hour day, seven days a week and that was it. I mean, that's what they're told to do. But fishing was not in their vocabulary.

Well, then even more so, you know, then we started talking about it. And I said, "Well, what kind of fish are they catching?" And they told me. There are fish like carp, which are native. There's four carps. Black carp, silver carp, grass carp, and common carp are all native to China and that's their food fishes, the food fishes of China. I mean, they're very good and nothing wrong with them, especially the grass carp. They're like cows. They eat grass. So they told me some of those kinds. And they said, "We've got problems, though. We've got these predator fish. How, in your country, do you get rid of the predator fish? Because they destroy our food fish."

Well, now, here we've got another dilemma. I mean, this is a long conversation. I said, "As a matter of fact, we manage for the predator fish, because that's what these fishermen that I explained to you like. They like these predator fish."

Well, they couldn't understand that. "Why, that's stupid. Why would you put predator fish in the reservoir when you could be growing these food fishes and feeding people and letting them eat them up? I mean, these are better fish for eating than these predator fish." They just could not understand the concept that I was trying to explain to them about relaxing, about the game fish. They wanted to know

what in America we do to get rid of those predator fish. Is there some answers? We need answers to get rid of those dastardly things that are destroying these food fishes. Their food fishes we call their prey and we manage to keep that population at a level that balances with the prey fish. So it's just kind of a different concept in another part of the world, but it was real interesting to me to have that conversation, because I was surprised.

Storey: And I've always had the impression carp aren't a favored food fish, that they're muddy tasting or something.

Carp as a Food Source

LaBounty: Not over there. In Europe they're favored, too.

Storey: Really?

LaBounty: You see people fishing below a dam and you say, "What are you fishing for?" And they're carping. They're carping. Oh, they love them. Well, we equate them with dirty water and stuff. For one thing, they have bones in the flesh, and bones in the flesh are not something Americans like too much. The Chinese, they'll take a fish and cook it, a carp, and they'll just take a big old knife and whack, whack, whack, whack and turn the plate around 90 degrees and whack, whack, whack, whack, and then they just start putting that in their mouth and the bones just come out [spitting sound] out of their mouth, magical. We're always amazed at them. The same thing happens with any kind of meat, duck. Any kind with bones in it, they're used to that. They don't bother with de-boning things. That's an American thing.

Europeans, they just take them out of their mouth. They can do it, too. They don't spit them out like the Chinese that just seem to emerge a bunch of bones out of their mouth. We're always amazed how fast they can do that. As a child, that's what they're taught to do is just separate that, sort of like a parrot separating a sunflower from its shell. You've seen people who chew sunflower seeds a lot. They can put a bunch of sunflower seeds in their mouth and out come the shells. Well, I can't do that. Can you do that?

Storey: No. I've never trained for that kind of thing.

LaBounty: No. But, I mean, you know people like that. It's just kind of a thing.

Storey: Yes. An opinion?

LaBounty: Yes.

Storey: You mentioned the Grand Canyon dams. Now, they had been canceled before you came to work for Reclamation, but you were right in the offices where those dams were being proposed. What were people talking about with those dams when you were there?

Grand Canyon Dams

LaBounty: They weren't talking about them. I think the law was set down that you were not to talk about them and the same thing with transcontinental diversion. There had been a lot of schemes by the planners thought up of bringing water from as far away as Michigan, certainly the Columbia [River] basin. But the Grand Canyon dams, like you said, boy, they had an office all set up. They were doing a lot of design work. They put a lot of holes in canyon walls and did a lot of coring and it just stopped. I don't know how many years. It probably was three or four years before I went there that that all stopped. Because it seems to me it was like '64-'65. That was when the–

Storey: Yes. Right around in there.

LaBounty: See, and I started in '69. So by then I didn't hear much. The only time I'd ever hear something was a little mumbling now and again, "Well, if we'd built that it would have been better." Like in relation to power needs for the Central Arizona Project we bought at 25 percent interest. The coal-fired–which one is that? Power plant. I can't think of the name of that either, but the coal-fired power plant in Arizona.

Storey: Oh, the Navajo [Generating Station]?[17]

LaBounty: Navajo plant. During that environmental assessment and all they were saying, "Oh, that dirty air. It's creating dirty air. There's nothing cleaner than hydro." Which is true. I mean, for producing energy there's no cleaner way to produce power.

Storey: That does not, though, necessarily mean it's without environmental effect.

LaBounty: That's right. I mean, that's looking at it very single purposely. And the Congress and the leaders of our country have determined that those dams would not be built there. I'm sure you could go through and ask everybody you've interviewed their

17. The Navajo Generating Plant, near Page, Arizona, was constructed in 1974 and is the principle supplier of power for CAP pumping.

opinion of that, and you'd probably be split right down the middle. But you'd get a lot of strong opinions. People say, "Well, that's the biggest mistake we've ever made to stop building those dams. We should have built those and Hells Canyon[18], also."

But, you know, the nation made a conscious decision to stop doing that. Dan Beard only said out loud what we all have known all along. We're not going to any more dams. I mean, I don't know where we thought we were going to do that. Now, if one needs to be built, we'll be here to do that. But the dam building days are over with. I think that was very appropriate the way he said it. Maybe he was a little tough, but he was right. The public was not going to accept Reclamation doing this any more. We had so much trouble with the Narrows [Project][19] trying to get it and Two Forks[20] and there's a whole bunch of them like that, Auburn. I mean, we didn't have any successes. They were costing a hell of a lot of money to try and justify these dams.

Well, we were never suppose to be the ones that lobbied to get these dams built. But the engineers and the personnel surrounding these projects became so focused on getting these dams going that they ended up essentially being lobbyists for these dams. I mean, not officially. We're not suppose to do that. But Congress, in its wisdom, and the administration, which I have full respect for the leaders, whether I voted for them or not. I may not like their decisions, but this is a decision for the good of the public that they made. I think they were probably correct.

Now, Auburn's still there. There site is still there. It may be built some day. They certainly need the flood control. I think people say, "Give it a huge flood like they had down in American River. By God, they'll resurrect Auburn." Well, maybe. But I think the state will do it. It isn't going to be the Bureau of Reclamation. So Marble Canyon, I mean, we're getting along without them. I think they were really to produce the power for running the Central Arizona Project.

Storey: Yes. The pumping plant.

LaBounty: I don't know that there was any more purpose. So the coal-fired plant is doing that,

18. Hells Canyon was a Reclamation proposed dam in the 1950s on the Snake River in Idaho.

19. For more information on the Narrows Project, see Jedediah S. Rogers, "The Narrows Unit, Pick-Sloan Missouri Basin Program," Denver: Bureau of Reclamation History Program, 2013, www.usbr.gov/history/projhist.html.

20. The Two Forks Dam Project was proposed to construct a dam on the South Platte River near it confluence with its north fork 25 miles southwest of Denver, Colorado. The project was eventually cancelled due to environmental concerns and an EPA ruling that the plan would violate the Clean Water Act.

plus we sell a great deal of the power and make some money off of that, too, I guess, to help economics. Well, we would have done the same. And sure it's not clean air. We're doing the best we can, I guess. But I don't know.

Storey: Have you been involved with any of the hydro projects and their biological effects?

Biological Effects of Hydro Projects

LaBounty: Different times I have with nitrogen super saturation, some of that, Yellowtail [Dam].

Storey: I'd like to talk about what the issues are there.

LaBounty: Yellowtail is a unique–they're all unique. Yellowtail is a high dam on the Big Horn River in southern Montana near the Wyoming border.[21] It's a power producer, big-time power producer. They constructed an afterbay to soften the outflow from this reservoir, because it was like a yo-yo on the river. The river below is a blue ribbon trout fishery, no mistaking it. It's one of the best I've seen anywhere in the world. There's one in Spain that's good. The Miracle Mile in Wyoming below Kortes [Dam][22] is good. This one, make no mistake, it is a productive fishery. If someone said, "Take me to the best spot that you know for fly fishing." I'd say that would be where I'd take them, at least to my knowledge.

When they put that afterbay in, it has a spillway, of course, and it causes entrainment of gas, entrainment of air. It's like plunging water that's aerated into the water column. That air taken to a certain depth becomes greater in percent like nitrogen and oxygen, it's greater in percent than it would be at the surface because of the pressure underneath. So you get values above 110-115 percent and we know it more commonly as divers going down too fast and getting the bends.

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21. The Yellowtail Unit in southcentral Montana is part of the Pick-Sloan Missouri Basin Program. It is a multi-purpose development providing irrigation water, flood control, recreation and power generation. Facilities consist of Yellowtail Dam and Bighorn Lake on the Bighorn River, Yellowtail Powerplant at the toe of the dam, Yellowtail Afterbay Dam–a short distance downstream–and related structures. For more information, see Carolyn Hartl, "The Yellowtail Unit, Pick-Sloan Missouri Basin Program," Denver: Bureau of Reclamation History Program, 2001, www.usbr.gov/history/projhist.html.

22. The Kortes Unit of the Pick-Sloan Missouri Basin Project, consisting of Kortes Dam, Reservoir, and Powerplant, is in central Wyoming in a narrow gorge of the North Platte River 2 miles below Seminoe Dam in the Kendrick Project, and about 60 miles southwest of Casper, Wyoming. For more information, see, Wm. Joe Simonds, "The Kortes Unit, Oregon Trails Division, Pick-Sloan Missouri Basin Program," Denver: Bureau of Reclamation History Program, 1996, www.usbr.gov/history/projhist.html.

Well, if the water contains a certain amount, above 110, it depends, certain fish get affected by it. Their eyes pop out. They get bubbles in their gills. It can kill them. And it selects off a lot of the fish. Spiny-rayed fish, bass, are relatively not susceptible to the same levels that trout are, and some species of trout are more susceptible than other species of trout. Rainbows are probably more susceptible than brown. I'm not positive of that, but I think that's true.

Yellowtail, although this problem exists below a lot of hydro plants anywhere, but Yellowtail was unique in that we thought we could solve it with some construction. The Corps of Engineers and the T-V-A tried some different things that worked. Could put a flip lip on the spillway and it would get that water not to plunge. Well, the dynamics were such that it just kind of blew it out of there, blew the rock out and didn't work. Some of the other engineering solutions required some changes in operation, which is really a tough thing to do. So the problem just persisted.

One time when I was up there with Lee Danson, who is the environmental officer out of Billings, went there with the Fish and Game. He wanted me to see how bad it was. He has, "You know, this is something that research needs to get in on." I was very impressed, because I saw a lot of sick fish, a lot of big, sick fish, lots of them. They're ugly and they have eyes blowing out and bubbles all over them. Their chest is blown out and if you look inside there's bubbles up and down there. It's not right, especially for the game fishery. You wonder what's happening to this game fishery. And the contention was the Bureau's doing this in their operations and it needs to be fixed some way. But Montana's a pretty good bunch to work with. They don't protest in the streets like some fish and game agencies, so to speak. They're willing to work with us.

So I came back to Denver and went to the budget guy, Bill Simmons, at the time and I said, "We need some big bucks to get going on this problem." I explained it all to him. He reached in his money drawer and pulled out funding for it, which is nice. He just happened to have it. I call it a money drawer because every budget person has what I call theoretically money drawers. They can find money.

Storey: What others of us might call slush fund?

LaBounty: Yes. Money drawer is a nice way to say it. But they always hold a little back, in other words, is what we're saying, for different things and people, actually.

Studying Nitrogen Saturation at Yellowtail Dam

Anyway, we've got a half-a-million-dollar study going up there, and we contracted with Montana State University and Bob White, professor up there. We set up labs. We had to work with the local office there. Talk about a culture difference between operating engineers and biologists. This kind of epitomized it because actually the Deputy Project Manager was an old-style Bureau guy. Personally, you couldn't meet a finer person. Had nothing, no good to say about what we were doing, could care less, tried to be as uncooperative as he could in trying to find us facilities. Fortunately, the young manager that they had brought in–it's a small community because it's one of those camps, Bureau camps.

Storey: Yes. I've been out to Yellowtail.

LaBounty: They have their own dynamics socially.

Storey: Real small community.

LaBounty: Yes.

Storey: We actually have housing there still, I believe.

LaBounty: Yes. And we stayed in it, used to stay in it. But, anyway, so Montana State set up a project there and we brought in the experts of the world, from Canada, to get to the bottom of this problem. We said in three years we want to come up with what's going on here.

Well, it's a surprise, actually. There's a report about two inches thick on every aspect of the bubble disease out there. We had divers that would follow the fish downstream and count them with cameras. A lot of master's thesis came out of this. But what we found out is actually we recommended they leave it alone, because it was selective. We even said that the trophy fishery depended on the selective powers, so to speak, of nitrogen saturation. It kept out the riff-raff and left the stronger, bigger fish to survive, and enough of them survived made it a trophy fishery. So we said leave it alone. Study it, understand it, but leave it alone. So no action.

That's been ten, twelve years ago. I still hear rumblings, "Oh, we've got to do something about that Yellowtail." Sort of like we want to reinvent ourselves again. People forget people have done this sort of thing before. Everybody's gone now that was involved in that. They're starting to catch flak from the Fish and Game again about these sick fish, not knowing that there's a history there. Nobody ever looks

back and says, "Well, let's see what was done." That's the bad thing about government, you know, we leave and there's no connection anymore. It's just gone. These kinds of things will help, maybe.

Storey: Yes. I hope so.

Fish Problems at Grand Coulee Dam

LaBounty: Anyway, that's Yellowtail and it is really unique. I haven't had much to do with it, but Grand Coulee [Dam] has a huge problem with nitrogen super-saturation. In recent years I haven't had much to do with it. The hydraulics lab people are dealing with it. E-P-A's gotten involved and the Corps of Engineer and the Native American tribes. So there's a lot of action going on in that arena of Grand Coulee, and big money is going to be appropriated to do some correction there. But it depends upon the year, being how much flow you're getting in your river systems and how much water is spilling to whether the problem exists. Through my years you go a few years and you don't hear the word nitrogen embolism, then all of a sudden you get a few calls and people say, "Gee, we've got this problem again." It's sort of like if you wait long enough it will go away.

So it's not one of those, I would say, hot, hot topics Bureau-wide, but it's enough to pay attention to, except maybe at Grand Coulee where it's become a political issue more than anything else. That's what I hate is when the environmental problems become political, and that's happened a lot. You know, Kesterson.[23] Not that they aren't bad, but when the politics in the newspaper get into them the science struggles to provide information to make a sound conclusion.

Multi-Level Outlet Concept

You asked about hydroelectric. That's one aspect of it. Another is the multi-level outlet concept. One of the first things I got involved in, not a lot, was the Flaming Gorge Reservoir.[24] Flaming Gorge is on the Green River in Utah, goes up in to

23. "Completed in 1971 by the Bureau of Reclamation, Kesterson included 12 evaporation ponds for irrigation drainage water. The reservoir, a part of the San Luis National Wildlife Refuge, was an important stopping point for waterfowl. In the 1960s officials proposed a 290-mile drainage canal to the ocean known as the San Luis Drain. Only 85 miles were completed, however, and work on the drain halted in 1986 after scientists discovered bird deformities due to drainage at Kesterson." For more information, see Water Education Foundation, "Kesterson Reservoir," www.watereducation.org/aquapedia/kesterson-reservoir. (Accessed 8/2016)

24. Flaming Gorge Dam is on the Green River in northeastern Utah about 32 miles downstream from the Utah-Wyoming border. For more information, see Toni Rae Linenberger, "The Flaming Gorge Unit, Colorado River

(continued...)

Wyoming. The dam is in Utah. It was built and I think it was completed in like the mid-sixties. It's part of the basin act.[25] You watered the upper basin. When it was completed the Bureau let a contract to remove the trash fish in the river system. There were barrels. Fifty-five gallon barrel after barrel after barrel after barrel, hundreds of barrels of poison fish dead. The ichthyologists who I know real well, one of them is Robert Miller of the University of Michigan, nobody could do anything about this. If they had had their way, don't do this because these are native fish you're getting rid of, which they were. Squawfish. Well, now it's called–

Storey: Something minnow.

LaBounty: Pike minnow. Pike minnow. The pike minnow, the razorback sucker, the boney tail chub, and many others. But those three which have more notoriety than the others were abundant, barrels of them. Fortunately, Bob got a lot of those barrels and put them in the museum at the University of Michigan, these fish, but protested vehemently that this is not the right thing to do. But, of course, we had our mission to do and that was to poison these fish because Fish and Game wanted this so they could stock this reservoir with trout. The downstream was going to be this blue ribbon brown rainbow trout fishery.

Storey: So they planned for a blue ribbon fishery?

LaBounty: Yes. Exactly. Exactly. We worked with Fish and Game. Yes, exactly.

Storey: And, again, which reservoir was this?

LaBounty: This is the first chapter. This is Flaming Gorge. This is the first chapter of this. Three chapters.

Storey: Okay.

LaBounty: So when I came, it was apparent that the water coming out of Flaming Gorge was coming out something over 4 or 5 degrees celsius, which is less than 40 degrees. Too cold. Too cold for fish to grow. They could live down there, but it wasn't a blue ribbon fishery because even though this is a productive river, you're not going to get any production out of water that that's cold. You need to warm that water up. It needs to be warmer. How much? Well, I think they determined. I don't

24. (...continued)
Storage Project," Denver: Bureau of Reclamation History Program, 1998, www.usbr.gov/history/projhist.html.
25. Colorado River Storage Project, Act of April 11, 1956, ch. 203, 70 Stat. 105.

remember. Three or four degrees. So, I mean, this gave our engineers something to do and we did it and did a great job of it. Divers constructed a multilevel outlet above Flaming Gorge, above the dam in the reservoir. You, perhaps, remember that.

Storey: Yes.

LaBounty: They constructed this facility to warm up the water below. Works fine. So that's chapter two. Chapter three. Those fish that there's still a few of down there, the native fish, are endangered. They're listed. You need to protect them. So we need to forget the trout. I mean, this isn't everybody's opinion, but this is sort of the official opinion. Forget the trout. We need to manage this stream for razorback suckers, Colorado pike minnows, boney tail chubs, and the other natives. We need to manage this stream for that, downstream now for that. And that's where we are. That's what they're doing now. The Fish and Game in Utah does that because they're mandated to do that.

Now, I'm not saying that that fishery doesn't exist down below. It still does. It's a good fishery. I don't know how they manage the temperature. But, I mean, this has gotten so much attention that the Bureau of Reclamation's Upper Colorado Region is presently planning for a multiple temperature control structure on Glen Canyon at the cost of somewhere. It could be as high as 90 million dollars.

Storey: And we've completed one at Shasta [Dam].

LaBounty: Shasta. Now, that's for native fish. That's for the native fish. They are the salmon. That's to bring the temperature–now, that's a curtain. That's a different construction. But, now, the one at Glen Canyon will be for the native fish and will only be a tool to be used.

Regulating Fisheries between Lake Powell and Lake Mead

There's a great debate going on amongst fishery biologists, and I'm in on that. The temperature below Glen Canyon Dam is cold and it's a good fishery for rainbow trout fishery. Then you have your side streams coming in that contain your native species, which live very fine in these lower Colorado in some of these side streams. Then you get into Lake Mead you get all these warm water species like striped bass, for example, but don't go upstream there. They stay away from there because it's too cold. They don't like that up there, so they stay away. Now, if you warm that water up for the sake of the native species, because that's what they need, don't you

draw the predators up there and have them?

Storey: Out of Lake Mead?

LaBounty: Out of Lake Mead. Or the ones that come out of [Lake] Powell. They'll survive a lot better and be a lot stronger. You've optimized their habitat. That's my argument. I'm not in the majority of that. I think we're spending a lot of money without knowing for sure. I think we can do some tests at Hoover and try this. But my time's gone, so somebody else will make that decision. So there's a lot of us that have a lot of knowledge that feel that this is not carefully thought out and some of my best friends within Reclamation don't agree with me.

The ones who know most about the ichthyology and would know about it on the outside, when I tell them this they said, "Yes. You're probably right. But, you know, let's have it put in there as a tool just in case." But 90 million dollars? You want to put it in there just in case some day? Yes. Not my decision.

Storey: A lot of money.

LaBounty: A lot of money. So hydroelectric provides–I mean, I could tell more things about what it causes. I have anecdotes coming out all the way–

Storey: Please. Let's keep going.

North Platte River Reservoirs System

LaBounty: Another smaller case is when we're operating a reservoir for hydroelectric, I could just mention most of them have a single outlet and it takes water off of a layer. When you have your most upstream reservoir, let's take Seminoe Reservoir up in Wyoming, it's the most upstream of the North Platte reservoirs. You have Seminoe, Kortes, Pathfinder is a big reservoir, and Alcova is a smaller one. Then the river goes through Casper and into Glendo-Guernsey [powerplants] and then out into Nebraska. The Platte River comes out of Colorado and goes into that reservoir [Seminoe] first, so it's most productive generally the way it is anyway. These zooplankton that I mentioned, the zooplankton population that lives in there?

Storey: Yes.

LaBounty: Nobody had every studied them before, the limnology, the freshwater ecology of that reservoir. I did talk earlier a little bit about these reservoirs, didn't I?

Storey: Just a little.

LaBounty: Yes. Well, there have been some schemes–in fact, I just ran into a plan on that a little bit ago–to raise the dam at Seminoe. I still think it's something that they still think about, to give it a little more storage and power generation.

Storey: Yes.

LaBounty: So in order to do an environmental assessment they need to know something about the reservoirs. So we studied it for several years. We went out and studied that chain of reservoirs. It's also a nice laboratory.

END SIDE 2, TAPE 1. JANUARY 25, 2000.
BEGIN SIDE 1, TAPE 2. JANUARY 25, 2000.

Storey: This is Brit Storey with James F. LaBounty on January 25, 2000. A system of reservoirs.

LaBounty: A system of reservoirs. The North Platte is fairly small and compact, and you've got all the elements. You've got a blue ribbon trout fishery. You've got a reservoir that's just for power production. You got two big, really large reservoirs that are flat. The most upstream is the most productive. The most downstream is small and heavy recreation. You've got all of it compact right there. Study that system. It's going to teach you about a lot of other bigger systems. It's got all the problems and challenges.

The hydroelectric aspect, something we learned that I'd never known. This is back in the late seventies, and I really hadn't thought about it until then and I saw it. By June this population of microscopic animal life, which is very much needed for the smaller fish and some of the larger, was just thick, just thick. But then in August it's gone. Well, it's supposed to be thickest in August and September. It's suppose to grow then and be thickest in August and September. Normally, I mean, that's what you'd expect with the population, the cycle goes like that. They lay eggs in late fall and then spring they grow up and summer they get the biggest. It's kind of normal.

Well, you look at the reservoir profile from top to bottom, it stratifies in June and July. In August it's not stratified anymore. That hydroelectric plant sucked all the water and right at the zone of the most productivity, secondary productivity, zooplankton. They live more abundantly at one level than they do the whole water

column. They don't spread themselves throughout the whole water column. Some do. But generally they're the thickest. That level was sucked out through the power plant. So we learned that.

Is it bad? Well, no. We didn't cause it. I mean, we didn't know that. But the Fish and Game were used to stocking the reservoir with rainbow trout in August. Rainbow trout need to have these. The young rainbows needed these plankton to eat. They needed something to eat. They didn't have anything else. And they always wondered why they were so skinny. They didn't grow. They didn't have much success in the fish catch. They contemplated, "Well, what's going on here?"

One day we had the Chief of Fisheries out in the boat with us in August. I had to explain to him before that this is happening. I said, "Now, look." I put a net in and brought it up. I said, "Look, there's no plankton." So he looked back at the local manager and said, "You'll change your stocking program to early June for this reservoir." So it had a management implication, you know, because then they could take advantage of the food that was there then and maybe be useful, survive. Some of them could survive through the period.

Differences between a Lake and a Reservoir

Since then we looked at a lot of aspects in that area. It happens everywhere. Reservoirs and lakes are different from each other. There are basic differences. The deepest part of a lake is in the middle. You take a round bowl and the deepest part of the lake is in the middle. A reservoir, the deepest part is at the reservoir [dam], and the reservoir [dam] is really only just to slow down river and it's varying amounts. You have Kortes in the Seminoe system which as a retention time of less than a day. I think that's what it is. I'm not sure. But, [shooting sound], gone. In other words, all the water's replaced in a day. Well, it's just a river. It's a riverine-type thing. You have Lake Mohave, which it's just a matter of a month, if that. You have Lake Mead, which really is four or five years. That may seem like a long time, but then lakes in northern Denmark, for example, have retention times of seventy or eighty years.

So, I mean, managing the two types of systems for different things it means a whole lot. When you think of the lakes in Denmark, through the cultural development, all the nutrients that were dumped in those lakes are still there. How do they get them out? Because they don't turn over but every seventy years or whatever. So they're having to deal with them within the lakes. A reservoir, you can just open the dam and just flush it, and we do that. The Glendo-Guernsey silt

run we do that every year. We flush out–not the nutrients. Well, the nutrients, too. But we flush out the sediment just like a toilet. [Flushing sound] Every year we have what's called the silt run, the Guernsey silt run down below–

Storey: Yes. In order to keep the ditches from linking.

LaBounty: Well, that's what they say. That's one of the things. I don't think that's why it was started. I think the original intent was to keep the space in the reservoir. It's an easy way to keep us from having to dredge out the reservoirs, and they won't fill up full of sediment. But it's just devastating to the river down below. It destroys it. Before that it's got a lot of productive fish. We studied it for a while. But you're not going to fight that. Politics in that project, that North Platte Project, is about as heavy as it gets. It goes back to two states. It's going to take several generations before you don't see a great environmental movement going on up in there. There's too much economics.

But, anyway, hydroelectric has lots of aspects to it. In the case of Hoover, we have some options there on two levels of water. So we can mix two levels of water, and we can get a certain temperature. When the Willow Beach fish hatchery on Mohave was constructed for rainbow trout we messed with the temperature, the engineers messed with the temperature, and got it to their liking, so they get the right temperature water for fish production. So we were able to help them. But, in general, the downstream tail waters of reservoirs, in general, they're the best fisheries. And this is another aspect of Reclamation that is different than, say, in Spain or others. We have releases. You go over there, the dams there, the reservoirs there, it's just dead nothing down below.

Storey: No water?

LaBounty: No water. Nothing. There's no downstream flow demand. I mean, I remember back in the sixties when Hoover–in the wintertime the demands get pretty low for water out of Mead, and the managers would like to just hold that. So if you don't have much power demand and you don't have much water demand, I mean, hold the water until you get a little more demand. Don't just release it. And they didn't. Every drop counted.

Setting Flows for Fish Habitat

We had to actually set standards and agree with the states of California and Arizona that they would never allow the flow in the Colorado to be below 2,000

cubic feet per second [cfs], which is a pretty low flow for that. You don't do much rafting down the river in some areas. But, you know, I don't know how that is now. I mean, we have so many more demands downstream and water goes through California and Arizona that I would be surprised if they ever have to worry about that restriction. But our rivers all have that kind of restriction on it, and the Fish and Wildlife Service made a whole office of in-stream flow technology.

Storey: Now, were you involved in setting these flows?

LaBounty: I was involved as a manager but not technically. You mean on Hoover?

Storey: Yes.

LaBounty: It was done before me. Right before me.

Storey: Before you came?

LaBounty: Yes. Elgin Innis [phonetic], I think, worked on that.

Storey: This was not to provide water downstream. This was for environmental purposes?

LaBounty: This is to keep the stream alive. We, the biologists, felt that that was the minimum it would take to maintain the integrity of the biota within the stream, 2,000 cubic feet per second. Now, what that was based upon, I don't know. Elgin Innis would be one, I suppose, that could answer that, because he's been involved in a lower [Colorado River] issue. Before he went to work for the Bureau he was involved. He's with Nevada Fish and Game.

Storey: Were you involved in any of the other streams where water flows were established? Water flow requirements were established?

LaBounty: No. Stream stuff is not something I worked on technically.

Storey: Let's talk about blue ribbon fishery. Excuse me, you were going to say something.

Political Side of Establishing Stream Flows

LaBounty: No. I was trying to think. Some aspects of streams in relation to some aspects of pollution. I kind of stayed away from that, because the in-stream flow technology is a branch if you got into it that's all you did. There's certain things you go through

your career and the path you're taking has these side roads that you can take for a day or a year or a month or the rest of your career, and you've kind of got to look up and predict what that might lead you into doing. I always was very careful about that, thought about how much do I like what I'm doing and how much of it am I willing to give up. The big challenges that were presented to me like that, one of them was in-stream flow stuff. I didn't like writing environmental statements. I said that earlier. I got out of that. This seemed a lot like that. Streams wasn't something that I worked on. So I just was on the peripheral of that and said, "No, I don't want to learn it. No, I'm not going to be involved in it. Let somebody else do it."

Then there's the political-type things like Kesterson. I mean, I can't tell you how many times people asked me to do something with Kesterson and go, "I never visited the place." Because I knew that would suck you in and it could end your career. The one before that, which I did start to get involved with, was the politics involved with the International Boundary Waters Commission with Canada where the Garrison Project was going to introduce non-native to Canada fish into Canada through the Souris slough up in North Dakota.

Storey: They were afraid that was going to happen, or they were actually planning to do it?

LaBounty: No, they were afraid that was going to happen. The Canadians predicted that that would distribute these unwanted fish over into the Rainy River system above Minnesota and just reek havoc. And they're probably right. But it was a big international thing. I mean, the politics were much bigger than the science, actually, and so they formed an international committee of scientists, which they asked me to participate in and I said, "No, I don't want to do that." I couldn't see that going anywhere. I just didn't. And the guy who did do it, it caused him great harm, John Peters.

There were others like that. Like the Grand Canyon Office. Although I have little bits and pieces to do with it, that was another one I kind of stayed away from because there's too much politics involved in it. If you want to be a scientist, you've got to try and keep your nose clean as much as you can. So I've been successful at avoiding those kind of side channels to my career, try and focus.

Storey: When you say Grand Canyon, we're talking about the Glen Canyon studies?

LaBounty: Right.

Storey: And the re-operation, all of that?

[Tape Interruption]

Storey: Talk about this.

LaBounty: I just saw in a memo as I was going through things, it's kind of our roots. It's from May 25, 1966. It's to the Chief Engineer at Denver from the Commissioner. It's actually signed by Floyd Dominy. This actually gave us the authority to do water quality investigations, the first time in the Bureau that ever happened. I remember when this was given to me and I was told that. The subject is, "Bureau of Reclamation Program in Water Quality and Pollution Control." This outlined it in great detail. There's a plan here. Report to the Commissioner on proposed water pollution control activities, Bureau of Reclamation. It set the policy and it set it here in Denver. It gives the office the responsibility. It's a five-page attachment. And then they had a meeting in March to discuss all this.

I have this. I'm going to give this to the people upstairs. I'm sure this is in the file somewhere. But I'd forgotten about this. It's where our roots started as far as the environment. It's the first, what we'd say, pure intended environmental activity of the Bureau. And I mean that in that the Bureau, some would say, we intended to do environmental stuff all along. But I think our mission was more focused on the engineering aspects. Here this gives us the authority to do something other than that. We did economics. We had to do that. But we didn't do the water quality stuff. So this actually started this. Floyd Dominy was the one who started it.

Storey: Well, he signed the memo, anyway. You often wonder who actually was sitting there doing the work, don't you?

LaBounty: Yes. It was the 400 Branch.

Tucson Conference

Storey: I want to talk about blue ribbon fisheries, but first let me ask you a question before it slips my mind. You were in Phoenix when they had an environmental conference, the Tucson Conference, it's come to be known, down in Tucson. They brought in all of the managers from Reclamation. Did you happen to be aware of that or know anything about it?

LaBounty: What year was that?

Storey: It would have been during Ellis Armstrong's commissionership, about '71 to '74, somewhere in there.

LaBounty: Well, I was probably there. We had several in several places through the years, and they kind of run together.

Storey: This one was high-powered. This one was the Commissioner, probably all the regional directors.

LaBounty: We had one in Reno, too, a few years after that that had the same. Wayne Deason[26] put that together, and maybe he put this together, too.

Storey: That's a good lead.

LaBounty: Yes. You might want to ask Wayne more, because my memory doesn't–

Storey: Do you ever remember Warren Fairchild?[27]

LaBounty: I remember the name.

Storey: Yes. He was an Assistant Commissioner, I believe.

LaBounty: Assistant Commissioner, yes.

Storey: He was involved in all of that. Let's talk about blue ribbon fisheries. I had the impression that most of these blue ribbon fisheries, and we seem to have quite a few of them, were–I don't know whether accidental is the correct word. They were sort of afterthoughts. We weren't really planning for them.

Blue Ribbon Fisheries

LaBounty: No. It's pretty well known that below dams there are good fisheries. So, I mean,

26. Wayne O. Deason had a diverse career with the Bureau of Reclamation, retiring in 2004 as Acting Director of the Office of Policy. Mr. Deason also participated in Reclamation's oral history program. See Wayne O. Deason, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation Oral History Interview conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, October 22, 1993, and February 8, 1994, in Building 67 on the Denver Federal Center, edited by Brit Allan Storey, www.usbr.gov/history/oralhist.html.

27. Mr. Fairchild participated in Reclamation's oral history program. See Warren Fairchild, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, in Washington D.C., edited by Brit Allan Storey, 2013, www.usbr.gov/history/oralhist.html.

whether an accident or not, they just happen. Ruedi Reservoir, Colorado, here is one of them and below Dillon Reservoir up here, it's a good fishery. Below Glen Canyon Dam, big dam, still a great fishery.

Storey: Why?

LaBounty: Well, it's because your reservoir, a lot of the nutrients pass through. The most productive part of the reservoir is the most upstream. Reservoirs are reservoirs for water, but they're also can be reservoirs for other things like nutrients. And you have this inner flow that flows through. So like I said, the most upstream part of the reservoir is usually the most productive. Right at the dam it's the least productive, because by then the nutrients are down below what we call we call the euphotic zone, the zone where life can reach to for photosynthesis to occur. Those nutrients go out the dam, like I mentioned at Seminoe, to varying degrees. So you have production, and the temperatures are controlled. Usually it just happens that the temperatures come out to be what the fish optimum temperature is that's being caught down there.

So you have a lot of nutrients and algae on the rocks. You have an insect population down below the dam. I mean, how many times have we driven by reservoir and when we got to the dam in the springtime or summer and our windshield got splattered with insects. You've probably remember that sort of thing. Well, that's the reason why. Because the hatches are tremendous down there, because of the production. So the simple answer is they're highly productive, optimum for game fish.

They're not all this way and it doesn't always happen, but I mean, in general, that's pretty much true. Some of the most blue ribbon fisheries, and the two in the West, at least in the inner West, are below Seminoe. I've got to get it right now. Well, Kortes Reservoir. Kortes Reservoir above Pathfinder. They call it the Miracle Mile. And the other one is up in Montana below–now I forgot the name of–on the Bighorn River. Yellowtail. Yellowtail. The other one at Flaming Gorge is quite well known, the one below Glen Canyon is well known, and Flathead Lake. Flathead Lake is another one, too, actually.

Flathead Lake is an interesting story, too, because here's a case where–and this isn't my study. These are studies by a colleague of mine who teaches at the University of Montana and actually runs the field station, biological field station, at Flathead Lake. But they introduced mysis shrimp into Flathead Lake. Kokanee fishery went away like I mentioned happened at other lakes.

Storey: Just like at Granby.

LaBounty: This guy actually did a study that showed that the introduction of mysis shrimp impacted the aquatic environment of Flathead Lake by taking away the kokanee fishery and depressing the lake trout fishery, because they didn't have the food base.

Storey: They didn't have the kokanee to eat anymore.

LaBounty: They didn't have the kokanee. But additionally what happened? It affected the bald eagle population. What? The bald eagle population? He published this. Yes. Because the bald eagle would feed on the kokanee down below. The kokanee were gone, so the bald eagle had nothing to eat and didn't show up nearly as many in abundance as there were. He published that. He told me about it before he published it. I'm sitting there, "Well, you're going in another dimension here with this concept." He's a very bright scientist and very, very careful. He was peer reviewed and published. So he has documented that. But, I mean, that shows you the variances between the blue ribbon fishery. But we, as a society, can really mess it up by not being careful in what we do. Just by dumping a bucket of mysis shrimp in that lake, and it could be done by a fisherman, it could have been done by Fish and Game intentionally, but it changes everything. It changes everything.

San Francisco-San Joaquin Delta

There's a guy that gave a presentation, the best I've ever seen on this. It's out in the San Francisco-San Joaquin Delta at one of the conferences I was at out there. First of all, the Sacramento-San Joaquin is one of the most disturbed environments in the face of the earth. That's me saying that. But I don't think anybody's going to argue about that. It is one of the most disturbed natural environments on the face of the earth. Not good. And it's not the same as it was. It's a nice environment. There's some things about it people would say that they love. But it's very disturbed. Well, how disturbed? Well, and I can talk about it in very different things. I talked earlier about the striped bass and it being introduced from the Chesapeake Bay.

But this guy, actually, he's a biologist out of University of California, Berkeley, and interestingly enough, he got on the Board of Directors of East Bay MUD, East Bay Municipal Utilities District in Oakland. He's on their Board of Directors, and he got in as an environmental advocate, strong environmental advocate and turned that board around in their decision-making, which is really a big deal, because that was one of the most, I would say, hard-nosed boards that existed anywhere. But,

anyway, he's an interesting fellow.

His presentation was what I'm trying to talk about here. He studied invertebrates, crayfish, clams, arthropods, not fish, but lower level, below fish. He did this great historical review of things, trying to look back to find out what was San Francisco Bay and the inner tidal base, what were they like, what was the biota like, before humans had any impact. Well, that's tough to do, because how long do you need to go back. You've got to go back a long way. And if you think about, if you go back to the mid-19th century, you've got a lot going on in the bay.

In fact, he did learn a lot from different sources. I don't remember. It's been several years since I've heard him, but I'm very impressed by him. He showed that here's this population of clams, arthropods, and mollusks and arthropods, mostly, diverse as an estuary is. Estuary is where fresh water meets the sea are the most productive areas on the face of the earth. That's where you find the greatest fisheries and the greatest production, and that one is one of them, one of the best. But he laid out this native species that probably existed, some of these of which he had good evidence that they did, almost totally replaced by another set of species, mostly from, at that time, Europe, I think. I may have this reversed. Maybe it's Far East. But I think it's Europe mostly. I might have it reversed, but I don't know. And now you look at the third part of it, you're looking at it today. That happened in the 1840s, 1860s, 1870s, 1880s and that period, first change.

Now you look at it in the 1970s, 1980s, and 1990s, and you're seeing this turn around again, because not only are these species all being replaced, but the pelagic species are also being replaced. Those are the ones that live out in the open water, the zooplankton. A lot of it's due to dumping of the ballast water right into the–the ships carry over this water from Asia, and when they get over they dump it and then use it for cargo. So all that water pollutes the biota.

I described earlier one of the reasons why the striped bass diminished, population declined. One of the theories is that the zooplankton, that the young as they float down, the eggs turn into larva as they float down, as I mentioned, and they need to eat when they get to these basins. They eat these little zooplankton. The native zooplankton are used to that, are able to handle that. The new zooplankton that were introduced are now replacing these native zooplankton have spines on them and can swim faster and the fish can't use them for food.

So all sorts of things happen. You've got clams that are introduced that clear up the water. They're siphons and they're filter feeders and they filter water through

them and just cleanse the water. You don't really want that in an estuary. It reduces the chlorophyll or the algae production, the primary production from a hundred-fold it reduces it and clears up the water. So you've got nice clear water, but you don't have any food to serve any of the biota that are there.

So San Francisco Bay is a mess. It really is. It's beautiful. My favorite place on the face of the earth, really, as far as beauty. But biologically the Delta is a mess. It's a mess. I mean, when you can walk up the San Joaquin River today and you get to upper end, I mean, upper, upper, I mean, in the middle there is really where the irrigation is, the river is drier than a bone and here's this fish ladder, dam and a fish ladder, and you wonder what's going on here. There used to be a river here and obviously they needed the–now we're into our third or fourth phase of development and changes within the Sacramento-San Joaquin. And it's not over yet. I mean, CALFED[28] those organizations are trying to reestablish certain parts of it. But it's a big issue. A big area, big issues and, you know, like I said, there's certain areas you stay away from. That's not one I've stayed totally away from, because I kind of enjoyed some of the science that's gone on there and I've made some good friends. But within Reclamation it's the single biggest, I think, the single biggest thing of the future for us environmentally.

Storey: But you stayed away from it?

Tracy Fish Facility

LaBounty: Not a lot. Actually, personally I did minimal, but I helped develop a program up there which turned out to be our group's largest money maker. Charles Liston came, and he's still on that. Now he's a regional employee that's developing the Tracy fish facility. See, we've got problems with the fish and we've got problems with other things. It's not just one thing. There's rafts of people working on it for the region. But probably if you looked at the budget within the T-S-C [Technical Service Center], I would say that's one of the bigger items.

28. "The CALFED Bay-Delta Program is a unique collaboration among 25 state and federal agencies that came together with a mission: to improve California's water supply and the ecological health of the San Francisco Bay/Sacramento-San Joaquin River Delta. It was the Delta's importance to the economic stability of California and the nation that led to the drafting in 2000 of a 30-year plan for its management and restoration. Implementation of the plan was ultimately pledged by 25 state and federal agencies with expertise to manage the complex program. This plan, set forth in a programmatic Record of Decision, laid out a science-based planning process through which the participating agencies were able to make and implement better, more informed decisions and actions on future projects and programs. Two years later, the California Bay-Delta Authority was created to oversee the program's implementation and Congress adopted the plan in 2004." See "CALFED Bay-Delta Program Archived Website," http://www.calwater.ca.gov/calfed/about/ (Accessed 8/2016).

END SIDE 1, TAPE 2. JANUARY 25, 2000.
BEGIN SIDE 2, TAPE 2. JANUARY 25, 2000.

Storey: One of the bigger items?

LaBounty: One of the bigger items for the T-S-C's budget is.

Storey: What kinds of things are we studying? What's the program involve?

LaBounty: We can't possibly do it all. There's a lot of things that are being studied by people out there, and they have the interagencies. The agency has whole offices devoted to one thing or another. Fish and Game, D-W-R, [California] Department of Water Resources, they all are doing different things in a coordinated fashion. They have a very unique–not unique, I keep using that word–but a good way of communicating. They have these technical committees that get together, and then they have an overseeing interagency committee of all the agencies, and they had an agreement that they work out. Our Regional Director is represented. He delegates it. He or she delegates.

The T-S-C can really do pieces of it. It's impossible to handle it all. First of all, they need to be there. So the areas that we have focused on are really two large ones. One is the Tracy fish facility near Tracy, California. That's where the big pumps are that pump water up into the Delta-Mendota Canal, and it's had fingers pointed at it for a long time as being the culprit that messes up the fishery of the Delta because it pumps so much water. Although there's a lot of other pumps along there, Contra Costa for that district, hundreds, maybe thousands of other pumps. And the state has their pumps at Clifton Court, and they pump their water into the state project, which delivers water to Southern California.

When we constructed Tracy in the fifties, we, Reclamation, had the wisdom to put in a fish screen. Well, it was kind of unheard of. The design was pretty good. You look at it today, we're still using it. We have a staff. Their whole function is to operate this fish screen. Before the water gets to the pumping plant, water goes through this fish facility. They screen out the fish and then they truck the fish back down and dump them in the Delta. And they keep track of that. There's, I don't know, eight, ten, twelve people that work there full time. That's what they do. That's their job. Been their job from the fifties. Nobody's looked at it and said, "Well, let's see. Could this be done better?"

Well, we did. Back in early nineties we were asked to look at it. Could this be

improved? Politically nobody said anything about it. The state kind of looked at it as, well, it's there, but–they had their own system. It's kind of a we-they thing again, even though only a couple of miles separates the two. But we went in there with various ideas of doing different things. One is, bring our engineers in who know today's technology in fish screens and see if that fish screen is fit or should be replaced. Expensive. Talking about expensive things. Secondly, how efficient is this? So the biologists need to get in there and look at how efficient this is at collecting fish. Is the methodology that they're using killing a lot of fish because they're handling them roughly or is there some other aspect?

Well, we found out that it was leaky, that fish would get in there. Actually there's two sets of louvers. To make it simple, water goes in one set of louvers and then into through another set of louvers and then into the collection. Between these two sets of louvers we found a huge population of monstrous striped bass who just were using that as a smorgasbord. Fish would come in and it would be just sort of like, "Wow. Why should we ever move from here? Now we can eat." I mean, they did. And we were just flabbergasted. They went down the first time, I remember, in that hole, took nets down there and it's kind of confined between these gates, and came up with just thousands of fish, some of them that were twenty, twenty-five inches long, big, monstrous, fat striped bass.

So, okay, we've got a problem. We need to make it so it's not leaky. In the meantime, what we need to do is institute a program of keeping these fish out of there. Every month or so we need to go down there and haul them all out of there and throw them back in the river somewhere. Far away, though, because they might come back. In fact, we found that to be true. So that was one aspect.

The engineers have been looking at the facility to see if it could be improved. So engineers and biologists working together now are at the stage of getting some very major funding, major being millions, multi-millions–I think over 120 million–to put in the first phase of a new screen facility there to replace it. As things go in California, slow. A lot of negotiation. A lot of agreements you've got to get. A lot of consensus. They're in the midst of that, and it's working out pretty good. So the studies go on. We have a research biologist that worked for me when I was the supervisor, and he lives out there and is stationed there doing research. And then there's Charlie Liston, who worked for me here and then recently moved his duty station out to Sacramento to try and be more focused. But that's what their intent is to do.

Red Bluff Diversion Dam

Second thing up there where we focused is Red Bluff. Red Bluff [Diversion Dam][29] is way upstream below Shasta Dam, not a long way but some, at Red Bluff. It's there to form a forebay to get water into the canals to irrigate that upper Sacramento Valley. It forms a lake behind it. It's an age-old problem that's been pointed at because it's an obstruction in the river for migration of the four seasons of salmon that live there. It's the only place in North America where you have all four seasons represented in one river. They come every season, come upstream every season to spawn. It's a different genetic strain. Well, Red Bluff is a deterrent. They can only go to there and no further. When they come back downstream it's blockage there. It provides habitat for the predators, which are the squaw fish. I don't know. Maybe they call them pike minnow, too. But they're not the same as the Colorado River squaw fish. These are predatory squaw fish that just devastate young salmon. So the young salmon get eaten up and can't travel downstream.

So over the years they've tried different things and spent a lot of money on different fixes. One of the operational fixes was, is still, to not use the gates, lower that reservoir so that it's the river again during the times when the runs are the heaviest, especially for the two of those four strains that are most endangered. That's been operational, but it puts constraint on irrigation and how do you get the water in the canal. You don't. But it's during times of the year when they don't need water. So they try to match it. So there's a period of time that they stretch on either end, both entities pushing trying to get the other to give a little, a few more days either way. So what can you do about that? Like I say, there's been lots of schemes.

The most recent one actually was part of our funding package that got through the B-R-C [Budget Review Committee], through the whole thing, and Congress passed it through the legislation. I don't remember what year it was. But it's construction. It's construction of a research pumping plant facility at Red Bluff.

So we constructed, the Bureau constructed, contractor constructed, two different designs. One is the old helical pump concept, using that. The other is the Archimedes screw concept, the old Archimedes screw. The idea was to bring water out of the river and put it in the canal and not pump water out and damage fish. They're very fragile. Once the water is pumped up, then you'd have structures below that screens the fish and diverts the fish back into the river below and they can go downstream. I think about 26 million dollars, something like that, if my mind doesn't fail me, was used to construct–we constructed four holes. These are

29. Completed in 1964 the Red Bluff Diversion Dam is part of the Central Valley Project's Sacramento Canal Units. For more information, see Eric E. Stein, "Sacramento River Division, Central Valley Project," Denver: Bureau of Reclamation History Program, 1994, www.usbr.gov/history/projhist.html.

experimental. The idea was then we put in three. We put two helical and one Archimedes. I think that's right. Then we were allowed to do research on it for about four or five years.

The results were immediately extremely encouraging. In fact, so much so that some of the districts like Contra Costa immediately wanted these constructed in their facilities. Well, we, as researchers, would rather we get a little more data. What we were finding is that 99.5 percent of the fish were being saved, which is phenomenal.

Storey: And you weren't concentrating them at the dam for the squaw fish?

LaBounty: No. And what this meant, the long-term idea would be to construct a series of these along there, probably not be able to take the dam out, because there are times of the year when there are no runs. They come in bunches. So you could use that dam, but you'd augment one with the other, and you'd have another alternative to getting both water into the canals and fish downstream. So the pumps wouldn't take all the total amount of water out of the river without using the diversions that occur with the dam. I think that's kind of the long-term thinking on it. That hasn't been decided yet. But it is a pretty healthy effort. We had people living out there, again, and a lab and some of them were personnel from the Region or the project office in Shasta and some of them were our people.

Storey: So this new construction was on the west bank, I believe.

LaBounty: Yes. That's right.

Storey: The right bank. However you want to refer to it.

LaBounty: In that corner there. In that corner there. There's photos around here. But it's really very successful. There was two parts to the research. One was biological fishery and one was engineering. There were some things to work out on this. This is new, a new concept. So the engineers needed to learn something about this, and they also needed to learn with the fishery biologists do we have any sharp points on this thing or sharp edges or do we need to round any corners off so we cause less damage to the fish. This is a challenge, too. Can we use rubber blades so we don't damage the fish? It didn't get to that. But this is a very gentle way. It's very impressive.

Reconciling Engineering and Biological Factors

But they had their problems, the engineers did in the operation at first. Like every project I've ever seen, if anything ever started on time in a public works project I'd die, I guess. It just seems like there's always been delays in what we do. That's just the way it is when you rely on contractors and schedules and government funding. This one had some problems at first, but now they're in the midst of the final phase of collecting the data and somewhere someone will have to make a determination where do we go next with this thing. Congress will have to give the Bureau some money. That would help a lot.

These native fish, these salmon, are just depleted. It's just a shame, because they're our resource for our use, too, besides for themselves, but really need to be paid attention to. It would be a shame if we lost them. But all the way up the coast we're seeing the same kind of problems with salmon. It's sad. We used to have a salmon run in Lake Casitas in Ventura River. Lake Casitas isn't on the Ventura River. It's actually water pumped out. But with Casitas's construction, we dried out the Ventura River. I mean, in Southern California we actually had a salmon run, and there's been lots of pushes through the years to try and reestablish that salmon run. They think they could do it. Genetically I wonder, but that means taking water our of Casitas. That's a lot of money for water. But it's kind of typical.

Storey: What kind of issues come up with the salmon runs? What affects them?

Issues Affecting Salmon Runs

LaBounty: Well, over fishing affects them. Pollution affects them. Salty water. The San Joaquin River where the drainage back into the river is flooding them. Whatever it is, pesticides, side effect. Predators affect them. Predation is a big deal in Idaho. You get into Idaho it's a big deal, predation by these very hungry squaw fish. And, of course, the biggest is obstructions in the river.

When we developed the Columbia River and put those dams in. Well, Shasta. I mean, you've probably been to Shasta. I mean, you drive up to Shasta, that's a pretty impressive structure. Well, think of it if you're a fish in the river and you're headed upstream to spawn where your relationships have all spawned all these years. And all of a sudden you look up and see that big dam. There's no provisions there for you to get around that. Now, that happens to be high enough so you have habitat below. But it did take out a lot of habitat, an awful lot. So I mean, what we did there is made the unconscious, or conscious, as a society, that that dam was more important than the fish that were in the river and it wasn't worth trying to do anything about it. We've turned a lot of those decisions around and said, "Well, gee,

we now need to save the fish." Like Red Bluffs and others. But those obstructions in the river are the single most damaging factors to salmon population. Everything else kind of goes from there. But these other things are factors. They're factors.

Storey: Let's go back to blue ribbon fisheries.

LaBounty: You like blue ribbon fishing.

Storey: Yes. I'll tell you about it after we get done. How is Reclamation involved in management? Well, first of all, let's list them. You've mentioned some of them: Yellowtail, Kortes, Ruedi. What are some of the others? Flaming Gorge. Glen Canyon. I think you've mentioned all of those. There's a blue ribbon fishery below Granby, isn't there?

Reclamation's Involvement in Managing Blue Ribbon Fisheries

LaBounty: There may be. I don't know them all.

Storey: Several miles near Granby.

LaBounty: I don't know them all. Any of the rivers in Colorado where we have dams. Crystal or Blue Mesa or any of those. If you can get down below Blue Mesa, I guess there's great fishing there. It's just a tough climb down below it. Blue Mesa's a good enough fishery in itself so people don't do that. So I don't know that I could list them all. I think you could just list all of our dams and you'd have some kind of a fishery. But your question was?

Storey: Let's talk about how Reclamation and the research program relate to that?

LaBounty: Well, we haven't done a lot of research on the blue ribbon fisheries. We're not in the business of management. I've said that before. That's up to the Fish and Game. The Fish and Game have historically taken what they've been given and they go with it. So if you have a situation like they have below–take something close–I mean, Dillon [Reservoir].[30] We constructed it. We don't own it. I mean, it's a Bureau constructed reservoir, but it's a Denver Water Department reservoir now. But I know the operators. They're not going to change the operation–nobody's asking them to–to benefit any fishery down below. It's fine the way it is. The same thing with–and again it doesn't involve the Bureau, but it's close by–Deckers and

30. Completed in 1963, Denver Water constructed and operates Dillon Dam and reservoir on the Blue River for M&I purposes for the greater Denver metropolitan area.

that canyon in there. It's a blue ribbon fishery, although it's pretty fished. So I don't know that I'd put the word blue ribbon fishery on it any more. It's a productive fishery. It's popular. But, again, it's below the dam.

Storey: Below Cheesman.

LaBounty: Yes. Have you fished up there?

Storey: No. Well, I have a long time ago.

LaBounty: But you know about it. I mean, we read about it. Not so much anymore. We don't read so much because, well, my wife says it's such a dangerous area. Undesirable people hang around there anymore. She's a Deputy Sheriff, Jefferson County.

But, anyway, the Denver Water Department doesn't go down and ask the fishermen or ask the Fish and Game agency what can we do to do better. I know that the Denver Water Department likes their local resident managers there to understand things and be sensitive. But there's no interaction. Now, I'm sure if things became so off balance where they were drying up the river or something that the Fish and Game and they'd have a meeting. There probably are a lot of those kinds of meetings. But the management is just not something the Bureau–I can't think of any case where we have really anything to do with the management. The closest I mentioned was maybe on the lower Colorado where we agreed to release so much water.

There's a bunch of reservoirs up on the Yakima [River] that we constructed, still own, and they're high mountain reservoirs. They're pretty clear. They haven't much production. But there's one or two of them that have good fisheries in them and below. Well, nobody knows why, because they just do. I mean, they've been there for a long time. And the Yakima Project,[31] how old is that project? I don't know exactly.

Storey: Yakima. It's one of the older ones. 1900s or 1910s.

31. The Yakima Project provides irrigation water for a comparatively narrow strip of fertile land that extends for 175 miles on both sides of the Yakima River in south-central Washington. The irrigable lands presently being served total approximately 464,000 acres. For more in formation, see Timothy A. Dick, "Yakima Project," Denver: Bureau of Reclamation History Program, 1993, www.usbr.gov/history/projhist.html.

LaBounty: So now recently the Project Manager, Area Manager Walt Fite[32] is starting to ask the question, "Get us the key research as to why these couple are productive and these aren't." There seems to be no apparent reason when you look at them. So they've collected one year of data now, and it's still pretty much a mystery. So research needs to find out why some of these things are, why some of them aren't. But unless we initiate the action ourselves, the Fish and Game doesn't say, "Why don't you get involved in our management issues?"

Some of the native fish, there's a little different story. We've mentioned the razorback sucker, and there's always the question of, "Are we having more involvement and spending more money than we really should? Shouldn't this be a function of Fish and Game and the natural resource management agencies like Fish and Wildlife Service? Why are we putting so much emphasis on this particular fish?" Not that it's not a noble thing to do, but should we put all our eggs in this one basket like this? We don't have all the money in the world.

Not Reclamation's Mission to Manage Fisheries

My answer is no, we shouldn't. I don't think we should. I think we should promote that sort of thing and we should be involved in it and we should do some. We should have an understanding of what's there and the same thing with the water quality and all that. But we're not regulators. We're not fisheries managers. So anything that gets involved with managing fish, I mean, they grow them in the laboratories down there and the golf ponds. Once the people, the personnel that are down there are there no longer, I'll give you a 95 percent chance we won't do that anymore. And we haven't weaned ourselves so the other agencies will do that. Because it's not in our mission to do it. I'm just predicting. The next managers that are down there are going to say, "Now, Fish and Wildlife Service, you've got ten days to take this over. Otherwise, it's going to go away." And you've got until next year.

Storey: Down where?

LaBounty: Oh, in Lake Mohave.

Storey: Yes.

32. Walter Fite participated in Reclamation's oral history program. See Water Fite, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, Boise, Idaho in 1994, edited by Brit Allan Storey, 2014 www.usbr.gov/history/oralhist.html.

LaBounty: There's too much emphasis, see. Because that's not our job. Like it or not, we're not fisheries managers. Now, the people that are down there would be very hurt. They'd be saying, "Well, you know, I mean, we supposed to, as human beings, save the world. Save this fish from extinction no matter what it takes, and Reclamation means reclaiming fish." And all these good reasons and stuff. Well, I think we should participate in that sort of thing, but we shouldn't be the one year after year and decade after decade keep on being the leader in that, because, like I said, it becomes so bound to the personality leading it that when that personality or those personalities leave there's no contingency plan after that that old so-and-so will take that over. You know how managers are. It's going to slowly or quickly be lost. And then where is the fish that you're trying to save? A generation away from being extinct again.

Reclamation's a water resources management agency. We manage it in an environmentally and economically sound manner. We don't regulate anybody, but we deliver water. We should understand the water. We should understand what the water does. We should understand what the water has in it both biologically and chemically. We should be knowledgeable enough to say we understand this water has this species of fish, and if we operate this way, let the management agency work with us in that. And the same thing with the quality. I mean, it's not something that we're going to control, but it's something that we need to understand about. And I think we need to restrict ourselves to that role. But it's an important role, because nobody else does it. I don't know. I'm kind of on a soap box now. You want to hear me on a soap box?

Storey: No. That's okay. Are you aware of any situation where we, for instance, reregulated a reservoir or something because of the blue ribbon fishery?

LaBounty: You mean reregulate? Define what you mean by reregulate it.

Storey: Re-operated. I should say re-operated.

LaBounty: Change the operations?

Storey: Yes. Change the operations. You know, we do it to accommodate rafters, for instance.

Operational Controls to Assist Fisheries

LaBounty: I'm sure there are cases. I can't pull one right off the top of my head. But we go the

extra step and put modifications in the dam. It's pretty hard to change an operation. If you're delivering water out at ten feet above the bottom and it's four degree water, you aren't going to change any–there's nothing to change. So you put in a structure. Same thing with Flaming Gorge. I think in the future if we build more dams we're going to put multilevel outlets in it, because it gives us the possibility to reregulate.

Storey: You have more flexibility.

LaBounty: Yes. If you put them in the dam, it depends on how you do it. So, I mean, and the engineers will be clever enough not to do this. But if you just put them in the dam, you've got to worry about your head loss and all that other thing which costs power, too.

I know that at Folsom [Dam] that there is some. Yes, Folsom I do know. Folsom does some things in their operations to maximize the fishery below. Because the guy called me up not too long ago–I mean, within the last year–and asked me about instrumentation. They want instruments that go up and down in the water profile, so that it could give some prediction of how to keep the water quality at a certain temperature for the fishery down below. So there's an example of where they are at Folsom. I haven't been there. Never been to Folsom, but I know it because of my talking. I talk to a lot people.

Storey: Well, we've spent two hours and fifteen minutes, I think.

LaBounty: Boy, it goes fast.

Storey: I'd like to ask you again whether you're willing for the tapes and the resulting transcripts to be used by researchers?

LaBounty: Sure. Oh, yes.

Storey: Good. Thank you.

END SIDE 2, TAPE 2. JANUARY 25, 2000.
BEGIN SIDE 1, TAPE 1. FEBRUARY 4, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing James F. LaBounty at his home in Lakewood, Colorado, on February 4, 2000, at about two o'clock in the afternoon. This is tape one.

A question to start us off with. I saw on your walls over at your office a couple of philatelist things. Are you a stamp collector?

Stamp Collecting

LaBounty: Yes. I am.

Storey: Tell me about that.

LaBounty: Well, since I was fifteen years old I've collected stamps, and there was a lot of years when I was going to school that I didn't have a lot of time, so I accumulated. The last few years I haven't been as active. The last six, seven years I haven't been as active, but I'd like to be. Any hobby that one has like that that you can–you know, you shouldn't ever be under pressure to do something tomorrow. So I've accumulated things, because I've been editors of these journals and stuff and that's taken all my time that I would spend to that. But now I hope to get more into that. But I have a pretty extensive collection.

Storey: Is it a specialized collection?

LaBounty: Well, you have to be specialized nowadays. As a kid I started out collecting the world because you could do that, and you'd try and collect stamps, as many times as you could, from countries and there were the popular countries. But now, I mean, the United States issues two hundred issues a year. So you can't. I mean, if you were to buy, and I do, you buy them all, just if you get an individual of each of them you're talking about a hundred and some dollars. So if you get the plate blocks you're talking about 500 dollars, something like that. I mean, it's expensive. So you can't possibly collect from all these countries.

So I collect the United States. I like those. I like the new issues a lot. Some people just collect the old issues, and I haven't had much time to spend on that. It's hard enough to keep up the old. But I pride myself on the Canadian collection. I love the Canadian stamps. So I've got a near complete collection of that, and then I collect Great Britain, New Zealand, and Australia. Since I've traveled so much to Spain, I've only collected the years since I was going and I get the year collection. I didn't go back and buy the old ones. And I've kept those in an album.

Storey: But you're still active at it. Nothing, for instance, related to zoology or anything like that? You didn't specialize those ways?

LaBounty: For a while, when I was back in the seventies when I was probably the most active at it, I collected fish stamps, anything with a fish on it. But I haven't kept up with that. It's hard. It takes time. It's one of those methodical things. You've got to study. I mean, just the new issues of U.S. stamps alone keep you busy, because there's so many variations of them, and you've got to learn them. So I get a weekly newspaper, stamp newspaper, and it kind of keeps me up on it. I read it.

Storey: What is it? *The American Philatelist*?

LaBounty: That's a monthly. I belong to the American Philatelic Society, A-P-S. I've belonged to that since '74 or something like that, I guess, I finally joined. But I get *Linn's Stamp News*. It's a weekly newspaper.

Storey: Yes. You know, the guy who used to run the railroad museum, Bob Richardson, used to be the editor of *Linn's*.

LaBounty: Is that right?

Storey: A long time ago. I don't remember exactly when.

LaBounty: In fact, just before you came over I just had gotten to it when I thought–I'm going down to Las Vegas to work next week, and I thought I'll bring those along. I can read those, maybe, in my spare time. [Laughter]

Storey: You mentioned, again, that you edited journals. Tell me about that and tell me–well, I'm interested in several things. I'm interested in your work doing that and how you got into it and how you got into the professional organizations that are associated with it. I'm also interested in how Reclamation supported you in your various professional activities, or didn't support you, if that's the case.

Journal Editor and Reclamation's Support

LaBounty: No. Reclamation has been supportive of what I have done. Of course, it always depends upon your manager, how they feel about it. I think that there's been different policies, as you well know, that we've had to fill in attendance at meetings forms and that. Sometimes at various times throughout our career as things have changed–earlier on we had to have anything that was significant was sent to Washington and maybe everything that we went to for a while we had to send to Washington and have approval there. Now we don't have any of that any more.

Storey: That would have been back in the sixties when you came to Reclamation?

LaBounty: No. I would say in the seventies and even into the eighties, I think, some of the approval. Especially if it was an international meeting, of course, we still had to have national approval to go. But I don't ever remember them saying you can't do it. I didn't abuse it. But I went to international meetings in Canada several times and Denmark and South America and then a lot of them nationally. I've been active in a lot of different groups. I'm a charter member of what's called the Desert Fishes Council, which is a professional society of scientists and managers who are interested in desert fishes of the Southwest. The Bureau's role in that is that a lot of our projects that we plan, like the Amargosa Project, for example, was one to pump water in the Amargosa Desert, groundwater, which would deplete the surface springs.

Storey: This is in New Mexico?

LaBounty: No. This is in Nevada. In eastern California and western Nevada, southwestern Nevada, near around Death Valley, in that area there. Of course, the fishes that are in the Colorado, the endangered species are in the Colorado River, and all the native fishes fall into that. But that group meets once a year. I was real active in that for a lot of years. You can't be active in everything. I was active for years in the American Fishery Society. I'm still a member, but I'm not so much a fishery biologist as I once was, perhaps.

I became more interested in management of lakes and reservoirs. So the society that I attach myself closest to is called the North American Lake Management Society. It just fit me and people like myself who work for agencies because of one basic thing. It's applied science. These other societies that I belong to like one of them is called the American Society of Limnologists and Oceanographers, limnology being freshwater ecology. Oceanography is oceanography. But those people that belong to that are more pure scientists, those that study things for the nature of studying them. In other words, learning the basic biology of some animal that lives in aquatic environment but to learn the biology. And that's important, of course. But we work for an agency that needs answers to questions.

So the North American Lake Management Society–I'll call them NALM–is a mixture of scientists and managers of lakes and reservoirs, agency people from the Bureau of Reclamation, the Corps of Engineers, Tennessee Valley Authority, Environmental Protection Agency, U-S-G-S, agencies that deal with water. So you had this grand and glorious mixture of people from all these disciplines and all these

fields, whether they be scientists or they be a manager that lives around a lake in the east and manages a community of people that live around a lake and manages the lake, and who need answers to a weed problem or an algae problem and they're skilled in what they do. Those of us that are scientists, our science always has been to answer questions for our agency, and this was a way to broaden out our technical information. In other words–I'm trying to think of technical–disburse our technical information outside our own agency and have it useful to others.

This has been a very successful organization. It was started about fifteen years ago. The scientists that belong to it, a lot of university people, but they are limnologists or aquatic biologists who like to solve problems on lakes and reservoirs such as the phosphorous problem that causes algae production or something like that, and their research is geared toward finding an answer to a generic problem. It might be some treatment or some answer to some question of how much phosphorous can a lake take. But this is kind of spread around the world and there are other international organizations now that are like NALM. But NALM has an annual meeting every year, and I've been very active in it. We, in Denver, sponsored they call it it's an international symposium on lake and reservoir and watershed management. The Bureau has co-sponsored many of the national meetings. One of them was held here in Denver in 1991, and I was the General Chairman of that meeting and we had about a thousand people come to that.

The other nice thing I should mention about that organization, it involved government scientists, university scientists, and managers, like I mentioned, but it has people from state agencies, too, that administer the Clean Water Act, that work for the environmental agencies, fish and game agencies within the states, who work on lakes and reservoirs, and the local people, too, and the local grassroots organizations like water districts or lake management districts. Some states like Wisconsin have lake management districts by their state law that have taxing authority. We actually have that in Colorado up at Grand Lake. People that live around Grand Lake are organized into a lake district.

So it's an organization like that, and they have a publication called *Lakeline*. It's more of a magazine. It was kind of in trouble for a period there, about ten years ago. So I took it on. I never had really done any editing. I love to write. I love to communicate. But I never had really been involved in a magazine or a journal. But I had a vision of what this magazine should be like based upon what I'd seen from the American Fishery Society, a magazine called *Fishery*. But this one needed to be one that would be read by the lay person plus the scientist. It was a lot of cross communication, different things. So I was editor of that for four years, and I really

enjoyed that, and the Bureau was very supportive of that. I wrote and editorial and there was a series of magazine editorials that I wrote. Everybody likes to, I think, communicate about things they've done, like I'm doing here, and that was a vehicle for that. So I could use my experiences to make a point about management of lakes.

When I stopped doing that is because I took on editorship of the *Journal of Lake and Reservoir Management*. It's a scientific journal, not for lay people but for scientists to publish their works in applied lake and reservoir management issues. They're peer-reviewed articles. So they go through the scrutiny of any typical society where peers review them and they are rejected or they are accepted. They have to be rewritten until they're correct and then they're published. Black and white. Nothing fancy. Graphs and charts and tables with an abstract and literature cited, all the things that a scientific article contains.

The editor of that journal was being replaced and they asked if I would be interested in that. And I said, yes, I would. Always been kind of a dream that I would do that. So I left *Lakeline* and I did that and I'm still doing that. I'm still the editor of that journal, and it's been five years now. So that's how that all developed. So that kind of covers both those questions, I think.

Storey: Tell me a little more about this. This means you're going to be receiving papers. You have to find people to peer review them. You have to send them out.

LaBounty: Right.

Storey: Do they provide you any assistance for this?

LaBounty: The Bureau?

Storey: Well, either the Bureau or the organization for which you're doing the journal.

LaBounty: No. Well, the Bureau's always very supportive. Especially when I did *Lakeline*. There was no support for that. It was totally volunteer. So I spent a lot of weekends and a lot of deadlines, because it comes out four times a year. I had people that the editors in communications branch or group, Deana Larson was great. I mean, she would edit my editorials and help with some of these things. So I got a lot of support and secretarial support. I cleared that and it was allowed. And I always would send these *Lakelines* to everybody who was in the Bureau who I could think of. I had this mailing list I'd send out every time. I'd get, I think, fifty or sixty or seventy or eighty, I don't know, issues of it, and I'd send them out in individual blue

envelopes to everybody so that they realize, because I wanted the Bureau to support this and I thought it was a good vehicle for communication. Dan Beard wrote an article for it, the former Commissioner, for example, and was very complementary about this. He said this is something we should do. It was during his time when I was doing this. Everybody was.

Now, the *Journal* is a different animal. Really, it's something I need to do by myself, and I do that on my own at my home here. Of course, I had to do some telephoning at work and I did my mailing out of work. That saved the organization. Now I'll have to pay for that or bill them for the postage cost. But the Bureau supported it. But there's a fine line there, because they give me 500 dollars a month, which doesn't near cover the time you spend on it. But there's a lot of other gratification about it. So there is a little bit of support, and so I had to clear that through the personnel so there's no conflict of interest, and there isn't as long as I didn't use Bureau resources to collect that money. [Telephone Ringing] Someone will get that. That will interrupt this, I'm sure. That's okay, you'll cut it out, right?

Storey: Yes.

LaBounty: But, anyway, let's see, did that answer your question about that?

Storey: Yes. You were talking about–

LaBounty: You asked how articles came. Scientists submit articles. It may be a study they've done on they've studied a lake in Virginia for five years looking at the ecology of the lake in relation to people fertilizing their lawn or something like that or something. They submit their article. It has to be a science. Has to be a theory, and it has to be proven, a lot of times with statistical data, and has to have an conclusion and a management implication, management significance. They don't have to say it in that way, but it has to have that.

So the journal is out there, people know that that are doing work in this field. So they submit the articles to me as the editor and mail them to my postal box and they know they have to send three copies. I have fourteen associate editors who I can either delegate–if it's an area that I don't know anything about such as mathematical modeling of reservoirs or lakes, I know very little about that, so there's no use me even handling an article like that. So I have, amongst this group of scientists I have, for example, Ken Reckhow at Duke University, he's written textbooks on modeling. I call him up and I say, "I've got this article. Would you handle it?" He'll find then two or three qualified reviewers and they will review it. Or the other way to do it, if

I know something about it, I can review it myself. I always read things at the end, but the other way to do it is to find two of these in this pool or any other two or three people to review it who are qualified to review an article of whatever the subject is that they worked on.

Then I give them a month. I call them and say, "Would you review this and do a peer review?" It's a lot of work. There's a form that they fill out to whether it should be accepted, whether it should be accepted with minor review, major review, or they need to collect a lot more information or totally reject. Anyway, those forms are sent out to those that review it. Like I say, I can handle it myself or send it to an associate and ask them to handle it. So I can delegate or handle it. I, myself, don't peer review anything that I don't know a lot about, because it's not fair. Now, I know quite a bit about general things. I know something about each of the articles. But the total article it's good to get peer reviewed.

Then if it's rejected, they'll send it back to me and I'll do the dirty work of rejecting the article, and we have a rejection rate of 15 percent of the articles, something like that. If it needs work, then they or myself, whoever is handling the article, will send it back after we see the comments from these reviewers, which sometimes they're very substantial. Those are all combined and sent to the author and then they rewrite the article and resubmit it and then if it needs to be reviewed again then we look at it again. If it doesn't, I just look. I'll make sure they responded in a successful way to each of the comments by the reviewers, and then it's finally accepted and they get a letter of acceptance. Then I send it in for galley proofs and then the author reviews the galley proofs and I review the galley proofs and it eventually comes out in a quarterly issue of this journal. That's the process.

Storey: And how are you scheduled? Are you full up for the next year, the next two years, the next issue?

LaBounty: I'm full up for the next three issues.

Storey: Three issues?

LaBounty: Yes. There were days in the scientific community when they'd be full for a year or two, and I don't know about your field, but not any more. There's not as much money for research as there once was around here. I'm talking about in this country. But the next issue is on Waldo Lake. Sometimes I dedicate an issue to a particular lake. Waldo Lake is up in Oregon. It's beautiful. It's the cleanest water maybe in the world. It's as clean as any water. It's a unique lake. It never had fish in it until

they them in it, and it's almost like distilled water. It's on Forest Service land and it's had a lot of management problems through the years. It has a history. So we're doing an issue just dedicated to papers on that lake.

We've done a lot of them like that. We did one on Crater Lake, which people know more about in Oregon. Crater Lake is part of a national park. We've done some on Lake Onondaga Reservoir in upstate New York. I can't think of what others. Simcoe in Canada which is attached to the Great Lakes. It has a lot of speed boat issues related to people use. We did an issue dedicated to that. I try to do one a year that's dedicated. But the next three issues. Then there's a lot of contributed papers, too.

Storey: Is this a journal where you have to pay to be published?

LaBounty: If you're not a member of the society there's a page charge. But I've never had to charge anybody yet, because I tell them before. About the time their article is going to get accepted I said, "Well, now, here's your chance to join."

Storey: And save yourself some money.

LaBounty: Yes. We get another member.

Storey: How do you put together special issues? Do people come to you with proposals, or do you have to go out and beat the bushes?

LaBounty: Well, I've had a couple of ideas. But that doesn't seem to work very well. People come to me and say, "You know, I'd like to do an issue on this." One issue was kind of rewarding to do was dedicated to the students of a very renowned professor in limnology and aquatic science from Iowa State University. He retired and went to Florida and he's been working down there in Florida, University of Florida, as soft money. He'd been a professor for forty years and had put out a lot of very, very good students who have done very well. So some of his students said, "Would you be interested in a special issue dedicated to Roger Bachman."

Storey: A feshshrift.

LaBounty: A what?

Storey: A group of writing dedicated to a person.

LaBounty: Yes. But they're articles. They're research articles. They're valid research articles on lakes, because these people are spread all over the United States and Canada, and they did. They put this together. They put it together, and I helped them get reviewers for it. It's one of the best collections of articles that we have. And, of course, he was totally surprised by it. It's a very nice thing. I mean, what a tribute to any person to have something like that happen. I mean, it's just phenomenal. So that was an idea. So most the time they come to me with ideas.

The Waldo Lake issue is Doug Larson, who's a former Corps of Engineer employee. He's worked on Waldo Lake for forty years. He said it was time we put everything in one issue. So he came to me with that idea. And I think that's most the time the way people do that.

Storey: Now, on these special issues do you have a guest editor?

LaBounty: No. I do it. I'm the editor.

Storey: And how much time does this take? Have you ever figured it out?

LaBounty: Well, the journal I spend every Sunday pretty much on that. And then there's a lot during the week of little things go on. So I don't know. I mean, it probably takes–and a lot of reading on airplanes. It's hard to say. I would say twenty hours a week minimum. Yes, I would say.

Storey: So I take it this is a long Sunday?

LaBounty: Well, no. I mean, besides that I'll spend a couple of hours here and there. So Sunday. Well, it depends. It depends on where we are and how many articles I have and where we are, how much build up and how close we are to publishing something. I need to get something out so I've got to get through this pile. Right now I've got a pile to do. But fifteen to twenty hours a week, I suppose.

Storey: Interesting.

LaBounty: I used to always think, "Well, how much longer can I do this? Why am I doing this?" It has its rewards because it's a product. It feels good to see something out. It's awful good connection with scientists. I mean, I get to talk to these scientists. There's a reason to communicate, talk and write, write e-mails to these scientists, other scientists. It may be just for a brief period while I'm working on their article, but I know them then. So I know hundreds and hundreds and hundreds of scientists

because of this. What better way is there to communicate? I mean, sure, you go to a society meeting and you listen to their papers and you know people that way. But when you're working on an article together, you really get to know the people. And there's some really great people and there's some jerks. You know, it's just like anything else. Not too many jerks, though. Usually people are pretty good.

Storey: You mentioned a few minutes a go that you sort of started out in fisheries, and then you evolved into lake and stream management. Is that correct?

LaBounty: Lake and reservoir.

Storey: Lake and reservoir management. Could you reflect back for me on how that evolution occurred and how it paralleled what was going on in Reclamation?

From Fisheries to Lake and Reservoir Management

LaBounty: Well, and that's all it, really. Reclamation you had to be a jack of all trades. There weren't very many of us biologists around. When I started there was Gene Otto here in Denver, and he was working on weeds, weed control, and Al Jenez [phonetic], the person who hired me, in Boulder City, and myself. That was it. And I was titled a Fish and Wildlife Biologist. I had never had a course in either fisheries or wildlife science. I mean, those are fields their self. But the Bureau had nobody else. So you had to know a little bit about everything.

I'd done my degrees, as I mentioned earlier, working more on the ecology of little fish and desert springs. Those were what I would call classrooms to me. Sure, I mean, in a perfect world, I suppose, you come out of degree programs and you go to work working on what you worked at that doing. But it never works out that way, especially if you're working for an agency like the Bureau back in those days, when we didn't have very much specialization at all in our field. Now, an architect did architecture and an electrical engineer did electrical engineering, but that was engineering. In our field, we didn't. I had to do a lot of recreation management. I knew nothing about recreation management. Probably I did some historical stuff, too. I don't know. But we didn't have specialists. We had economists, of course, but they weren't specialized either. All economists had to do everything.

I gravitated more toward fish because that was my classroom. I learned more about fish, and the issues that were around us at that time were related to fish. In other words, in the lower Colorado River what kind of fish do we have in each division, or even better yet what's happening to the black bass fishery in Lake Mead,

working with Fish and Game and Bureau operations, how can we change those to enhance the fishery, which we did, based upon some cooperative studies that Fish and Game did really and some of our divers did.

We learned that the fish, the black bass, spawned in the springtime and that the young fish needed cover. We had been lowering the reservoir in the springtime below the level where there was vegetation, and the young of the year bass were just being eaten up by other fish. So by holding the reservoir a little longer in the springtime, we were able to keep the vegetation that had grown the summer before around the edge as habitat for these young bass, and then they had a better survival rate. But we never did anything like that. That was kind of one of the first things that we did.

Like yesterday at my retirement Lloyd Timblin, who I mentioned to you, was around forever and ever, he really started a research program in water quality of reservoirs. And he told a story which I remember him telling me this before, but I had forgotten about it. When they started this program that I eventually headed up in reservoir management–I'm kind of going off on the side here, but it's kind of interesting. He'd have to tell this story.

END SIDE 1, TAPE 1. FEBRUARY 4, 2000.
BEGIN SIDE 2, TAPE 1. FEBRUARY 4, 2000.

Storey: Timblin then.

LaBounty: Yes. Lloyd Timblin.

Storey: He was telling the story yesterday.

Studying Reservoir Water Quality

LaBounty: He was telling the story about he and some others, and I don't know who else, had the idea that we ought to start a program in research on studying the water quality of our reservoirs. He was told, and I think he said by the Division Chief in Research, but I'm not sure. I'd let him tell it. Somebody at that level or higher. Maybe it was higher. That they would, by God, no way study anything related to the water quality of our reservoirs, because they did not want to provide any ammunition to those that fought Bureau dams, and why would we study that and this in our area. But they were paranoid, of course.

So being a clever person that he really is and the others, they started a program called Water Chemistry of Bureau Reservoirs. Water chemistry. And that's the way it started. So they hired my predecessor, who is Dale Hoffman, and a couple of other chemists in the chemistry lab started studying Lake Mead and a couple of other reservoirs in water chemistry. And that's the way the Environmental Research Program really started in that area.

I guess I showed you last time the old document I had to that effect. I didn't keep it. I gave it to somebody else. But it was a document that the Commissioner signed, Floyd Dominy,[33] that actually approved it. But it was water chemistry of reservoirs. Feeling, well, this is no different than the geology, doing the geology, I guess. I mean, it's kind of a tricky way to get it in. But I thought that was kind of interesting.

But, anyway, that's kind of the way things were in those days and so, like I said, most chemistry wasn't even being done then. That was in the sixties. But fish were something that we needed to cooperate with and it was sort of attend meetings and wear the black hat or whatever hat, you know, you had, and most of the time black with these fish and game agencies, because it was defending why we were doing this or why we weren't doing this or why can't we do this to help the fishery, the fish and wildlife, recreation.

When I came to Denver, like I just mentioned, the program was just getting going as far as the Water Chemistry Program, and by then it evolved to the next level where we could actually mention the fact that it was limnology or aquatic ecology in the Twin Lakes program, which I talked about earlier about what was going on, and I took that over. That's what my job was is to do research. Not on fish anymore on that project. There was fish being done. Don't get me wrong. But the Fish and Game agency was doing that. So I didn't do anything different than I was doing before in that I sponsored activities or cooperated with fishery programs. But the hands-on work that I was to do was more related to water chemistry or water quality or aquatic ecology of Twin Lakes, and that expanded to North Platte reservoirs and all these others. I just grew into that area. It's something I knew something about, because I'd done some work in it and I'd been thoroughly schooled in all theories in limnology. So, anyway, that's how that evolved.

33. Floyd E. Dominy was Bureau of Reclamation Commissioner from 1959 to 1969. Mr. Dominy also participated in Reclamation's oral history program. See Floyd E. Dominy, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, April 6, 1994, and April 8, 1996, at Bellevue Farm in Boyce, Virginia, edited by Brit Allan Storey, www.usbr.gov/history/oralhist.html.

Storey: Well, tell me more about Twin Lakes.

LaBounty: We didn't talk about that much?

Storey: No. You've mentioned it several times, but I don't think you've talked about what you actually did.

Twin Lakes Studies

LaBounty: Twin Lakes is a feature of the Fryingpan-Arkansas Project, and in the late sixties and in the seventies pump storage was a concept that was well thought of as something that we were going to use in the future, we being the Bureau, the Corps, T-V-A, Bonneville Power, Duke Power Authority, name any of them. Pump storage is a theory that you have a reservoir and then you have a reservoir up higher that kind of acts as a storage battery. During the night when power is cheap, you pump the water uphill into this upper reservoir, and during the day when power is more expensive, you sell the power that you can generate that you can generate through the generators. So there are actually pumps and generators in the same plant. It never really went too far, although we did build Twin Lakes.

The reason the Twin Lakes, which are natural lakes, the lower Twin Lake is the largest natural lake in the state of Colorado, not very big but it's the home of native fish. It had been studied by John Wesley Powell as water resources. It's been studied by Chancey Juday, who's the father of limnology, my field, and it had been studied by David Starr Jordan, who is the father of fishery science. I mean, the studies go back to 1892 to 1907, the original studies of Twin Lakes, because it was so unique. It was a high mountain lake, over 9,000 feet. A gorgeous area. It's like working on a postcard.

The Bureau's plan, in the scheme of the Fryingpan-Arkansas Project, was to use it as a receiving body for the water pumped from the western slope. It was already being used for that for old projects that were local. They brought water down through it, and they do. We bring water down. I have to think about it as I come on it, because I've forgotten about this. But water is pumped into Turquoise Lake north of there outside of Leadville. It's allowed to go through gravity, and I think there might be a pump in between there, I'm not sure, south twenty-some miles, and it goes into the upper reservoir that they constructed next to Twin Lakes above it. There's an upper and lower lake. I better keep this straight. There's an upper and lower lake naturally that has a channel between them. That forms the original natural Twin Lakes. Above the lower lake, they constructed a reservoir about 450

feet above it. They constructed a reservoir and a basin up above that. On the shore of the lake–

Storey: Four hundred and fifty feet above it in altitude?

LaBounty: In elevation.

Storey: In elevation, okay.

LaBounty: Yes. In elevation. So water is pumped back and forth. But also water is received from Turquoise Lake into this upper lake, and then they use it to generate power.

Storey: And that's the water that came over from Ruedi?

LaBounty: Right. Exactly.

Storey: From the west slope.

LaBounty: Exactly.

Storey: Okay.

LaBounty: So that hooks into Fryingpan to the Arkansas Project, and the water goes down this Clear Creek. No.

Storey: Arkansas?

LaBounty: No. It goes into the Arkansas River from Clear Creek.

Storey: From the Twin Lakes.

LaBounty: From Twin Lakes. And then it goes into Pueblo Reservoir, which is another feature of the Fryingpan-Arkansas Project. The Fryingpan-Arkansas Project was constructed in the sixties and the seventies, completed in the seventies, and it's one of those results of the drought years out in the Plains. Legislation was passed and the project was constructed with economic benefits that without the Twin Lakes feature of producing power would not have passed economic scrutiny. But by adding that feature–and that was always called this is not only the power generator, it is the money generator to repay the loan for the Fryingpan-Arkansas Project. I mean, hydro power is a good cheap way to finance some of these projects. I think

that's pretty well known.

Studying the Environmental Effects of Operating a Pump Storage Facility

We studied it for twelve years. Our point of being there was, number one, it was a research project funded by the research budget, the general investigation studies–during that time that's what the research was under–as a prototype or an example of what are the environmental effects of constructing and operating a pump storage facility. Twin Lakes has had a very simple food chain. Instead of being very complex, it's a high mountain environment, aquatic environment, with very pure water and not a lot of things living in it. So you had mysis shrimp that feed on little zooplankton. They're microscopic animals. The lake trout feed on the mysis shrimp and also the rainbow trout, and man feeds on that. Very simple food chain. Any effect on any link in that food chain we could study it pretty easily by understanding the quality of the water, the temperature structure, the dissolved oxygen, and all the other features of the lakes. So this was a good one to study for that to learn some general effects of pump storage, what does this new circulation pattern that exists, for example, cause to the lake. Also, the other added thing was to learn what the effects, specifically at that site, the effects of this pump storage. This grew in importance as the environmental laws became more important and people paid attention to it.

In fact, it's a fact that during the Carter years–and this was brought up again yesterday at my retirement; I had forgotten about this, but it's true–during the early Carter years we had the hit list.[34] You remember the hit list when we lost a lot of our projects. Fry-Ark Project was on the hit list and Twin Lakes, in particular, because they were only half constructed. They could have stopped it like they did some others, like Oahe Project.[35] We got calls, we as scientists got calls from staffers directly that said, "What are you doing? Who's your contacts with the state? We want to talk with them." They're collecting information. The state people told

34. Jimmy Carter served as President of the United States from 1977 until 1981 after his election in 1976. Within a few weeks of the beginning of the Administration, an internal discussion document accidently fell into the hands of a reporter. The document proposed cancellation of a number of water projects considered environmentally or economically unsound. This proposal came to be known as Jimmy Carter's "hit list." This happened while Commissioner Daniel P. Beard worked in the Carter Administration, and he discussed his perspective on the issue in his Reclamation oral history interviews and in "The Passage of the Central Valley Project Improvement Act, 1991-1992: The Role of George Miller," an Oral History interview by Malca Chall, 1996 for the Regional Oral History Office, Bancroft Library, University of California.

35. The Oahe Unit of the Pick-Sloan Missouri Basin Program was authorized on August 3, 1968, to irrigate 190,000 acres in the north-central part of eastern South Dakota. The project was never constructed due to environmental and economic concerns raised in the Carter "hit list."

them the Bureau's doing a good thing here. The Bureau is studying it. The Bureau is keeping track of things. It's the right way to do it. We learned for that reason it survived the hit list because of the studies we had going on there and down in Pueblo Reservoir. We were part of those, of course. So it kind of showed that was the right way to do things. It saved that project from being killed. That's the story about that.

But, anyway, we constructed the pump storage facility. It had all sorts of problems, like every construction project, public works project does, I guess. It hit challenges. You can call them challenges. It was delayed by, I think about–it was supposed to start in '76. I think they finally started operating it in '82. So six years. They had to go back and empty the forebay reservoir out, this one they constructed up above, because it was pushing on the power plant. It had leaking in it and they had to put a liner in it at a great cost. They had to line this whole forebay. Probably the biggest lining project. They used all this particular type of plastic liner that existed in this country for two years or something like that. But they have a liner underneath it now.

They had other problems. These pump generator units, were new. I mean, they had never built this big of one. They have now, but never had. And then we had, I don't remember exactly now, there's like at least two units and maybe there's three, two, I think–yes, there's two–and each of the units were different bids during different years almost. So, thereby, they're totally different manufacturers, for one thing, but they're different technology, newer technology. So they don't match real good. So there's all sorts of problems with those. That's well documented. It was very frustrating to the engineers who worked on that. But it was where a lot of us in the group got our feet wet, so to speak. It was another classroom. It allowed us to hire a lot of people, other biologists, to work on things, who are still around and have grown and gone on into other things, as we've grown and expanded our agenda of what kinds of things we do. But that's the Twin Lake study. It ended before it should have.

Once the construction money dried up, it seems just ironically the research money also dried up, which was real frustrating to us, because we only really had two years of post-operation data. So we had all these years, more than we needed of preconstruction data, in other words, how the lake existed before the power plant went into operation. Then we collected two years and then we got our budgets cut. In fact, we got them eliminated. Sort of like, well, it's constructed now. We don't need to do it any longer. And that's a sad thing. But that happens a lot. I mean, whether it's justified or not, the construction budgets dry up, everything dries up.

You don't have any more money. There's no plan for studies after that. The sad part about this whole deal is that nobody's gone back and done detailed studies.

Twin Lakes Study Results

We predicted that there would be great damage to the lake, the ecology, that the mysis shrimp would suffer because of being pumped, even though our studies resulted in a pumping schedule that they didn't pump during the times when the shrimp were the most active, which is at night. It would have to be at night. And that's when they needed to pump, but there's certain hours. We found certain hours when they were less active. But, nevertheless, the mysis shrimp population has suffered greatly and the lake trout population is bad and the lake is not a resource for fishing, from what I understand, at all.

We also said that the lake has what is called glacial flour. It's a glacial element. It's a very, very fine dust. You stir it up in the water it will be there for weeks it's so fine. Even though our studies and the modeling studies in the laboratory directed the flow of the outlet, instead of going directly into the lake like they were originally going to do it, they did do a change order and moved it over toward the shore, raised it so that the flow would be more around the surface of the lake instead of going directly into the lake and disrupting a very fragile stratification of the thermal structure and melting the ice during the winter.

Well, that's worked. It's better, of course. But it's not as clear a lake. We also constructed a dam at the other end and impounded Twin Lakes, so it's no longer a natural lake. It's an impoundment, and the two lakes were connected. So it's changed up there. It's still a beautiful place. The good things that we did is we bought all the land around it. There was a lot of shanties and it was a mess. A mess. It was a terrible mess around it as far as buildings and debris and unkept places. It's all public land now and the public can use it and can get to the lake. There's docks. So it's a beautiful place for people to visit as they're driving on to Aspen, for that measure. But as far as the ecology of the lake, it's pretty damaged.

The thing that hasn't occurred is we've never documented exactly what happened, it needs to be done. It should be done. Something still should be done. And the reason for that is because the issue of mitigation which is, by law, under the Fish and Wildlife Coordination Act of the fifties, by law the state still has an open check to collect mitigation for loss of natural resources for that lake. So if they ever wanted to, they could go in there and they could document based upon the old data, the fishery data, because they collected it for us. We contracted for them to collect

the fishery. They did fish population. We know what they were like over that long period of time. We knew what the mysis shrimp were like over that long period of time. They could document that. And I would imagine they could come back and say, "Here's a claim. This is what we've lost up there." So it would have been wise for the Bureau to continue that study and complete it, and many of us say that that are involved in it.

Storey: You mentioned that there were studies at Pueblo Reservoir. Were you involved in those?

Heavy Metal Studies on the Upper Arkansas River

LaBounty: We contracted them. I never did do any work personally down there, but the Pueblo Reservoir studies were the fate heavy metals from the Arkansas. It was also contended the upper Arkansas River was during the mining days of Leadville we have all these heavy metal sites on the upper river, and we studied the heavy metal pollution in the river. It's a legacy that mankind has inherited from the mining days of the Leadville area. There's all these mine tailings and water drains through them. It's very clean water that doesn't have any solids dissolved in them. So it picks up these dissolved salts. It becomes very acidic and it gets into the river–during the mining days I imagine the river was very sterile–and collected in the river.

Then the Bureau has been involved in this upper reach studies because during the–I may get this wrong, but during the thirties, I think it is, we took the Leadville drain–you've probably heard about this–the Leadville drain. We got it from the Bureau of Mines off the surplus list, because it had a flow of like 4 c-f-s, and we thought that's a good source of water. Well, we inherited all the problems with it and it became a Superfund cleanup site and cost the Bureau a lot of money building a plant up there. Since my first days in Denver we were involved in studies on the Arkansas River of, well, what is the effects of heavy mine pollution. Of course, the kicker was this Leadville drain. Although we were interested in California Gulch, too, which the Bureau doesn't own, another flow that really just killed the river.

Pueblo Reservoir ties into this because someone asked the question, "Well, what's Pueblo Reservoir going to get? All these heavy metals are coming downstream. Eventually they're going to get into Pueblo Reservoir. Now you're building a dam, you're impounding not only water, you're going to impound heavy metal." So we sponsored some studies. I mean, we, the Bureau Lower Missouri Region, sponsored some studies of the water quality of the reservoir and its sediment. I think it was the University of Southern Colorado at Pueblo did the study. There was really no

conclusion. It was just sort of documenting what was there and there was no finding, nothing of danger there at that point.

I mean, it's one of those things if somebody went back and studied it I'm sure they could find copper above levels of what human consumption could be. I mean, I'm not saying someone should do that, but there's a lot of things like that that as we get more sophisticated we'll learn something about it. I don't think it's particularly dangerous down there, because by then the metals are tied up in–they're in some precipitate form. They're not in the water. They may be in the sediment but they're not ecologically active. So there wouldn't be any build up in the fish. But who knows? We don't know that for sure. I just don't think so. But that's as much as we ever did on Pueblo Reservoir.

The Bureau, of course, built a fish hatchery as a mitigation feature for loss down there and turned it over to Fish and Game. That was one of the features, mitigation features of Fry-Ark.

Storey: How much time did you spend on Twin Lakes when you first came?

LaBounty: I went up there a total of 114 times. I counted that up before I retired, 114 field trips at Twin Lakes, 143 to Lake Mead. So, I mean, I spent a lot of time in the field.

Storey: This is your entire career, I mean.

LaBounty: During my thirty years.

Storey: Yes.

LaBounty: Or twenty-six years here. Yes, 114 times I went up there and did a field survey. Now, there's others that did. I didn't go on every trip. As soon as we built up a number of people we worked in teams and we would have a team of three go up and there would be six people. So we'd split it up. So during '82 I only went twice and '81, maybe, too, because I had more management responsibilities in those days. I was just getting into management pretty heavy and so I didn't go as much. But in the early years, '74, I mean, I was up there. One week I'd be at Twin Lakes and one week I'd be on the Arkansas River. I mean, every other week I'd be somewhere for a couple of days. So two weeks a month I was gone essentially up there for the first six, seven years.

We were doing some other things. We worked on the North Platte reservoirs and

worked on some things out of Casitas in California. But Twin Lakes was my big thing.

Storey: Tell me about the Platte River reservoirs.

Platte River Reservoirs

LaBounty: The Lower Missouri [Region] wanted to know some basic information on ecology of Seminoe, Kortes, Acova, Pathfinder reservoirs, and the reason they wanted to know, well, they wanted to know mostly on Seminoe, both upstream reservoir on the Platte [River], North Platte, because there was a plan, a general investigation plan, to raise the dam, more reservoir. I think that may come to light again. I've heard rumors that it may be possible, that it's still out there. They need more space.

Well, in order to write their environmental assessment, they knew nothing, we knew nothing about the ecology of Seminoe Reservoir. So writing about what would be the environmental effects beyond the ecology, especially the aquatic ecology of Seminoe, there's no answer. So they asked us to collect some basic information and put out a report on what's this lake about, what's the ecology of it. So we did that. And we made it part of our research project because those reservoirs, that chain, that relatively small group within that watershed are a good example of a lot of other larger systems, and you can learn a lot from that. I never got to carry this as far as I wanted to carry it, because, you know, you just get busy and money comes from other places and we didn't finish as well as we could. Be we did study it for five or six years, that series of reservoirs, trying to understand how operations affect the ecology.

I think we talked about this before, because I talked about how at Seminoe Reservoir we learned that the plankton were all taken off the top and the–

Storey: Yes. We've mentioned some of it. But we haven't talked about it in this way.

LaBounty: Okay. I don't want to start repeating things.

Storey: No. Don't worry about that.

LaBounty: Okay. Okay. I won't. But, anyway, so it gave us some insight in how operations affect these reservoirs, because nobody studies these. They're in the middle of Wyoming. They're in the middle of Wyoming, and there's nobody around these reservoirs, literally. You can go days and not see a person. There's really no reason

to know much about them except it's good to have knowledge if you want to know what effect they have, and there are people that do use them for boating and fishing.

Below Kortes is an area called the Miracle Mile, which, I guess, I talked about earlier, too. It's one of the trophy trout fisheries in the western United States. Why is that? Well, it just happens. Well, is it because of the way the Bureau operates the system? Yes. It's just the result of that. The geography, the water quality, the operations, the whole ball of wax. It just happened. There's a lot things like that, a lot of tail waters. And we talked about this earlier, about tail waters and fisheries that just exist because that's just the way–we didn't plan it that way. It's just the way it is. We're lucky, I guess. We wanted to learn. Well, I mean, okay, if we're lucky here, why can't we be lucky somewhere else, sort of deal.

The North Platte series of reservoirs are still one of those research subjects that's out there that if I was designing a perfect world I would say put a lot of money in that and study them, study those reservoirs. Learn what you can about the operations. Don't try to change the operations, but try to optimize them and see how that affects–tweak them, if you can. See how that affects things, and try to apply what you learn there to other systems. It's a good system to do that with, because you do that on the Colorado River, you've got a big system to worry about to do that.

Everything's unique. I mean, every environment is unique. You can't transfer exactly what you learn in one system to another system, but you can get some general ideas about things, especially operations. Our reservoirs were constructed for operating them to provide water for supplying agricultural needs, hydroelectric power, flood control. I mean, as time goes on, this is changing and we've got people using them for drinking water, recreation, sailing, rafting, I mean, all sorts of other things that the legislation never intended for them to do. So we need to understand them for these future generations what we're going to using our waterways for. We can't be living in the thirties and forties with our thinking, even though our operators respond to their customers downstream and their water needs. But there's still a big gap between the customers and the operators and, I think the future generations as populations continue to increase in the western United States–perhaps not in Wyoming, but maybe so. I don't know. Who knows where the next growth area will be? I worry about Las Vegas that has 1.5 million people. I mean, back in the fifties it was a hell hole. But it has that many people. So who's to say Wyoming can't. You can't say it won't. I mean, Idaho. Look how Idaho is growing. You certainly have population pressures there going on. I mean, I don't know. A lot of our uninhabitable land of the past has become pretty habitable.

Storey: I wanted to ask you more about Jim Sartoris. You mentioned him in connection with your work.

END SIDE 2, TAPE 1. FEBRUARY 4, 2000.
BEGIN SIDE 1, TAPE 2. FEBRUARY 4, 2000.

Storey: Interview by Brit Storey with James F. LaBounty on February 4, 2000. We hadn't talked about what he did and what he was like. Was he a supervisor? Was he just a person working with you?

Jim Sartoris

LaBounty: We were colleagues. Jim was a civil engineer by training and was very interested in environmental studies. He began over in design, actually. My predecessor, Dale Hoffman, working on the Twin Lakes Projects, needed to have an engineer, environmental-type person, to help him, both logistically in the field and fit in with the engineering, but also one that was willing to learn the knowledge of aquatic ecology. So Jim was hired under that. He had to actually write an essay to apply for him job, I mean, all the people who applied for it, and he was selected by Lloyd Timblin and Tom Bartley. That was before me, I don't know, a year or two before me. When I came in '74, he was already there.

So we were thrown together, but he's become my closest colleague through the years. He's still with the Bureau. No, he's not with the Bureau any more. He was transferred over to U-S-G-S Biological Resources when we had to give up some people. We gave up six people. That's another whole story. We almost lost the whole biology program when [Secretary of the Interior Bruce] Babbitt[36] proposed the National Biological Survey. There's some inside information on that, too. That's another story, though. Jim now works for them only because he had been working on projects that got transferred over to that agency, not because of him at all. He's still in our offices in Denver. Those people still reside in our offices there.

But, anyway, Jim worked on the Twin Lakes. We worked together as colleagues. I was the principal investigator of the project. I was brought in to do that. So technically I would say I supervised him some, but we really worked together. It was not that relationship. It was a friend relationship and wonderful. He will say and I will say those were the best years of our career together, being together and up at Twin Lakes.

36. Bruce Babbitt served as Secretary of the Interior under the Clinton administration from 1993 to 2001.

Storey: Why is that?

LaBounty: We were young and innocent. We were unencumbered with a lot of things, even though we had some administrative. But we could take off, spend a week on the lake. We designed the studies. We were allowed that flexibility by our managers. We'd go out at night after working very hard during the day. I mean, we had to haul rafts physically around. We were physically fit. You know, we could do all this stuff. And we had to be. Designed all these things. Technology was just developing and we didn't have computers or anything like, but we had rafts out on each of the lakes, for example. Monitored temperature, wind speed and air temperature.

It was electronic data collection, like the old G-S disks where you had lines for thermographs and things like that, thermographs. But we had gone a step further. We had Dean Newkirk, who was the instrument man, instrument person. He was using the newest technology available at that time, which was recorders, tape recorders, like you're using your tape machine there, that would record a "beep" every hour, and that meant something. They'd download the data. So we'd have all these data gaps. So it wasn't great, but it was still at work. But, you know, we were trying out all this stuff. So we had our boat.

I came in as a biologist ready to jump into new things, and Jim was willing to try anything. He was willing to do what I thought was needed, so we designed a limnology study together and a sampling program and it was continuous. It was just they were good years because of that. I don't know. It was just the chemistry and the chemistry of the times and everything else that were just great. Not that the rest of them were bad, but those were the best years. I mean, I've been to Lake Mead more, and those are great years, too. And maybe when I stand back twenty years from now maybe they'll turn out to be better. But I don't think so. When you're young things always seem a little bit better. [Chuckles]

Storey: These rafts were left in the lake?

LaBounty: No. We'd take them out in the winter. That was another challenge. We had to take them out before the ice came on and we'd have to put them back out in the summer.

Storey: Now, when you say a raft, what are we taking about?

LaBounty: About four feet by four feet. It was on Styrofoam, a wood plywood construction painted orange with lights on them, safety lights. You could walk around on them,

lay down on them, whatever you wanted to do and work off of them. But the wind gets pretty bad, so you don't want to be on them all day. But we'd hook up to them and we'd anchor them to the bottom of the lake. So they were on chains to the bottom of the lake. The lake is about seventy feet deep.

Storey: And so you were taking temperature at various levels?

LaBounty: Well, we would do that, too. But these instruments would just take surface temperature and air temperature and wind speed and light. No, there wasn't any light in those days. The reason for that was Jim was interested in doing some modeling of the reservoir, in other words, mathematical modeling, of what the lake is like and what the effects of pump storage might be like. So he was trying to simulate all these things. That was in the days when models were starting to develop as the big thing, mathematical models amongst engineers, the Corps of Engineers and T-V-A. Models were a big thing, especially with the Corps. They had whole units doing modeling. So we were dabbling in it is all we really, really were doing. But Twin Lakes, in order to collect those data, you needed to know what the atmospheric conditions were like. So you needed to know what the temperature was. You needed to know what the wind was, because they had a great effect on the temperature of the water. So that's why he wanted to collect all those data.

Now, aside from that, we would go out every two weeks, and we'd lower a probe that has on it a thermostat that measures temperature, measures dissolved oxygen concentration, measures p-H, which is hydrogen ion, the acidity-alkalinity of the water, measures conductance, which is a measure of the salinity or a measure of the total dissolved solid concentration of the water. We'd lower that down each meter and all the way to the bottom every two weeks and we'd get a profile of the lake. That would be one of the things that we'd do. That's Jim.

Storey: Good friend, it sounds like.

LaBounty: Yes. He is.

[Tape Interruption]

Storey: I want to ask you about the next phase, the next major project you got involved in. We've done Twin Lakes. We've done the Platte. What was the next one?

Lake Casitas

LaBounty: Of course, a lot of these were overlapping. But we worked out at Lake Casitas, and we did this a lot with the contractor because we couldn't travel so much. Casitas is a reservoir a lot of people know from the Olympics. The Bureau constructed the reservoir and turned it over to the Casitas Municipal Water District. It's an off-stream reservoir on the Ventura River near Ventura, north of it.

Storey: This is part of the Ventura Project?[37]

LaBounty: Yes. Yes. And we constructed it in, I think, the early sixties, '63 or something like that. I'm not sure exactly, but we constructed the dam and then we pumped the water in there, and it's used by the Casitas Municipal Water District for drinking-water supply for parts of Ventura and the area there.

It's one of the neatest reservoirs because of the way it's managed. It's a medium-size reservoir, I'll call it. Not small. Not large. Medium size for our reservoirs. When it was constructed, like all reservoirs, it became very productive biologically. There was little oxygen at the bottom and there was a lot of algae bloom. Well, this wasn't what we needed to see, because it needed to be used for drinking water. No treatment plant. Chlorinate and provide it, filter it, maybe. I'm not sure if they even did that. So they had to handle the algae.

They had some very good people up there at Casitas and they and us, not me, but the Bureau people, designed an aeration system. Danny King was one of the prime movers of this. They pumped air actually into the water through some pipes, set on some floats out near the dam, deepest part, and the air's pumped down not at the bottom of the reservoir but two-thirds of the way down. I don't know exactly. What this does is you have transfer of air, of oxygen, from the bubbles and it destratifies the reservoir. The goal was not to mix the bottom, because that would bring up the sediment and they needed to start it before the oxygen, thermo-stratification, set up and the oxygen was depleted from the bottom.

So it worked fantastic there. I wasn't involved in the engineering with this. This was pure engineering. But it worked fantastic. The reason for it is once you get into this point–I've kind of jumped over a couple of things here. It was a new

37. Authorized in 1956, the Ventura River Project comprises a storage reservoir on Coyote Creek, a diversion dam on the Ventura River, a canal to carry water from the diversion dam to the reservoir, and a high-pressure pipeline distribution system. The distribution system has pumping plants and balancing reservoirs to distribute the water from Lake Casitas to the various areas within the project for irrigation, municipal, and industrial uses. For more information, see Thomas A. Latousek, "The Ventura River Project," Denver: Bureau of Reclamation History Program, 1995, www.usbr.gov/history/projhist.html.

reservoir. All new reservoirs have a period where they're very productive, because you've inundated trees and grass and raw land that may have lots of nutrients in it, basic nutrients for plant growth that we use on our grass, nitrogen, phosphorus, especially as the trees break down and the vegetation breaks down. So when we first inundate an area anywhere in the world, you have a peak of production the first two, three years that that reservoir exists, and then it drops off, because it's sort of like fertilizing your lawn. You put the fertilizer on, you have an explosion of green grass. You mow it all off and then slowly it gets to the point where you've got to put more fertilizer in it. Well, of course, you don't want to do that in the lake. So it dies off. This wasn't thoroughly documented back in the sixties that this happens in reservoirs.

Storey: When you say it's very productive, you mean?

LaBounty: Biologically.

Storey: Okay.

LaBounty: Algae, which we didn't want because the algae interfered with the water quality of the reservoir. The types of algae produce toxins and smelly water. When the algae broke down you had a lot of bacteria, so it wasn't good. So, anyway, that's what kicked them into gear to do something.

The other part of it is we had no oxygen at the bottom, because we had the oxygen being used up and breaking down this plant material during summer when it was sealed with thermo-stratification. So this oxygen loss led to no oxygen at the bottom which leads to what we call a reduction state, meaning that these same nutrients can even be released even more so into the water. Instead of being bound up like a sugar cube, the sugar cube dissolves and the nutrients are released into the water. They're usable. They got up into the zone of light and they're usable for more algae production. So this is what they set out to stop, reduce and stop. They also used chemicals. They used copper sulfate, which is commonly used to kill algae. They spray it along in the shallow areas of the lake where the algae grows the most, and it kills the algae.

Storey: That's the blue stuff?

LaBounty: Exactly.

Storey: I used to try and crystalize in chemistry all the time?

LaBounty: Yes. That's it. That's it. It's very effective algicide. It's not good for a lot of other things, but it's not too bad. It wasn't in this case. And that was expensive, for one thing. The other thing it cost them I don't know how much a treatment. I mean, it was really expensive. Plus, they were adding all this copper to the environment. They didn't want to be doing that. It's a drinking-water supply.

Lake Casitas Trout Fishery

So this aeration system was designed and constructed and worked out greatly. In fact, it worked so good that in Southern California, and this is Southern California, Casitas is a fairly deep reservoir. I don't remember exactly the depth of it. I have to think. I want to say about 180 feet, and I may be wrong, but I think that's right. It might be 130. I'm not sure. My memory doesn't click. But fairly deep. During the wintertime California winter is not too severe, but it's cool. Since the time it was constructed in the early sixties or whenever that was, it was used as a put-and-take rainbow trout fishery. A lot of people live around there. You can just imagine. "Trout? Wow, I'll do that." And Casitas, we bought all the land around it, almost. Later on we bought the rest of it for the district under separate legislation. But Casitas managed the recreation. They were not only in the business of supplying water, they were just as much in the business of recreation management. They had a whole, they still do, have a whole group or division or whatever they call it managerially structure that manages the recreation of Casitas Reservoir. It's a very wonderful place.

So it's a put-and-take rainbow trout fishery. But in the summertime it's too warm. Fish can't survive. Trout can't survive. Gone. They're either caught or they just die. They just can't. So they wait till the next fall and they start again. Well, lo and behold, when they put this aeration system in, fishermen, being clever as they are, would go out and about the level that the aerators were in the reservoir, not at the aerators exactly but near them and out in the lake they started catching these trophy rainbow trout. They were growing a couple of inches a month. There was a zone that that aeration system set up within the water column that was absolutely optimum for–that's my bird upstairs, by the way, if anybody hears that; I have a parrot–of oxygen and food for the trout and optimum temperature for the trout to live. They're just happy, happy, happy. And, of course, the fishermen are happy, happy, happy. So you've got some huge fish that were collected out of that lake and still are because of that aeration system.

We got involved because we had a research project on designing aeration systems, improving the efficiency. A lot of power was used to pump this water. The

efficiency of transfer of energy is calculated at about 1 percent. The engineers calculate the power put in and the energy that comes out from destratifying the reservoir. Well, however they figure it, it was 1 percent. Well, if they could improve that to 2 percent, even that they'd use half the power and save a lot of money.

Also, we wanted to know, as a big part of this, well, we have this rainbow trout fishery, let's find out about this. What are the environmental effects of the aeration system? The other question is now that the reservoir has settled down from this period that I just described of initial biological production, do we need to operate this aeration system as long a period of the year as we've been operating? So with those two questions we set out to find answers.

So we hired a contractor to collect biological, limnological data on the reservoir for a couple of years. His name is Arlo Pfaff [phonetic]. We had Fish and Game do some fishery studies, and the engineers in our lab, the hydraulic engineers, did modeling and studied the engineering aspects of it. At the end of that study, I don't remember the year, but there was a large, very well-documented report that came out on all of this. It was pretty state of the art. Unfortunately, it was never published. That's one of our downfalls is that we're not forced to publish nor are they even encouraged to publish because the customer usually wants to see a report and that's it. This one, I've made so many copies of this report, because nothing exists out there in the literature that you can cite. But, anyway, that was the next thing I was involved in that was very rewarding. But we carried that to the next reservoir upstream which is Cachuma Reservoir. Cachuma is–I forgot which river it is or stream it's on. It's up north of Santa Barbara.[38]

Cachuma Reservoir

Storey: I don't remember.

LaBounty: It's outside of Santa Barbara.

38. Authorized in 1948 and completed in 1956, the Cachuma Project is one of three large-scale federal water projects in the region, the other two are the Santa Maria and the Ventura Projects. These seacoast projects capture the seasonal floodwaters that would otherwise waste to the sea. The Cachuma project contains a highly variable Southern California stream for the historically water deficient communities of the South Coast area, including the city of Santa Barbara, its smaller, urban neighbors, and 38,000 acres of outlying agricultural lands. For more information, see Thomas A. Latousek, "Cachuma Project," Denver: Bureau of Reclamation History Program, 1995, www.usbr.gov/history/projhist.html.

Storey: Harold Arthur was involved in the construction of it.[39]

LaBounty: Yes. It's a neat little reservoir in that it supplies–it's in the Santa Ynez, on the Santa Ynez River. I just remembered. And it's in the Santa Ynez River valley there. The dam is constructed by the Bureau of Reclamation and operated by the Santa Ynez Water District. They operate the reservoir, but there are six other users that pump water out mid-lake, mid-reservoir, that provide water along the coastal cities of Santa Barbara. So it's very important for their water supply, drinking-water supply.

They were having the same kinds of problems, challenges, that Casitas was. So Tom Peterson, who was the manager of the Santa Ynez Water District asks us to come up look at his reservoir to see if there was something that they could put in. Eventually, after we were studying it and found out how much the engineers used our data that we collected on the limnology to size an aeration system, only maybe improve it, and that was installed.

The thing that really gets into the politics on this is that Santa Ynez gets their water at the dam, deep part of the reservoir. The other six districts or five, maybe there's five. I'm not sure. Six. Five or six. It seems to me it's five now. It doesn't matter. But they collected up-river, up-reservoir, have no problem with water quality. So they would not participate in any of these studies. They could care less. So poor old Tom Peterson in this poorer district than these coastal districts because it's inland, had to fund a lot of this and our research helped find it, too.

But we studied Cachuma for three years or so. By then I had people working for me, so they were the project directors and I wasn't. I was the manager. But I would make sure I spent my field time, believe me. I enjoyed it a lot, by the time Cachuma came around, and I don't remember the years. I'd have to be guessing. I'd say earlier eighties. Early eighties. I spent a lot of years, as these were going on, maybe mid-eighties even, a lot of years–well, Twin Lakes was still going on, so that would be mid-eighties, because we really went North Platte. North Platte and Cachuma were overlapped with each other a lot of them, and Twin Lakes is fading out. It faded out.

But I wasn't doing as much field work in those days, because I was more involved

39. Harold G. Arthur served as Bureau of Reclamation Chief Engineer from 1972 to 1977 and participated in Reclamation's oral history program. See Harold G. Arthur, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, during 1994 and 1995, in Denver, Colorado, edited by Brit Allan Storey, 2010, www.usbr.gov/history/oralhist.html.

with the management issues and writing, trying to write up some of the stuff. We were trying to do our documents on Twin Lakes and stuff. Then I really got more heavy into field work myself. There was others doing a lot of projects which were going on, especially with aquatic pest management and stuff, and I would follow that. When I started the Twin Lakes, the Lake Mead study in July 1990, and that's when I really started hitting the field. I decided I needed to do that. The group and the section had settled down to where people were really pretty busy and didn't need much direction any more, not that they ever did, but they could handle their own affairs. I was getting help from some others and helping me manage the group and the section so I could spend more time in the field. And I just did. Then Lake Mead started and I went there 143 times. But that gets me up to that point.

Storey: Well, that's ten or so times a year on average, right?

LaBounty: Yes. Yes. Nine years. In '90 we only went out twice. So '91 to '99, eight years, really, of studying. In '90 we went out. It was a dream, you know. What are we going to–

Storey: And if I recall you said basically monthly.

LaBounty: Yes. We went twice a year. From the last five years or so we went twice monthly during May, June, July, and August. So April, May, June, July, and August twice a month, or at least every three weeks. We would try and stretch it if we could. So we could keep our funds.

Storey: Tell me about that evolution into management. How did that happen? What was going on?

Getting into Management

LaBounty: Well, you apply for the job to get it. But I was project principle investigator.

Storey: That was where?

LaBounty: In Twin Lakes Project. I worked for the section head. The section head, at that time, Tom Bartley, retired in '75. Gene Otto became section head. I don't know the exact year, but somewhere in there in the early eighties, the section grew. Really, there were two functions of the section, two very basic functions. I mean, basic, you can describe them basically. One was aquatic pest management, which is an old traditional function. I mentioned earlier that we developed some of the

chemicals in our lab for weed control in canals, to rid the canals of weeds so we could deliver water from Point A to Point B, and we worked with the Agricultural Research Service and the Fish and Wildlife Service. We had a cooperative arrangement. They were in our laboratories. That eventually evaporated, that agreement, and they all left or we hired them.

That function, aquatic pest management, was a function of its own. Jim Sartoris and I developed the Twin Lakes Project, and these other things started coming up, these and others, and some related to fishery we were more of the ecology group. They split the section into two and had two unit managers essentially. In our center we had units for a long time, in our design unit. So we called them something else. I can't remember. They were units essentially. So then I became the unit head, and so I was at that time a GS-13 technical specialist and they moved me over to a GS-13, at that time, G-M, it became, 13 unit head of aquatic ecology. Then John Kramer was the aquatic pest management group. I don't know whether it was a group or what. I can't remember. But then Gene Otto retired and, boy, I'd have to go look this up. I said yesterday, but I've forgotten now. I have that in my little notes upstairs. But he retired and I applied for the job and got it in the mid-eighties and was promoted into that. Then I selected Rick Roline as the manager of the aquatic ecology group. So I managed the same two groups.

Then we had the reorganization six, seven years ago, and the groups were no longer. They all worked for me again, and there was no branch chief above, so we eliminated–

Storey: You're talking about Dan Beard's reorganization?

LaBounty: Yes.

Storey: In '94?

LaBounty: Right. So we eliminated the two groups, made it one group, the group in one section. We eliminated two units, I should say. We eliminated the name. We didn't eliminate it. People were still there. But they all then worked for me again. So we eliminated the branch above us, too. It was all restructured, as you well know. I mean, there's others that talk about that better than I, although I helped design the structure a bit. Anyway, that's how. And I remained in the group manager position until I retired last week, this week.

Storey: Tell me what you liked about management and what you didn't like about

management.

Being a Manager

LaBounty: Management has its rewards. When you have good people and you see them grow and become–they may not even have a master's degree. They may have a bachelor's degree and not a Ph.D., and they grow into these brilliant scientists. They could have gotten a Ph.D. They could have gotten a master's, but they chose to put their efforts into work, because it's a necessity, and they become well known in their own right.

When you mentor people like that, and I did an awful lot of people, that's really a reward when you can help them get what they need and try and keep them unencumbered by administrative tasks. Always my goal is the scientists need to be productive in producing the science product. If I'm the manager, than I'm going to take all that responsibility and keep them away from it. They may not even know about it. I didn't hide anything. They always knew what was going on. But when it came to budgets and stuff like that, I would try and do all that and keep them away from that. That's the only way you can be productive.

Of course, I never left a blank empty. If someone would ask me a question like how much money could you use for this next year, well, I'd never leave it blank. But I would never do a scientific analysis. It took me days to find out what that number was either. I'd pull it from my head if I had to based upon experience. So, you know, and I wasn't a great manager for keeping a lot of statistics. I managed by the seat of my pants a lot of times. But it worked. But, anyway, I didn't want the scientists to have to worry about those kinds of things. Help me, yes. And understand, yes. But I enjoyed that aspect of it. I enjoyed bringing in these sometimes university professors that would–

END SIDE 1, TAPE 2. FEBRUARY 4, 2000.
BEGIN SIDE 2, TAPE 2. FEBRUARY 4, 2000.

Storey: You enjoyed bringing these folks in.

LaBounty: Yes. Bringing good folks in that were former professors of universities and have this mix of people who weren't that educated but had more experience, and someone that has been a professor at a university who had some experience but all this education and they had to work together and learn to be productive together. I enjoyed that aspect of it.

I tired of the aspect, like anybody would, does, of the minutia that you have to put up with, the elements of a big organization. I fully accepted that. When you have a big organization you have a lot of minutia-type activities that you have to do. You have to do training and there's rules that are different. You have to follow certain policies a little bit different. But I never enjoyed it, and I got tired of every manager above that came in having another set of minutia that was dictated to you. You know, I'd do it and I'd understand it and I accept that. But that's kind of the one thing I won't miss, let's say, I did not like about management. I felt like we always had an unnecessary amount of activity.

Now, of course, one could easily say you need to do these things because somebody will ask the question, "Where's your information?" and you have to document. I mean, we never carried it as far as I've seen other agencies. I remember riding in a truck one time, getting a ride from two guys in the Fish and Wildlife Service. We all got in the truck. They pulled out a clipboard, wrote down the mileage and who was in the truck.

I said, "What are you doing that for?"

"Oh, yes, we have to keep records."

I said, "Every time you get in the truck?

"Yes. Every time we get in the truck."

"Oh," I said. "That's about as necessary a thing as I've ever seen."

But those are the kinds of things, and we didn't have to do things quite to that detail. But our trip reports. You remember our old travel reports and how on every trip we ever took downtown you had to write a trip report. Things have gotten so much better. Purchasing and getting signatures and things like that, that's something I won't miss. But the good parts of the management were watching people grow, producing things that people appreciated, and I always felt appreciated, and I really never had any bad years.

The other bad part of management was handling unsatisfactory employees. We all have had to do that. I probably had one of the worse situations, which I'm not going to talk about here, because I'm not suppose to. But I had to fire a person. I fired a person who was a union steward. The management supported me throughout the whole thing, the ordeal. It was an ordeal. I had twenty-nine different grievances

filed on me for one form or another. Those are not pleasant to handle. That's the unpleasant part. But they're all learning experiences, too. Everything that I ever did was learning experiences. Even the first year of my career I was bored a lot of times, because I was not doing what I exactly thought I should do. But I look back at that and I learned more then I did a lot of other years. It taught me. So you have to look back at these things as learning experiences, and management is one of those things like that. It was a means to an end, and I wouldn't trade it. I wouldn't have traded any years, really. I'm a happy former Bureau person now. So I'm happy.

Storey: There are a lot of them. I had some today telling me how important Reclamation was. Of course, a lot of people left when Dan Beard came saying how he's going to destroy the Bureau, he's going to destroy Reclamation and all that kind of stuff.

Beard's Reorganization

LaBounty: Well, some people still think that. It was just unfortunate, because he had a role that had to be played. He just happened to play it a little faster than maybe others would have. I don't think things would have been any different today than they are. Do you think? I mean, I don't know.

Storey: They had been trying to do this since Ellis Armstrong was Commissioner beginning in '70 or '71.

LaBounty: When [President Jimmy] Carter did his hit list, that really was our death blow. I mean, right there that was the one. If you want to blame somebody, I mean, and I'm not saying that wasn't justified, too, but that's when Reclamation changed. That date, when the hit list came. That said no more construction. In fact, stop what you're doing. That was when Reclamation came to this point of changing, I think. Not Dan Beard. Dan Beard only said what we were going to do, what we were doing already, and applied it. I know people that hate him. I mean, my former boss, who's now retired, he just hates him. He worked with him Washington. But I always enjoyed him. I enjoyed him personally. I know you probably did, too. He was very easy for me to talk to. But, of course, I was working in the area he appreciated, too, and thought we should be doing.

Storey: One of the things before I forget it is I want to talk about is Teton Dam[40] and its

40. Teton Dam was planned as the major feature of the Teton Basin Project in eastern Idaho. On June 5, 1976, shortly after construction was completed, the dam suffered a catastrophic failure, causing over billion dollars worth (continued...)

failure in the summer of 1976. You were here in Denver then.

Teton Dam Failure

LaBounty: I was in Denver, but I really had little to do with that one. So I can't take credit or anything for anything that happened.

Storey: No. You weren't involved in it. But how did people react around you in Reclamation?

LaBounty: Well, I mean, we were ashamed. We were ashamed. I mean, I was about as far away from that, yet still a Bureau employee as one could almost be. I mean, everybody had had something to do with Teton Dam, and the closest I ever got to it was Bob Adair, who was one of the environmental officers up in Boise, one time asked me some questions about Teton, what it would be like, the reservoir would be like, you know, and I talked about that. Other than that, and I knew it was going on, I really was just totally removed. I was doing other things.

So when that happened, you know, I had to look on the map to see where it was, for one thing. Of course, it's on the news and it's like somebody in your family had murdered somebody. It was horrible. I mean, I'm sure you felt the same way. I don't know how else to describe it. People are saying, "Oh, one of your dams failed." It's your family. The Bureau's your family. And I'm not an engineer, so I had to explanation for it. I can't say, well, it's because of this or that. I didn't know. All I could do is say, "Oh, it's a terrible thing. I guess it's something we never hoped would happen and it happened." The public out there watching everything to see what would happen next and get on this Bureau employee who people are pointing at as a symbol. And you feel kind of the same way, maybe. I don't know.

Storey: Well, of course, I wasn't here then.

LaBounty: Oh, you weren't here then. That's right. That's right.

Storey: But how were people around you reacting in Reclamation?

LaBounty: I don't have a lot of recollection of that. I think our activities were so independent

40. (...continued)
of property damage and 11 casualties. For more information, see Andrew H. Gahan and William D. Rowley, *The Bureau of Reclamation: From Developing to Managing Water, 1945-2000*, Volume 2 (Denver: Bureau of Reclamation, United States Department of the Interior, 2012), 820-832.

of that. Some of them in Denver were–I mean, they took a lot of people up there to help, help out with different logistical aspects of all the things that went on helping the people. So people that I know were going up there on these temporary assignments. But we just continued on with our activities unabated and uninterrupted really. So it was just a matter of information for us.

Storey: Did you see any changes in Reclamation?

LaBounty: Well, I know there were. I know that, yes, I would say it was the end of our design. That ended our design. And, of course, that led to Carter's hit list eventually. I think that was kind of one of the events that happened that led to the events that happened later on. One thing causes another thing causes another thing. I mean, our designers were ashamed, of course, and I think that here's this group that's known throughout the world as the best dam builders in the world, the best technology in the world, and this happened. So what I saw was that domestically they had a black mark on them. What I found internationally was it made no effect. They were still known as the best in the world. Still to this day people say, "Why does Reclamation not still have all this design capability like they used to have? Gee, they were the best at this in the world?" And I'll say, "Well, I mean, they aren't the best in the world because Teton happened." I don't know. Maybe when you talk to engineers elsewhere, I wonder what they'd say, they'd feel about that. I'm not a very good voice about that, really.

Storey: A couple of interviews ago we talked about Lake Thunderbird.

LaBounty: Oh, yes.

Storey: And you told the stories about the propeller and all that.

LaBounty: Yes.

Storey: But you didn't tell me whether they actually got the lake destratified finally.

Arbuckle Reservoir

LaBounty: You know, I don't know to this day. It was one of those things that the funds got cut. Actually, we were working on Arbuckle Reservoir. Thunderbird, yes, they did. That's another forced air injection system and it's operating and the district operates it. That's all they wanted. They didn't want us to study it, as I mentioned. The guy didn't even want us to set a boat on the lake and look for fish. He said, "There's fish

there. There's fish there." Arbuckle was really our reservoir. Although we constructed Thunderbird, we quickly turned it over to the municipal district.

Storey: Can you tell me about Arbuckle?

LaBounty: Arbuckle, I can't tell you much, because I have to think about this for a while. I haven't thought about it for so long. We were contracting this out, again. We contracted to Oklahoma State University and Garten, Jim Garten, was the professor at Oklahoma State, and he was the one that did all the data collection. Dan King was the Project Manager, and I was giving him technical support for the biology of it. But the engineers were the ones that were doing the–and it was more of an engineering–in fact, it was almost totally an engineering research endeavor and not an environmental so much. So that's why I can't talk about it so much. I don't remember a whole lot. I know the stories. Like I said, I was the technical expert on the environment part of it and so I'd look at the data and stuff, but there were not a lot of other things collected.

I think they eventually put something else in there. They never did put that garden pump. They called it the garden pump, the upper airplane propeller. I asked someone. Several years ago I asked someone, "Did that thing ever go?" They said, "Oh, he's still fiddling around with that." He's one of these inventors at the university that tried everything, mechanical engineer type, agricultural mechanical type. Dan King or Perry Johnson, those were the two that were involved in it and those would be better to ask about that than I.

Storey: Let's see, let's talk quickly, if we could. I should have asked this when we were talking about journals. You'd mentioned you'd written chapters in books. What kinds of things were you writing about, and what kinds of books?

Contributing Chapters for Text Books

LaBounty: A lot of them were specialty meetings. For example, one on the–I've got to remember the name of it. I don't remember the exact name of it, but it's the natural resources of the New Mexico-West Texas area, something like that. So they'd write a book. I mean, sort of the same thing historians do. For posterity to document what the natural resources were and I wrote on the fishes of the upper Gila River, for example.

I had a contract, actually, with Bureau of Land Management. They wrote a book, which is still used in classrooms, I guess, on monitoring–I don't remember the

name. I've got it upstairs. Monitoring natural resources for management or something like that, and I wrote a chapter on how to sample lakes, how to collect data on lakes, how to design monitoring systems. I think they use it in classrooms on natural resource management. It's a broad-brush-type course. But it's a big, thick book about like that, and I had one of the twenty-six chapters or something. I've never written a whole book. I'd like to. I plan to. But we wrote a lot of monographs, which are not really books. I can't remember. I have to think about some of the others. But those are some of them. Specialty conferences and stuff.

Storey: Well, I'd like to keep going, but I know you have something going on in a little bit. So I'd like to ask you again if you're willing to let researchers use the information on these tapes and the resulting transcripts.

LaBounty: Yes.

Storey: Great. Thank you very much.

END SIDE 2, TAPE 2. FEBRUARY 4, 2000.
BEGIN SIDE 1, TAPE 1. APRIL 18, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing James F. LaBounty at his home in Lakewood, Colorado, on April 18, 2000. This is tape one, and it is about two o'clock in the afternoon.

Why don't we start today talking about Glen Canyon operations and how that affected your areas of responsibility.

LaBounty: I assume what you're talking about is the environmental office at Flagstaff. Oh, you're talking about Glen Canyon Dam?

Storey: The note I have says Glen Canyon operations that you were involved in.

LaBounty: Well, I'm not quite sure what that–it's been a while since we've talked.

Storey: Tell me about the environmental office in Flagstaff.

Environmental Office in Flagstaff

LaBounty: It all fits together with Glen Canyon operations. Ever since the dam was filled, there was always–I'm trying to think of what we might have talking about; there's

plenty of things–there's always been some special groups that have needed to operations to be different other than what they are to produce electricity. I remember, for example, when Lake Mead was operated in response to Glen Canyon and the irrigators down below, and that meant that it was lowered in the springtime, early, and then brought up in the later summer. This was in response to the power production out of Glen Canyon. There was a big deal made about that, because it was sort of uneven. It was the fishery interest that wanted to have it raised earlier, Lake Mead, so that it would inundate the vegetation around the edge and produce habitat for the young-of-the-year black bass, which spawn in about March. And if you raise the level, then it inundates the vegetation that's grown around the edge, because it's pretty sparse generally, anyway, and then they wouldn't be eaten up by the other fish.

There was a lot of study that went into that. We're going to talk about that. Maybe this is it. There was dive studies that occurred to try and count fish in the nests. Wayne Deason and Jim Ramero [phonetic] and some of the people that are still kind of around were involved in those dive studies. Wayne would recall. Based on those information and those data and the information the operations were changed so that Lake Mead was raised earlier and this vegetation was inundated. This would mean then that something would have to give later on. I don't remember how this exactly worked, but it didn't fit with the recreation on the Colorado River below Glen Canyon, what was ideal for them [river runners], conditions for them. So they were kind of protesting what was happening there.

I remember when we had a meeting, kind of a public meeting, of all of the interests involved, and it's amazing, there's six different ways to run the dam. I mean, you had power and recreation and fisheries, Native Americans, and all these other things that had interests in how the river should be operated and who are you going to respond to as the Bureau of Reclamation. So it has a long history. This is back in the late sixties and the early seventies. So there's always been that undercurrent of Glen Canyon operations and how it impacts what goes on downstream.

I don't remember exactly how it started. Somebody else would know a lot better than I. I just can't think at this point what it was. The Upper Colorado Region had this interest more than the Lower [Colorado] Region, which has always been a strange thing, because the regional boundary begins right below Glen Canyon Dam. The Lower Colorado being, really, the Grand Canyon is in the Lower Colorado Region. But the operations are handled out of the Upper Colorado Region. So some of the folks up in Salt Lake City in response to something, and I can't

remember what it exactly was, they initiated the action of starting an office in Flagstaff and having people down there to study the environmental. It's probably the overall environmental impact statement that they had to write for the operations of the upper river. I know that being involved in environmental impact statements I know this is going on. But that office was to collect data. Dave Wegner was the person that went down there, and he was a very creative individual in that even with just a little bit of money compared to other offices he would put together, amass this large operation of students and just a couple permanent employees plus himself, temporaries and other agencies with contracts where he had a pretty good empire down there of studying all the environmental features of the Grand Canyon in response to Glen Canyon operations.

This was never a favorite office of the Salt Lake City Office. My view of it is that Wegner was doing a pretty good job of collecting data on an environmental feature that Reclamation's greatly involved in, and there was a lot of interests, the Native Americans and the environmental community and the Park Service, Geological Survey, and the state of Arizona, the state of Utah, and on and on and on. But they're in Flagstaff, and he took the philosophy that I'll ask forgiveness rather than permission. Of course, the Bureau way is to go through channels. I view that Dave probably avoided channels when he could. And, of course, this didn't sit well with the people in Salt Lake City. So they had their proud moments, that's for sure, because when there was a victory or a milestone reached in what they were doing they were there.

Experimental Flooding of the Grand Canyon

Probably the peak of this was when they did the experimental operations of Glen Canyon Dam. I think it was April four or five years ago when they did the pulse heavy flows down the Colorado, and that was kind of the culmination of a lot of years of study by Wegner and his office, and a lot of political wrangling that went on up to the Secretary of Interior to try and get this to happen as an experiment. It was very unusual for this large of an experiment to occur because the power lost, I'm sure, was tremendous. But to get everybody on board on this, I mean, it was a huge success on Dave's part and a lot of other people's and, of course, the Region, too. And the Region was there and the Secretary was there.

That was sort of the end of Dave Wegner's credibility. He's a character in himself, a very bright scientist that has good political savvy and horrible political savvy. I don't know if you want me to talk about people or whatever.

Storey: Yes. That's fine.

LaBounty: But I think he's a character in our organization. When Dan Beard was the Commissioner, Dan Beard visited his offices in Flagstaff. It was sort of like going in a graduate student's quarters in a university, you know, where graduate students have these small little offices with books and papers piled everywhere, and everybody's kind of busy running around. That's the way it appeared to Dan Beard, and he said, "This is the way all Reclamation offices should look." Or something like that. But he thought these people are working hard and they're doing the kind of things I like to see done. So he really bought into Dave Wegner. Well, this just give Dave real clout, and he used it to the hilt to get what he needed. And then the experimental releases out of Glen Canyon came after that.

But then after the experimental releases, Dan Beard was gone, and really that was Dave's cover. So he lost his cover and he thought he had cover with Secretary Babbitt, who he knew. I mean, it's in Babbitt's home state and Babbitt had an interest in this. I believe, don't know for a fact, but I believe he kind of liked what was going on there. But Dave went over everybody to Babbitt on a few different items. I think that he finally burned all his bridges and then the last one was burning it, I think, to the press. I'm not sure exactly, about the Secretary not keeping his commitments, or something like that. I'm not sure. Maybe you know more about it than I do.

Storey: I don't know anything about this one.

LaBounty: But that did him in. When you burn your bridge to the Secretary of Interior, I mean, he was pretty well doomed. So he was offered positions in various places just to move and opportunities. And some of them were actually pretty good, but he felt they were trying to get rid of him, and I imagine that's probably true, but I think they were trying to use his talents elsewhere to try and clear that area and settle it down, because it was just a kind of a hot bed, as it still is.

Well, he resigned Reclamation and went to work, did some work with Dan Beard. Now he's working for this group that would like to take out Glen Canyon Dam. He's kind of the primary spokesperson for that group. You hear a lot about that nowadays. So, I mean, he's one of Reclamation's characters. I don't know how the Region could have done it differently. I'm sure that Charlie Calhoun and Rick

Gold[41] would have liked to have done it differently, but it was a balancing act on their part.

But, I mean, the point is that the flows out of Glen Canyon Dam have always had an interest of a lot of people. If you're not there, you don't see it as much as if you are. In that vicinity of Arizona you know that it's just a big deal, and taking out Glen Canyon Dam is an idea that has a lot of people's attention, realistic or not. They had a rally in Page not long ago, a few months ago, and it drew quite a few people. But then there's the other side, the ones that want to keep it, who rallied in the same day. It was sort of across the street from each other.

Storey: Yes. About the second or third week of March, I think.

LaBounty: Something like that. But, you know, really, it was Dave Wegner that got a lot of this stuff going. Of course, he befriended David Brower and all the environmental community. But I see the good in what he did. It began investigations on Lake Powell itself because some of us convinced him that he ought to just not be studying the river but he ought to understand the reservoir and how operations affect the reservoir, too. I'm always trying to make that point. I have always been trying to make that point. So they've had some good studies on Lake Powell for a number of years now, which has produced some very good data.

Storey: Do you know if that office is still there?

LaBounty: The office is still there, yes. It moved around as a quasi organization of the Bureau. I think people were trying to figure out what to do with it, management was. What they did is after Dave left they brought out a senior executive service, Dave Garrett [phonetic] from the Biological Services of U-S-G-S to head the office, and Dave Garrett said, "Well, I work directly for Mark in the Assistant Secretary's office. I don't work for the G-S." I don't know whether that's true or not, but that raised this office level. But, I mean, here, I think Dave Wegner was probably a GS-12 or maybe at the most 13. I don't even think he was that, and you replaced him with a

41. Charles A. Calhoun served as Regional Director of the Upper Colorado Region from 1994 to 2000, and Rick Gold followed him in that position from 2000 to 2007. Both participated in Reclamation's oral history program. See Charles (Charlie) A. Calhoun, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, from1994 to 2009, in Salt Lake City, Utah, and Denver, Colorado, edited by Brit Allan Storey, 2010; Rick Gold, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, in Salt Lake City, Utah and Denver, Colorado, edited by Brit Allan Storey, further edited and desktop published by Andrew H. Gahan, 2014, www.usbr.gov/history/oralhist.html.

senior executive service, which that was always kind of interesting to us. What does that say? In fact, they did that and they brought in a GS-15 underneath the senior executive service person, Dave Garrett. Barry something or other. I can't remember his name right now.

But, anyway, Dave Garrett is retired because of health reasons, and I've heard that they're going to bring someone else in. I've also heard that they've promoted someone. So I don't know exactly what's going to happen. But two of the employees, the two heads of the office, are U-S-G-S B-R-D employees. The scientist staff, there's only–I don't know exactly–three or four are still, to my understanding, employees of the Upper Colorado Region. So I think that what's going to happen is still out there. [Chuckles]

Storey: And are there Park Service staff here, too?

LaBounty: Well, the Park Service is different. No. There's not. There was at one time. There was some people they borrowed from different agencies. But you have two elements of the Park Service there. They clash a little bit. You have the Glen Canyon National Monument staff.

Storey: The Recreation Area staff.

LaBounty: Recreation Area staff. I'm sorry. Then you have the Grand Canyon National Park staff. There's a little bit of difference between the two. I don't know the ends and outs of the Park Service, but I have been involved with Lake Powell stuff and I know that we don't ever get a Grand Canyon person, employee, at a Glen Canyon meeting, and probably it's true vice versa. They have a very good staff at Glen Canyon, the Park Service does.

Storey: Were you involved in any other studies at Glen Canyon besides the little–

LaBounty: No. Besides what?

Storey: Raising the reservoir to inundate vegetation?

LaBounty: Oh, at Lake Mead. That was Lake Mead. See, they raised Lake Mead.

Storey: Oh, it was?

LaBounty: Because, see, it's the response reservoir for what happens at Lake Powell. I mean, at

Glen Canyon.

Storey: Oh, okay.

LaBounty: That's what I thought when you said–

Storey: So they let the water out of Glen and it goes into Hoover and raises Lake Mead.

LaBounty: Right. So, yes, that's where they raised the–

Storey: Oh, okay.

LaBounty: Glen Canyon, no, I haven't really been. I had an employee who we advertised the position years and years ago. I don't know, it's probably been eight, nine, ten years ago. In response to Dave Wegner, he said, "We need to have a research scientist in your office who works on projects down here. We'll fund it." So we hired a young man and he was great, and he would travel back and forth. And then he left and went to work for the Park Service, actually, up in the state of Washington. Then Susan Hufley [phonetic] worked for me, and then it became apparent that it would be better if she was down there. But she remained on our staff, and she would do the limnology of Lake Powell and some other things.

Well, I didn't like having employees remote like that. It never really seemed to work out well. So we transferred her over to Dave Wegner's staff when he was part of the T-S-C. There was a time when Dave Wegner and that staff at Glen Canyon was mail code–I don't know what it was, but it was 70 or 80, 8270 or 8280 or something like that. They were part of John Lease, they worked for John Lease. There was a period. So it's evolution.

But I never did work on Glen Canyon personally. I never did any studies on Lake Powell. Lake Mead, yes, but not Lake Powell.

Storey: A lot of Lake Mead stuff?

LaBounty: A lot of Lake Mead stuff.

Storey: When we were talking earlier, you mentioned algae in Casitas Reservoir, I believe. Granby Reservoir. And I remember we talked a little bit about the small shrimp. I want to say–

LaBounty: Mysis shrimp?

Storey: Mysis shrimp. I want to put a "t" in it for some reason. Mysis shrimp at Granby. But I don't think we talked about Casitas.

LaBounty: Casitas doesn't have mysis. Mysis are kind of a high mountain lake or where lake trout would live.

Storey: There's an algae problem, I think.

Algae Problem on Casitas Reservoir

LaBounty: Yes. Casitas is an interesting story. If I didn't already tell this. Funny, I was talking the other day to someone about this and telling this whole story. So I can't remember. But Casitas is a Bureau reservoir that was built in the sixties near Ventura, California, right outside of Oakview. It's kind of a medium-size reservoir. It has an island in the middle. The water in it comes from the Ventura River, but the Ventura River's not dammed. The water from the Ventura River is pumped up into a basin above the Ventura River, and that's Casitas Reservoir. The dam is built on kind of a wash or a creek. I don't remember the name of it, but there's no outflow, nothing.

All the water in that reservoir is used for domestic water supply for the city of Ventura and maybe surrounding communities also. But it's managed now. We turned it over to the Casitas Municipal Water District, who is a very successful operation, a water district project for domestic supply. The reservoir's also very noted for its recreation, being in southern California, and the district runs the recreation, charges fees, and I think they make a lot of money on that as well as selling water. But I think it's a big part of their budget is that. And they have a concession, the boat dock and all that. I tell all this because it's background kind of.

Casitas is about–oh, I don't remember exactly–180-200 feet deep, and when it was filled back in the sixties, like all new reservoirs, you get a burst of energy in the reservoir. You're inundating all the fertilizers that are in the plant material, all the nutrients it takes and the nutrients have to go somewhere. So they go into algae. This is typical. You get a real spike when you fill a reservoir. It's well documented. Then that drops off as the reservoir ages because the nutrients are used up and flushed down stream. It's inundated and the reservoir actually can become quite sterile unless there's another nutrient input.

Well, this happened in Casitas and, being a drinking water supply reservoir, there was great concern because it was so bad. It's in Southern California and it gets warm. It had a large anaerobic zone at the bottom of the reservoir. There was no oxygen. This meant that you had all sorts of–[sneezes]–but things can be dissolved it. It's like dissolving sugar in a glass of water. So things get dissolved a lot easier in water that's anaerobic, low oxygen.

Well, this isn't good. So you had algae growing on the surface, and you had kind of black stinky water coming out. So the Casitas District, along with Reclamation, and a lot of this is researched, designed an aeration system. To back up, the algae was so bad six times in the summer they had to go around and spray copper sulfate, which is a chemical that kills algae and clears up, because it's a drinking water supply. They really had to protect it. They protected their watershed pretty good. Later on they had to buy out all the horse farms to protect it even more, but that was another story.

But, anyway, they built this aeration system, which is like pumping air down into the reservoir, not all the way to the bottom but two-thirds of the way down to the bottom and form small bubbles that rise to the surface and this puts air into the water, oxygen into the water, and also it, in this case, partly destratifies the reservoir, so you don't have this strong seal of warm water on cold water.

That worked just fine and it's still operating. Still works fine. It's a very good operation. Now, the algae treatments, I don't know what today they have to do, but back a few years ago they weren't spraying at all, no more copper sulfate. They could manage the reservoir. They are a master at manipulating the operations to the best benefit of the environment. I don't know if they even yet to this day have a water treatment system in the state of California. They deliver drinking water out of that reservoir. Chlorinate it and deliver it. Filter it. But there's no treatment of that water. It was a magnificent example of how to do that.

There was one man that worked there. His name was Dick Barnett. He worked for the Casitas Municipal Water District. He grew up with the district. He since retired, but he knew every day how to tweak the operations of that reservoir and that aeration system to get the best quality of water. I mean, they have a lab that measures several times a day the bacteria and all that and the algae and all these other conditions. But if I were to send somebody somewhere to learn how operations is best, I'd send them to Casitas, because they have the best I've ever seen, without having to spend a lot of money on treatment facilities. Now, I know that they were going to be forced eventually into putting a treatment facility in,

because there's so many other things nowadays.

Casitas Fishery

Well, as a side of this, that reservoir is a great fishery. Now, I don't remember to get the figure right, but I think it's the greatest number of fish per fisherman hour of any Bureau of Reclamation reservoir. In other words, average fish caught, number of fish caught in an hour by the people that go out and fish, is the greatest there of any other Reclamation reservoir. That was true. I don't know today, because I'm not around there. And that's due to the fact of sunfish in this case. But also it's a great bass fishery. It's really a very good fishery and a lot of pressure. But they get monstrous fish out of it.

In the wintertime the Fish and Game stocked rainbow trout. It's cool enough so you can put them and take them out. Summertime's too hot, too warm. Well, with this condition that was there, of course, the rainbow trout didn't have a chance in the summertime. What happened was, and nobody predicted this, was that when the aeration system began operations a year or so after that the fishermen began to catch trophy rainbow trout in the middle of the summer. They were catching them at the depth of where the temperature and the oxygen were optimum for the food for rainbow trout and for the rainbow trout. So they'd live in this zone of the reservoir and down below that in this cooler water. They would have all sorts of food because it's a very productive reservoir, nicely balanced, environmentally balanced. It's still a good rainbow trout fishery. Now, this is in Southern California. This is near Los Angeles. This is unheard of. I mean, you're in the tropics almost here. You're only 150 miles from the topics.

[Telephone Interruption]

Storey: So Casitas all of a sudden has this trophy rainbow fishery?

LaBounty: Yes. It's really a great example. I give Dick Barnett huge credit. He passed through a lot of management structures and, hopefully, he left someone to takeover what he did. He's one of the greatest managers of a reservoir I have ever met, maybe the best. I mean, of all the ones I've seen all over the world, he knows. He knows. I've send more people from other countries, Spain and from all over there, to visit with him, because he's so good. But Casitas is an interesting story.

Storey: How do you get air down to depths like that?

LaBounty: Just pump it. You pump it. It takes pumps. It uses electricity. You just pump air through pipes, and you put them out. You float them or sink them a little bit into the reservoir, and then you put them out above in the reservoir, in the dam. So you have pumps on the shore and then you have tubes that go out in the middle and they're put on floats, and then down below there's big, long pipes that are perforated. Air's pumped down those and then the air comes up. Does that explain it?

Storey: So I'm envisioning sort of T-shape structure.

LaBounty: Yes.

Storey: With the float on top.

LaBounty: Right.

Storey: And a pump on top.

LaBounty: Pump on the shore.

Storey: Pump on the shore. So they don't do boating on this reservoir?

LaBounty: Oh, yes. It doesn't bother the boating at all. It's just a very restricted area. It's just a very small area and it doesn't affect boating. I mean, they have buoys around it so you don't go right up to it. I mean, it's like anything. But it's not a very big area. It destratifies the whole reservoir. It doesn't just do this one little area. But like I said, there's an island in the middle, and the reason I said that is so to tell you that the effects of this aeration occurs around this Island. This is not the only places this is done. Of course, it's done in a lot of places, hundreds of places in Southern California alone.

Storey: So the idea is you get the aeration going and you get a movement of the water?

LaBounty: Right.

Storey: And it affects the whole lake?

LaBounty: Right.

Storey: Even though you're only doing it in a small area?

LaBounty: Right.

Storey: Interesting.

LaBounty: Yes. It's not efficient as far as energy conversion, like a 1 or 2 percent energy conversion. But it's very effective. But the engineers think, "Well, how can we improve the efficiency?" And it was always wanting to do that. We had a research project years ago with Danny King and Perry Johnson trying to improve the efficiency. I think Perry finally cut down the bubble size till it's very, very small, and that helped some.

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Storey: Smaller bubbles helped.

Aeration Systems for Reservoirs

LaBounty: Smaller bubbles helped, but I don't know that the efficiency went up greatly. We had a joint research project with the Corps of Engineers and T-V-A. Dan King had an aeration team, and we did all sorts of cooperative studies and contract studies. Efficiency was always a big deal with the engineers, but I don't know that that's ever been done.

Now, we have an aeration system right down here in Bear Creek Reservoir. The city of Lakewood operates it. It's a small watershed that comes in Bear Creek Reservoir. Bear Creek itself has a small watershed. There's a lot of residences up at the upper end of it and down with a lot of septic tanks. It's an old legacy that we inherited. People along there don't care to be hooked up to city or county or whatever kind of a district. I know they fought that. But, nevertheless, there's a lot of nutrient input. You have Kittredge and Evergreen and Morrison that contribute from their treatment facilities, secondary treated, not tertiary treated affluent. That has a lot of nutrients in it. So it goes into Bear Creek Reservoir. Well, Lakewood inherits that.

It's a Corps of Engineers reservoir. The Corps built it for flood control, and the Corps operates the reservoir but for flood control. It's a city of Lakewood park. So they had a contractor come from New England, a guy I know, actually, and design their system that pumps air into that to keep it from becoming anaerobic. If you go below Bear Creek Reservoir, there's a bike trail that goes down below it, you can

kind of smell it during some times of the year. It has a smell to it, because of a function that happens in the reservoir. But, anyway, so they're all over the place.

Storey: I think we talked earlier about–let's see if I get the term right–nitrogen supersaturation on our dams?

LaBounty: Right.

Storey: So pumping air down doesn't cause this same kind of a problem. You have the water pressure?

LaBounty: It can. But it doesn't. We have never seen that effect. But there's always been thought that that's something to think about, because even fish hatcheries have to strip the nitrogen out of the water when they bubble and aerate water for trout. So, you know, it's something. But there's not that much conversion that goes on in that situation. So it's really never been a problem, although it's something always to think about. But it's not near the same as plunging water over a spillway and the entrainment of air that occurs there. It's different.

Storey: Different physics somehow.

LaBounty: Well, different conditions. I mean, it's a lot more turbulence going on. The saturation from aeration, it doesn't reach anywhere near 100 percent, and the saturation from plunging, it'll reach 120-130 percent. I mean, you might be going in a reservoir like Bear Creek or like Casitas down, let's just say, in the lower levels, you might have a saturation of 15-20 percent. Let's say, 0 to 5 percent in the case of Bear Creek. You're trying to get that above 20 percent. You're nowhere near 100 percent. So you're not worried about–I mean, a plunging flow you've already got water coming out that's probably near 100 percent saturation, and plunging it you're entraining a lot more air into it, which includes nitrogen, of course, because it's air. It's a different situation.

Storey: We talked about your Spanish, Reina Reservoir, I think, the Queen's Reservoir in Spain.

LaBounty: Reina?

Storey: R-E-I-N-A?

LaBounty: No. I don't know that reservoir.

Storey: Maybe I don't know how to spell. Riaño?

LaBounty: Oh, Riaño. R-I-A-Ñ-O. That was one of them, yes.

Storey: Okay. I notice your scrapbooks over here. You've been to a bunch of other countries, too. Could you talk about some of those and why you were sent?

Three Gorges

LaBounty: Did I ever talk about China?

Storey: You just mentioned Three Gorges. It's another question on my incomplete list.

LaBounty: That was the big one. You know, you go through your career and then you reflect. All my career's been good, was good, but there's certain highlights that are really stars, memorable stars, things that are just etched in your mind. And the experiences that I had working on the international program was, by far, the highlights of my career. I mean, of course, the people that I worked with and the projects that I got to do on Twin Lakes and Lake Mead are highlights, and I wouldn't trade them. But two places that are highlights for different reasons are Spain and China. Spain I talked about. Spain was the most gratifying, enjoyable, rewarding. I mean, I hated to get paid for it, it was such an enjoyable–I was there fourteen times. On the other hand, China was the most memorable event of my whole thirty-year career because of the situation that we went into. And I can go into that whenever you want me to.

Storey: Yes. Let's do it.

LaBounty: I'll just mention that I did some other assignments that were shorter, maybe, and were more memorable, but they weren't any of those things, like Guyana, which is the old British Guinea. Those were interesting for their own reasons. And Japan. But China, I had the opportunity to go over in 1981 with a team of ten people. I think seven were from the Bureau of Reclamation. We were the first technical team to go to China after China had opened up and the China-U.S. relations had been reestablished. Nixon went over and Bush was there as the Ambassador to China. People won't remember, I guess. And then there was political exchanges. Before us, the Commissioner of Reclamation, the Director of the Tennessee Valley Authority, and the Corps of Engineers, whatever the head is. I can't think of–the general or whatever.

Storey: The Chief.

LaBounty: Chief, yes. Chief of the Corps of Engineers. They went over there as a political exchange. They signed an agreement that included many things, cooperative-type programs, which really, truly were more help-type programs for China. The idea was then the American business would then get a lot of the business from these projects we were helping them with. The Bureau's big deal was the Three Gorge Project, which is under construction now, and it's the largest dam built on the face of the earth.

So not long after that group went, it was written up big in *Engineering News Record*. Well, our visit was, too. But we went over there on the last day of April of 1981, and we went over for seven weeks, six and a half weeks. It was a ten-man team of technical people that went to work with the Chinese on the various issues that they had questions about regarding the planning of this monstrous project. They were about to go to construction. They were hoping to go to construction soon. It was ten years later when they started construction, actually. But they were ready to go that day just about. So there were eight engineers, one economist, and myself as the environmental token, so to speak. My role working with this group was they had questions regarding several specific issues about the environment, and they wanted me to work with the different people and come up with some recommendations. We all had our own role. I mean, I don't know how deep you want me to get into this.

Storey: No. This is what I want you to do.

LaBounty: Did I talk about this already?

Storey: No. You haven't.

LaBounty: The Three Gorge Project is on the Yangtze River. I don't know how big the dam is now going to be. It's smaller than it was, but it was going to dam water up 1,000 miles. It's sort of be like putting water behind Hoover Dam and the dam would back up to Glenwood Springs, Colorado. That's how monstrous this dam was. I mean, just imagine that, water going all the way up, one dam, Lake Mead, Hoover Dam, no Glen Canyon, just Hoover Dam, backing water all the way up to Glenwood Springs, Colorado. Of course, there's a big difference in elevation, but nonetheless that's how long this reservoir was to be. So it flooded out millions of people and what to do about moving all these people. That was one of the questions.

Yangtze River Sturgeon

But the primary question to me was what to do about the sturgeon. It's a native sturgeon to the Yangtze River. The Soviets, the Russians, who had been advising them on all their projects before we came in there had told them that fish ladders would be successful for sturgeon, because they had great success they said. Well, I studied all their success, and if you have 20 million sturgeon and 100,000 make it up this ladder, they considered that successful. Well, diminishing returns eventually, you know. So they weren't really successful.

At the same time as we were there, they were just completing construction of Gezhouba. Gezhouba is a dam below Three Gorges, which is more of a kind of re-regulating reservoir and they had big ship channels and they had some power that they were producing there. It was the first dam across the Yangtze River anywhere. A monumental task. But it had past floods and everything else. So no flood control feature at all, none. But it was a re-regulating for shipping and such.

Well, in that budget, they were obliged to put aside the equivalent of 26 million U.S. dollars for future construction of a fish ladder for the sturgeon. It was in the bank, so to speak. So that was a constant question to me, "What do you think of fish ladders for sturgeon? What do you think we should do? Dah-dah-dah-dah." Of course, I was trying to be very careful about it. I mean, there were other environmental questions, downstream effects and moving people and dah-dah-dah-dat-dat-dah. You can just imagine. But that was kind of the big one, and it was a big deal. You can imagine. Even in that country it was a big deal in that time.

So I visited with people, scientists, the best I could. I was traveling with these engineers. We spent a number of weeks in Wuhan and then we went and traveled. We drove above Gezhouba to a point near where the dam was going to be constructed, and we got on a–Yichang, I guess it was–and then we got on a ship and we spent eleven days traveling upstream the Yangtze all the way to Chongqing, stopping along the way. The whole boat was just ours. It was us ten and seventy Chinese and a crew of 100 or 150 people just to take care of us. Oh, yes. Kind of a big deal.

When I was first in Wuhan I went over to their institute, biological institute, which is very well known, suffered greatly during Cultural Revolution, but the Director and Deputy Director were very good fishery people, world renown, and so it was very much of an honor for me to meet them. I gave a seminar and all. This is a bureaucratic humble-jumble for them to do this, because they were in another part

of the government and it's such a bureaucracy over there. But, anyway, they pulled it off.

As we were traveling upstream, one of the Chinese mentioned something about a fish farm. "Would you like to visit a fish farm? Because there's sturgeon. They're doing a little bit of research on the sturgeon."

I said, "Oh, yes. I'd love to visit. Where is this fish farm?"

"Oh, we can do it. If you feel it would be beneficial for us to visit, we would like to do that."

I said, "Sure. I would love to do that." Because they were doing this research on sturgeon.

Well, it turns out, they drove that boat all night long. They drove that boat all night long to a place and docked in the morning. We didn't know exactly where we were going. Of course, you can imagine the wrath I was taking from these engineers for this. We got in these vans and traveled, I don't know, fifty, eighty miles over rugged roads into the interior. We had no idea where we were going except for this fish farm. End up at this fish farm, and sure enough they had been doing some experimenting on the artificial propagation of these sturgeon–there's actually two species of these sturgeon–and had successfully propagated them artificially, which had never been done before. This is always a tricky thing. You don't know whether you're going to be successful with a natural population.

Well, I was just really impressed, because I said, "This is very significant, because if you can show that you can reproduce these things on fish farms, then you don't have to be worried about the fish ladders. There would be a better way to do it. You can haul fish as much as you can, but you can build a fish hatchery and reproduce them and you're not going to lose the species." Because there's no question they were going to lose habitat, but getting around the dam was going to be a problem and I didn't see an out of it.

The whole function of this fish farm was to grow the three carps of China. We talked a little bit about carp a little while ago, outside this tape. In China carp is the main staple, fish staple, of eating. But they have besides the common carp–[Interruption]

LaBounty: They have the silver carp, the black carp, and the big head carp, and they all eat

different things. The silver carp eats algae, the black carp eats mollusks, and the big head carp–oh, and the grass carp. I said big head. I mean, grass carp. The grass carp eats vegetation. Those are the three important carps, and this is their main food of Chinese people, fish, main fish food. So they have farms all over the place that grow these things.

So this is a big farm that did a little bit of experimenting and stuff, but someone was doing these side projects with these sturgeon. So this is under an agency called the Bureau of Fisheries or something like that. It was different. The agency that we were working with was the Ministry of Construction, Ministry of–I've forgotten now. They split them, too. Ministry of Power and Construction, something like that. I don't remember. Anyway, so it was very enlightening. I took pictures. I was kidded a lot by the engineers about this trip that day, and we went back to the boat. But it was a whole day shot as far as they were concerned. But they enjoyed it, I think, too.

Well, anyway, to jump to the end of this thing, this trip was marvelous and there was a lot of other events that happened. But the big thing then was the last week we were in Beijing, China, the Minister, Madam Minister, lady–be like the Secretary of Interior–asked to speak to each one of us alone. No interpreters. She could speak English. She wanted nobody else in the room. Being this huge bureaucracy, you can just imagine they're afraid, "What are they going to tell them?" So I spent forty minutes with her, just she and I. She asked me about different things. I'll never forget this. And one of them was about the fish. "What about the sturgeon?"

I said, "Well, it's ridiculous to hold 26 million dollars." I said, "That money should be put into that," and I told her about the fish farm that I visited with the guy who was doing this research. She listened, you know. I said, "That's where the money should be put into that and trying to save the species rather than worrying about whether to build a fish ladder or not."

The very next day after this interview, the interpreter who traveled with us came into my room with a Chinese newspaper, all in Chinese, of course, and the article on the front page–and I still have it, it's in one of those scrapbooks there–he says, "I've got to read this to you. I've got to read this to you." It was that the Madam Minister had released the 26 million to do research on sturgeon. I also had mentioned the research center in Wuhan being a great reputation in this kind of area and they should be given a role in performing any kind of research because they had a museum of the fishes of the Yangtze, and these two men that I mentioned were widely known and all that.

So they were given a huge task. That whole fish farm, lock, stock and barrel was transferred into her agency from the other agency. She's the highest ranking woman in the Communist Party in China and also like the fourth or fifth highest ranking person in the Chinese Government in the Communist Party, very nice lady. So just on my recommendation to her, she had transferred this whole operation and made their full function, instead of raising the carps, doing experimenting with these fish. So I was thinking overnight, "Boy, I hope I was telling her the right thing." You don't know over there.

Experiencing Different Cultures

That's the thing about international work. We're so used to, "Let me check with my boss. Let me pass it up the line. Let me write a memo and get it approved." You have an idea, you do a lot of work and, it has something that's very significant, has a significant action. It goes up the line and then it might get approved or whatever. And you're in a foreign country, you are all alone. That whole chain of command is right there with you. You have no other place to go and the decisions are made. I've found this more and more to be true. But, anyway, that was kind of a baptism into it, and it was a big one. And I've got the article. It's in Chinese, but, I mean, he did interpret it for me and I was just amazed.

But it was a wonderful trip. That was just one event of hundreds of stories. When I had my retirement, there were five of us, I think, who had gone on that trip, four or five of us, who had gone on that trip at my retirement. And that's how close we became, the people that went on that. There was a strong bond, as there is in situations like that. But, I mean, we were in a situation where we went to many, many, many places where Americans hadn't been since before World War II, long before some of them, and these people that we encountered, just the people, had never seen some of them, even a picture of an American, because they didn't have things like that. So they would stand and stare at our noses, because they were big or our round eyes or whatever. They would just sit and stare. Their eyes would go right through you. And they'd gather by the thousands just to get a look at us. We'd be having lunch and then we'd get in our van, and there'd be people lined and you saw yourself like the Pope waving to these people, these droves of people. I mean, I've got pictures right next to you in that cabinet. It's just amazing.

So those kinds of experiences and you never forget. I tell people this, to this day when I read the Sunday paper, like we all do, a lot of that paper you don't read. It's just ads and want ads and fillers and what have you. So I would say you read about–of the Sunday paper you might read 20 percent of it, if that, maybe 10. I

don't know. Then what do we do with it. We throw it in a pile and out it goes for the garbage. Well, there isn't a Sunday goes by when I think, "You know, if this newspaper was in China, it would be used for something for decades." I mean, they use it.

I can't remember what it was. I think it was a cologne or something or aspirin bottle. I don't know. Something. I made a friend. The interpreter, who still is one of my best friends. He's now in the United States, who was with us at the time. He and I happened to be born on the very same day, not date but day. His date and my date were two different dates because of being over there. But we were born on the same day, he in his world and me in mine, and we've stayed friend every since. Very close. He came to my daughter's wedding and everything. But, anyway, so he'd come up and just visit. We'd just talk about things. I learned so much from him. He was not a Communist. We had to take walks to talk, because there were bugs. We knew that, everywhere. I mean, it's just the way they live. But, away, I was throwing this jar away. I can't remember what it was. I just threw it in the garbage. I had already done it. He came in and he walked by and said, "Oh, you're just throwing that away?" He said, "Just set it out here on the table."

I said, "Why?"

He says, "Because you'll come back twenty years from now and they'll still be using that for something."

We're used to throwing stuff like that way. The best we do is recycle things now. But everything was used to the hilt. I mean, they didn't have much. So, I mean, I didn't have a Coca-Cola or a class of milk or anything like that for the whole–I mean, in Beijing, yes, Shanghai, some, but no Coke. But in those days there wasn't anything like that. In Beijing there was. And coffee, unheard of. Unheard of. Tea. And I'm not a big coffee drinker. I mean, they drink tea constantly, that green tea, so you got used to doing that. A cold glass of water, unheard of. None of that.

I got in the Pan Am plane, "Sir, would you like to have something to drink before we talk off?"

I said, "Yes. I'd like two Cokes, a glass of milk, and a cup of coffee."

She said, "What?"

I said, "All of it. Right here." [Laughter]

I hadn't had any of that, and it tasted so good just to have something that you're used to. I mean, if I could have had a McDonald's hamburger I'd have killed for it. Things have changed in China. This is back in '81. But I went back in '82 and gave another report, and I was able to bring my wife. But I can think of stories. I could sit here and run your tapes all out for hours and hours and hours about stories about China. And that's a long time ago. It's twenty years ago. But it's etched in my mind.

Storey: Any other fisheries issues that you dealt with while in China?

LaBounty: No. It's different there. I'll just tell a little story about it, a little anecdote, if that's okay.

No Recreation in China

Storey: Sure.

LaBounty: We were out in a reservoir. I can't remember what they were. It was called Danjiangkou. It's a big reservoir. Really big reservoir where two rivers come together and then this dam, masonry dam that the Russians had designed for them, backed up water. We went out in the reservoir. We were going to look at some engineering structure. Oh, I know what it was. It was where they have a trans-basin diversion. So they had a pumping plant on the other end, and they wanted to show the engineers the pumping plant. So we always went together. We were in two boats.

Well, anyway, we were going across this reservoir. Of course, there's nobody out on the reservoir, because they're busy working. There's no recreation, and that's the point I'm going to make. So off in the distance there was, it looked like, a little boat and some people using nets.

So we're getting closer and closer and I asked the Chinese, "What's going on?"

They said, in translation, "They're fishing." Okay. So they asked me the question, "So-and-so wants to know in your country how do you get rid of the predator fish?"

I had already been exposed to this concept in China a little bit about predator fish, so I knew what they were talking about, and what they're talking about is anything that eats another fish. They get in the way. I mean, what they want are fish that just live peacefully and grow so they can catch them and eat them, not fish to come by

and eat the other fish. That's a waste, waste of the protein.

Well, how do you explain our concept is we actually favor those predator fish for their fight. You know, that's what people go fishing for. We don't go out with a piece of algae on our line trying to catch a fish that eats algae. We go out with bait. I didn't at that point go into all that, but I was trying to go around it. I was trying to find out more about–so it was kind of a dialogue–more about what they were doing out there catching these fish with these nets. But they kept asking about this. What do you do with your predators? So I thought, okay, I'll explain to them. So I started in explaining–

END SIDE 2, TAPE 1. APRIL 18, 2000.
BEGIN SIDE 1, TAPE 2. APRIL 18, 2000.

Storey: This is Brit Allan Storey with James F. LaBounty on April 18, 2000. We manage.

LaBounty: I was explaining to them why we actually manage for predator fish such as trout or northern pike or black bass, you know, those fish that eat other fish. And they said, "Well, how do you catch them?" I mean, these were grown older men.

So I started explaining a fishing pole. And they were amongst themselves, they would talk in Chinese and laugh and laugh. I thought, "What are they laughing about?"

Well, come to find out, they said, "Why do you bother with that? Why don't you use nets to catch your fish? Why would you even worry about a fishing pole, catch one at a time, when you could stick a net out?"

I realized then that, you know, we're talking about two different cultures here. We're not ever going to understand each other. I can understand from being there what they're talking about. They don't have time for recreation. So there's no fishing. Plus, they need the food. So they catch them with a net. But they certainly would never use a fishing pole. In that same reservoir when we came back, we're at the dam and down below there were some pooled water. I can't remember what it was. The river is very slow or something. And here's this guy in this little canoe, dugout canoe, and he's got a bird tied by the leg and he's going around looking down, and he's going paddling the canoe. All of a sudden he sends this bird down and then the bird would come up with a fish and he yanked the fish out of his mouth. Well, it's a fishing bird.

Storey: Cormorant.

LaBounty: Yes. A cormorant. But they're trained and that's the way they catch fish. But, I mean, it's for food. So it's so different. I remember one time I was giving a merit badge for the Boy Scouts in this very room here. The guy who I brought in–Citizenship in the World, I think it was, and I brought in here's a fairly young man from Uganda and well educated, professor and all that, very nice, well spoken and all that. So the kids, after he explained about Uganda and all this and that, the kids asked him different questions. One of the kids asked him, "What is it people in Uganda eat for dessert?"

He said, "No. There's no dessert." Well, the kids couldn't understand it. He said, "No. There's no word for dessert. There's no dessert. There's nothing." And they'd press him. Well, they must have sugar or some kind of–no, there's nothing.

Reclamation's International Program

So it's a matter of kids, I mean, that was after I was in China and I could understand it, because we don't know what we have, for one thing, until we go somewhere like that. And you never want to forget, because it's scary what's going on in other parts of the world. I'm not saying those people in China are unhappy. They don't know any better. They don't know how to fish. Nobody's ever taught them. So they don't know what they're missing. So they're happy without it, because they don't know what it is. Sort of like anything else. But here we take things so much for granted for what we have. It's an old cliché and it's said over and over again, but working for Reclamation was able to teach me that. I felt I was a very good ambassador because I always respected the people for who they were and I was successful at my international programs.

I learned early in China, and I learned teamwork, that's twenty years ago and I was just beginning to become a manager and I was working with ten people for seven weeks, I think I learned more about teamwork and how teams of different individuals can function successfully, because we were very successful. As I told you, they initiated a lot of our ideas and the program with China developed from that. That was a real milestone in my career. It was kind of a highlight in Reclamation. It was written up, front cover, in *Engineering News Record*. As far as the engineers go, it was a big deal. But, anyway, that's China.

Storey: Have you heard anything more about their work with the sturgeon?

LaBounty: Bits and pieces. That's the unfortunate thing that happened. After '82, you see, then really our relations soured with China. Part of our function was to try and set the stage for U.S. businesses to go in there. You're building the largest dam in the world and you're going to have all sorts of things that are supplied from generators and stuff, so you create a lot of business for U.S. interests. Really, the American side during that administration, it was during the Reagan Administration–by the way, when we were over there, we went over there as members of the Water and Power Resources Service.[42] That was the name of the organization. While we were there, we got a cable saying you are no longer to refer to that. You are now the Bureau of Reclamation again. Remember when that happened?

Storey: Yes.

LaBounty: You heard about it. But, anyway, I forgot the question. [Laughter]

Storey: I was asking about sturgeon, whether you'd heard any more.

"U.S. lost out"

LaBounty: I heard bits and pieces and I was explaining why. Really, I have to finish the story to tell you that the U.S. lost out. I mean, lost out, determined that we shouldn't study and work with the Chinese any longer. If they'd pay us, we would train people, and we did. At the Engineering Research Center we trained a lot of Chinese engineers and stuff after. But the new administration that came after those Reagan years or maybe during it, I don't remember, all of our records and everything are in storage in the Bureau. I had to actually get a Q clearance. They interviewed my neighbors and everything. I had to hand over all my records. I mean, even what you're seeing there, the pictures and stuff, probably shouldn't be in there. But I felt they were personal and they said anything personal is okay.

Storey: Q clearance is?

LaBounty: Q clearance just to go in and work with our records on China.

Storey: But what's a Q clearance?

LaBounty: Well, I mean, it's a security clearance. Security clearance. They used to call it Q.

42. In 1979 the Carter administration changed the name of the Bureau of Reclamation to the Water and Power Resources Service.. In 1981, under the direction of Secretary of the Interior James Watt, the name was changed back to the Bureau of Reclamation.

Storey: I don't know what they call it now.

LaBounty: It's a security clearance. So I had that for years, and I never use it. But the Canadians took that niche.

[Tape Interruption]

Storey: About the Canadians.

LaBounty: So the Canadians were hired essentially to do–they jumped in that niche, and we were no longer to work with them. Even I'd get calls from the Canadians asking me a question about something, and I couldn't answer it. I was told it was treason if I was to give any information to another country. I did publish and article on the environmental effects of planning, constructing and operating the Three Gorge Project, and it was in *International Water*, which is a very good peer review publication. That publication was translated into Chinese and used over there, and it's been cited a ton. It's probably more cited than any other publication I've ever done.

Storey: Do you remember about when that was?

LaBounty: 1983, I think it was published. I have it. I have it. But, you know, getting that through. Darrell Webber,[43] one of his favorite things was China. He went over there, too, several times. He knew this Madam Minister. I mean, he got to know her and she would always ask how I was. So Darrell thought that was pretty neat, "What did you do to impress her?" So you kind of used that. You know how Darrell would do in this position. But it was an interesting time.

So, in answer to your question, all I've heard is from this friend of mine who's an interpreter, I have heard that they are successful in propagating the sturgeon. They do truck them around successfully, just like I thought they would. The thing that I thought would happen or should happen, that they should do, are being done and the things, the results that I predicted are coming true. So it was a good call. I mean, it was a little bit risky because I'm not a sturgeon biologist, by any means. A fishery scientists, yes. But like I said, you're out there in the trenches, there's no one to help

43. Darrell Webber had a long and distinguished career with Bureau of Reclamation, culminating by becoming Assistant Commissioner of Engineering and Research from 1982 to 1993. Mr. Webber also participated in Reclamation's oral history program. See Darrell Webber, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, Denver, Colorado in 1993, edited and desk-top published by Andrew H. Gahan, 2012, www.usbr.gov/history/oralhist.html.

you. There's no phone over there I could call someone either. So you go by your hunches. I'd had enough experience.

Storey: Given the way you've been talking about their attitude toward fish, was this a food fish for them?

LaBounty: No. Oh, yes. That's wrong. Absolutely. The sturgeon eggs are caviar. Yes. The sturgeon itself, I don't think. They recognize it for the caviar, and they export it. They can make a lot of money on that. The Scandinavians and the Russians love caviar. But the fish itself is not an edible fish, really. I've never heard of anybody eating it. I may, but I've never heard of it. It's a very low fish. It's sort of like a gar or a ray, you know, sting rays. It's the same. They're lower evolutionary scale, they're down at the bottom. They have to move to breathe. Water has to move by them. They don't have lungs. Not lungs.

Storey: Gills.

LaBounty: None of them have lungs. Have gills. Lung fish. There is actually a lung fish. But, anyway, I've been away from fishery science too long. [Laughter]

Storey: Yes. About two months now.

LaBounty: Well, yes. But, anyway, I don't think they eat it.

Storey: Why did you go to Guyana?

LaBounty: It was American Development Bank. Is that what they call it? It's not the World Bank but the–

Guyana

Storey: That's one of them, yes.

LaBounty: The American Development Bank?

Storey: I believe so.

LaBounty: They had some concern. They had just started operating a project in Guyana that was an irrigation project. Guyana gets these rains, heavy rains, in the wintertime, and then they have a long dry period. They grow rice and everything. But they had

this irrigation project, and they were getting inundated by weeds and stuff. Like I mentioned, their new reservation phenomena–shallow reservoir. These are big, shallow reservoirs. The American Development Bank, part of the conditions for loaning them the money is that they set up an environment monitoring program, monitor the quality of the water, monitor the weeds, you know, a number of items. World Bank does this, too, for countries to say, "Well if you're going to build a reservoir, part of that money needs to be spent for environmental things." So they wanted me to go down and check on them and give them some advice on a monitoring program.

Well, it was a disaster. They sent me and two other people down there. Two other people were to do other things. They wanted to know about sedimentation. I'm trying to think of the people I went down with. There's one from Ernie Pemberton's shop. I can't think of his name right now. And then some other engineering feature, and I can't remember. We were only down there for like seven, eight days. But talk about a country that doesn't do anything. I mean, they'd say, "Well, we'll pick you up at ten tomorrow. Ten in the morning." Well, that's late to me. But the thing is, it would be a day later. They wouldn't show up at ten. You'd wait all day and then you'd call them and they'd say, "No. No. Well, we can't come today. We'll come tomorrow and pick you up." So they wouldn't even use you. But, of course, they really didn't want to hear.

Storey: They didn't want to know the truth.

LaBounty: No. They didn't want to do any environmental monitoring. They took me through they lab and they spiffied it up, but they weren't doing anything. They just don't. The country's just hanging in there. It doesn't have a big population, only 800,000 people. Nice people, but–you know, I learned something there. I mean, you learn something everywhere.

The culture is different. I suppose in this country if you go back, let's go back thirty, forty years, or fifty years, sixty years, and let's put ourselves in the South in this country and I'm going to say a term and what do you think of? I'm going to say poor people. What do you think of? Black people. Poor people. That's kind of what we think of. So, I mean, what we did in this country was–and the history is clear–when we let the slaves go we didn't help those people very well, and we are where we are today. It's a good place. But that's kind of what you're carrying around in your mind. I mean, when you travel in another country and you see this diversity of people, you see Black people and you see Asians or, I should say, East Indians from India, you know. You see those two other groups plus the natives that

are there and very few Englishmen. You think, "Oh, okay. Black people are poor. Indians, smart. Must be running things." Wrong. Black people are on top in that culture. The educated people moved to town after the British left, freed everybody. The Black people went to town. "We don't want any more of this slavery stuff. We're going to go pick ourselves up, and we're going to run things here." And they did. White people left. The Brits all went back to England. The East Indians stayed out there. "Okay, we'll do the farming now. British farmers are gone and we'll do the farming."

Well, the British held onto them enough so they had to hire people to do farming, hired so to speak, and it was these East Indians that are hired. So as time went on, Black people became educated running the country, the East Indians not educated working out in the country. So what an American might think it would be like it's just upside down almost, I guess. I mean, that's kind of what I learned. They have a huge diversity in that country, but still separated and that's the way it's separated.

The British didn't leave it in great shape in terms of teaching them how to manage their affairs real well. I was warned when I went in there that, "Boy, you better get a good cup of coffee here, because they don't have any coffee there, plus nothing else." And they don't. I mean, I went in to buy a shirt as a souvenir and I used some American money, I guess, and they just love it, because it buys them things and they gave me back change in Guyana and they had to give it to me in a big grocery sack of bills. [Laughter]

Storey: Oh, my.

LaBounty: Yes. They did. Oh, it was worthless. Worthless money. Absolutely worthless. But they'd do anything to get American money, because that's the only way they can really buy anything. It's the only way they could buy anything. I mean, they're own money wouldn't buy them anything. They can trade stuff, but their own money was worthless. So if they wanted a headlight for a car, it might take a hundred U.S. dollars to get one. So they had to get it.

Storey: When were you down there?

LaBounty: September of '88. 1988. So I don't know what's happened since. There's hardly follow up on those kind of things.

Storey: What did your report to the A-D-B say? American Development, yes, A-D-B.

LaBounty: I told them that they needed to get some experts in aquatic pest plant management to look at their situation. I was really worried about some of these nonnative to them weed species in the tropics taking over their reservoirs. They were just being covered with weeds. I said they need to get some experts down there and look at this and see what needs to be done, if there's some kind of biological treatment or if they need to do some selective spraying or whatever. I didn't know. But it wasn't particularly my area. I mean, we had people working for us. And they did. They had some people go down there, I guess, after I heard they went down there.

Lord knows what they look like now down there. I don't know. It would be fun to see. I mean, twelve years later you kind of wonder, because it was pretty much a disaster from what I could see. We went out to go out on the boat, no safety stuff. I mean, forget all this stuff. So we drive and we come to this area, in this big swampy area here, and the guy said, "Well, where's the boat?" He says, "Oh, it's there." So we walk over to the dock and the boat sunk. So they had to drag the boat out from being sunk to float it to take out in this river. So here we are going off in the middle of the jungle to who knows where in this boat. I thought, "I wonder, what if we get stuck out here? There's alligators and all sorts of stuff. Snakes. We'll never come back again." I thought, "Well, you know, it would be nice to have a life jacket, but there isn't such a thing here." [Laughter]

Storey: You mentioned Taiwan, I think.

LaBounty: No. I've never been to Taiwan. Japan.

Storey: Oh, Japan. Excuse me.

Japan

LaBounty: That was really recent, and that was almost kept me from retiring because I enjoyed it so much. It's a new agreement that the Bureau's just beginning. It's a cooperative research similar to the one with Spain. We're doing it with the Public Works Research Institute in Tsukuba, Japan. It's a research institute much like the Bureau. They do a few other things, too. But they do the research and they're part of the ministry of construction that builds all the dams in Japan, and they're still building dams in Japan. They have a lot of differences, but there's a lot of similarities. They have a huge respect for Reclamation, as all countries to. There's far more respect for Reclamation overseas than there is on our own country. I'm not saying we don't have respect here, but, boy, overseas, we are regarded as the experts. We wrote these manuals on concrete and all these other things. And Japan thinks no different.

When Dan Beard was Commissioner, we had a program set up to work with Japan, and we had a workshop set up. It was an engineering environmental-type thing. And he wouldn't let any of us participate. He said no. They're still building dams. We're not building any more dams. I want nothing to do with that. And it made headlines over there. So when we went to Japan, we, Bob, in International Affairs, Hickox is the one who had to answer. He had to answer their question, "Well, is the Bureau of Reclamation going to build any more dams?" Well, that's kind of a loaded question. So he was prepared.

Storey: Who was prepared?

LaBounty: Bob Hickox was prepared to answer it. He said, "No, but here's the story. And remember Dan Beard's not Commissioner any more." It was another milestone to go back to Japan after all that had been said, because it was tragic for our relations with engineering relations between the Bureau and the Ministry of Construction in Japan. It was just a year ago that we went over there and kind of reestablished our relationships with Japan.

But, anyway, the things that we're looking at, there's six or seven different areas. My particular area was looking at reservoir eutrophication and some of the new pollutants like cryptosporidiosis in drinking water, which is a protozoan that gets in it and causes diarrhea and stuff, and bacteria, some of the new endocrine disruption, chemicals, some of the organics, pharmaceuticals that they're finding in drinking water. It's been found in fish to alter their sex organs and stuff as they reproduced. I mean, these are some of the new things.

The Japanese are absolutely marvelous researchers. They've helped us with some of the floating island research, and we're putting floating islands out on Lake Mead right now in response to some of the things that they've done. They put these floating islands out and they're actually wetlands. They're floating wetlands. Because they don't have much land. They can't build wetlands like we can do over here. So they build them out in their reservoirs, and they can act just like a regular wetland to purify the water and provide more habitat and all these other things, both terrestrial and aquatic. So we're doing that on Lake Mead because we have a need to do a little bit of final purification of the water in the wash, in the flows that come into Lake Mead.

So the Japanese arrangement's a good one. It's really one I would have liked to have continued to do. But there's others that will do it and do a good job. So that's kind of that.

Storey: Tell me more about Reclamation is putting floating islands on Mead?

Lake Mead's Floating Islands

LaBounty: As an experiment. John Boutwell is doing it out of Chris Holdren's shop. Floating island of vegetation is what it is. He builds this big structure like a thousand square meters. Then it has different cells, and you plant vegetation. The roots grow down into the water. Vegetation grows up and they're hydrophites. They're like cattails or [unclear] or giant reeds. Some of those aren't great. Bullrush. Some of those are good. Bullrush. But these are all planted, and then you anchor this in a shallow bay where there's a lot of nutrients, and those will use the nutrients up just like any other plants, like [unclear] will use up nutrients when you put them on them.

So part of the probable answer to cleaning up the affluent out of Las Vegas that goes into Lake Mead, which is a drinking water supply for 22 million people, part of that answer, only part, is to put a series of floating islands in the bay to final purify the water, clear it up and use up the nutrients. So this year the Bureau was given a special appropriation. Senator Harry Reid from Nevada put it in. He's the ranking minority member of the committee that oversees the Bureau's bill, which is now called what? Public Resources? Public Works, I guess it's called.

Storey: I don't know.

LaBounty: They renamed it. It was Water and Energy. I heard that. He's a ranking minority member. So we got an add-on bill, add-on to our funding, and part of that funding is going to do that. There's a bunch of other things that it's doing it, too.

Storey: How do you float an island?

LaBounty: It's floating material. It's just like a dock. No different than a dock, a floating dock, except instead of wood you put plants in there. But, I mean, people do this with tires. You see tire mats floating and they serve as windbreaks around dock areas. A lot of those will grow vegetation. In fact, there's Gordon Mueller at the Federal Center working for G-S did experimenting where he bought a bunch of old tires and made some floating islands out of those. And Johnny Boutwell. They did some of that. They filled the inside of it with a substrate and then you grow things in it. Then roots go down and feed off the nutrients and you have habitat for birds and all sorts of stuff, plus the roots provide us habitat for fish.

Storey: Interesting.

LaBounty: Yes. They're really neat. It's a concept the Japanese have used so much now. There's like forty-some different private concerns that market these islands for all sorts of places in Japan. Decorative to habitat to purification. I've got a ton of brochures I got from them, which I passed around to people. I made up a little summary of what I learned over there regarding floating islands, because I thought this is a concept we've got to adopt. Well, it's been a hard sell, because it's fairly new. But I've been pushing enough to where we're going to experiment with it. We've done some little experimenting now in different sewages and stuff, some people who worked for me.

Storey: And somebody here in Reclamation here in Denver is working on this?

LaBounty: Yes. John Boutwell. He's a great guy.

Storey: How do you spell his last name?

LaBounty: B-O-U-T-W-E-L-L.

Storey: Interesting. Any other foreign countries that you've visited on business?

LaBounty: Well, I have but for different reasons, I guess, for meetings and stuff. But those are the ones really are the only ones I've worked in to any degree. Yes. That's it.

Storey: Tell me about your international meetings? What kind of permissions and all that kind of thing do you have to get?

International Meetings

LaBounty: What kind of permission?

Storey: Yes.

LaBounty: That's gone through an evolution. You know that. [Chuckles]

Storey: Tell me about it.

LaBounty: It's always been very possible to go to meetings internationally, and if you had a legitimate reason to go, like giving a paper. We've been very lucky about that. It's just a matter of how many hoops you have to jump through that's changed, I think, now. I think that Reclamation's involvement with ICOLD [International

Commission on Large Dams] has really allowed those of us that don't partake in that to go to our own meetings. I think that's helped quite a bit as scientists. I'm told in the regions they hardly ever get to go to international meetings and maybe never. So it's up to the management structure. Being that we're scientists, we always had a license to do a little bit more than a management person. We're scientists. We get to go tell what Reclamation learned scientifically and spread the word and learn from other scientists, a pretty legitimate reason.

But approvals, I think, generically have always had, like I said, there's different hoops, but there's always been some hoops. I'm trying to think. I know there was a time we didn't have to go to Washington.

END SIDE 2, TAPE 1. APRIL 18, 2000.
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LaBounty: I think there was a period when we had to–I may be wrong, though. I know that attending a meeting and attending a meeting internationally was two different things. In recent years, this current administration has requested that the Department approve every international meeting and the number of people that go to meetings and all that. They have their reasons for that, I guess. Before that it did not seem like we had to have departmental approval. We always had to have State Department approval. I mean, no matter what, you always have to have that, because once you leave this country, you're pretty much under State Department's rules, per diem for sure. I mean, you know, it's the State Department per diem. So you follow their rules. You have to respect that. Even though you're representing an agency, really, it's a State Department function relationship between countries. I don't think people oftentimes remember that. Even if they're going to a meeting, it's still a State Department matter. They have to be notified, the Embassy and all that. So you always notified the State Department. But I don't ever remember being turned down for a meeting. I haven't gone to a lot. I've been to Denmark and Canada several time and Honduras and Mexico. I don't remember where, but several places.

Storey: We talked about blue ribbon fisheries before. Let's talk about them some more. I don't think we talked much about Yellowtail and Kortes, some of these other places.

LaBounty: We didn't talk about those?

Storey: I think they were just mentioned.

LaBounty: You're going to have me repeating things. [Laughter]

Storey: That doesn't matter. From my point of view, I think. From your point of view it may matter. My understanding from you was that Reclamation sort of has an eye on the blue ribbon fisheries but that isn't really our responsibility.

Reclamation's Part in Managing Blue Ribbon Fisheries

LaBounty: No. It's not.

Storey: How do we keep this eye out and satisfy all these interests and so on?

LaBounty: These fisheries that develop below these reservoirs as blue ribbon fisheries, and most reservoirs, I think–I think it's kind of general, at least, that fishing below reservoirs is good. I mean, it's good water, and you see it in New Mexico below Navaho [Dam], and you see it below Ruedi [Dam] in Colorado, Cheesman here in Colorado, which isn't one of ours. And you mentioned Kortes Reservoir, which is called the Miracle Mile in Wyoming, and Yellowtail. People fly in from all over the country just to fish this trophy fishery there. But that isn't something we planned on. It just happened. And we don't manage fish. The state fish and game manages the fish. So they took what they got.

It's just the circumstances are pretty ideal. Cold water comes out of dams, a lot of nutrients. In many cases a lot of nutrients come out of the dam, because you're releasing what flows through sinks during the summer and comes out. So you can produce a lot of benthic organisms, macro-invertebrates, food for these trout below the dams.

In some cases, they get too cold like below Flaming Gorge. The water was too cold, so we actually went in there and constructed a multilevel outlet to warm up the water down below, because the water's too cold for the fish to grow. They could live but they couldn't grow very fast. But in many of these cases like Yellowtail and Kortes and Navaho and Ruedi and Crystal [Dam], some of these, the conditions are just right. The water's the right temperature. And Glen Canyon is another example, too. It has a blue ribbon trout fishery below it. Tremendous. But the nutrients are flowing through and they produce this idea environment. Clear, cool but not too cold water that's nutrient laden for production of food. But we don't have anything to do with that. Now, in this day and age, once it's there, we do have something to do about it. We have to work with these natural resource management agencies to maintain this best as possible. You can't dry the river up, for example. That would

probably be a no-no.

It's kind of interesting. I mentioned Riaño over in Spain, which is a reservoir that was built in an area where all the streams were blue ribbon natural fishery. It's one of the best brown trout fishing areas in Europe, the Spanish Pyrenees, they call them. But that reservoir, the guy who built it was an construction engineer. He lives to fly fish. I mean, it's his passion. It's his one and only biggest passion, and he is a good one. I think I told you about the story about going out there and all that.

Storey: Yes. You did.

LaBounty: Dams are operated different in Spain. Many times the water is just cut off. Now, that wouldn't happen in this particular case, because there's some downstream interests that they had. But it sure wasn't to be operated for the benefit of fish. There are some dams that operations can destroy the fishery down below, or make it good. They have a choice. There's a cost usually in that to the operation, power or whatever, especially if you have a power reservoir. You really fluctuate the stream quite a bit.

The second time I went over there, ten years later, to Riaño I asked about the fishery in the reservoir, and I told you about that, and I asked about the fishery below. The fishery below is tremendous. Well, come to find out, to make a long story short, he was operating that reservoir to the max to make sure that fishery was benefitted. The next guy that comes along is not going to do the same things that he did, and there's just a lot of things he was doing to keep the nutrients at the right amount, temperature at the right amount. He monitored it. He took a special interest in this, because he wanted to protect–well, of course, the natural resource agency in Spain, he was working with them, and they were the mouthpiece for this. But he was the one that was very cooperative in this case.

I'm not saying that we're not. It's just a situation at Kortes or Yellowtail is the best. Of all of these, Yellowtail has got to be the best fishery. I think if someone said, "Close your eyes, you can be in one of these places to go fishing," it would definitely Yellowtail. It depends on the time of the year, but I mean I just know how many fish are there. They're just almost laid side by side there's so many of them. They're big, fat brown and rainbow trout that live below there. And the food. The bottom of the reservoir, you look at it, I've seen the movies. They had divers go and take movies of the bottom of the stream–I'm sorry, not reservoir, stream. It's green with this vegetation full of aquatic life down there. It's just rich. It's rich and

balanced. And these trout just feed off of it. But like I say, it's circumstances, and it's nothing that we really do. It just happens.

Storey: You mentioned during one of our talks that there are two parts to doing the research, the biology and the engineering. Have you ever worked, for instance, on these fish ladders they're putting in for slow swimming fish they're trying to develop and things like that?

LaBounty: No. Never have.

Storey: Did you ever get involved in one of these projects where it was a combination of biology and engineering?

Combining Biology and Engineering

LaBounty: All the time. All the time. We always had to work close to the engineers. I worked for an engineering organization, for one thing, so I was of service to the engineers that were doing these things. I always felt that way. I knew that it wasn't ever going to be a biological organization. If I wanted to do that, I'd go to work for the Fish and Wildlife Service.

So I was rewarded by working with engineers, because many, many engineers are pure in their ideals. In their vocation they don't particularly want to bother with anything other than the specific thing that they do, whether it's designing spillways or whether it's this or that structurally. But the general engineers that get into management and move up a bit past that, who desire to see others to broaden their engineering background, in most cases, they really relish the idea of incorporating environmental thinking. It isn't an age thing, by the way. It's just a thing. Because I've seen some young engineers that their thinking is as narrow as any of their predecessors. But that's what they prefer to do. That's what they're taught in school. They go to some of these peer schools like Colorado State or Virginia Tech or Utah State, some of these are very pure in engineering–Utah State, I want to say that one, but I'm not sure, I think, but the other two for sure that are very narrow. I have a daughter that graduated in engineering from Colorado State. I know. And that's okay. That's just what it is.

Everything we ever did really had to involve some engineering. I was part of them and I was on the sidelines of some of them. Actually, the best example is I wasn't really the biologist but the biologist worked for me and that's relating to the fishery studies that are going on in California now, the fisheries projects that are

going on in California. One of the best examples that I can think of where this incorporated is the Red Bluff facility. It's actually called the–I might get it wrong, but Red Bluff–

Storey: Diversion Dam?

LaBounty: No. But right there. We constructed three pumps, two helical and one archimedes–I think that's right–to pump water out of the river without having to use the dam. I mean, they still have to use it, but this is an experiment. I don't remember how many scores of millions of dollars that was appropriated for just this experiment, and it's only to save the fish. So these pumps were to pump water gently out of the river, screen the fish out, put them back into the river, and pass the water into the irrigation canal right there at the Red Bluff diversion. It's been about eight years or so. But a laboratory was built there and staffed with fishery scientists to study this as a useful tool to both function in delivering water and to protect the environment. It was an appropriation. It was an authority. The Red Bluff Fish Pumping Facility. Something like that. It has a name with fish in it.

This is ideal as an example, because you had two things going on there. One, you had the research on how well fish can take this kind of a pumping situation, because it hadn't been used before. It's new. I mean, it's an old concept. The archimedes screw goes back a long time. These are big pumps. These aren't little teeny things. They're as big as their room, each of them. And, secondly, engineering-wise how does this type of a concept function, all the aspects of the engineering? Well, the answers to that, both of them are great; 99.9 percent of the fish pass unscathed. Nobody expected such great results. It's great. We're talking about the young-of-the-year salmon mostly, which we need to protect.

Storey: The smallish ones?

LaBounty: Small, mostly. But the big ones, too. But mostly the small ones. And engineering-wise, they work just like every other thing we've ever constructed. There's bugs because it's new. But it worked out, and they're functioning. So the designs of these things are being incorporated into a lot of other areas in the West, especially in California, Contra Costa and some of those areas. But it's an area where the fishery biologists worked together and the engineers work as a team, and they're still working as a team.

The next example is the Tracy Fish Facility down in the lower end of the Delta. It was constructed in the fifties as a facility to help protect the fish. It was built in the

fifties. Imagine that. And staffed twenty-four hours a day since then to screen fish and put them in trucks and delivery them back into the river, in the San Joaquin River down way below all the structures. It's located right at the place where the Delta-Mendota pumps are, right a couple of miles upstream. It diverts the flow through the fish facility, screens the fish, the water goes into the big canals, and the pumps pump it into the San Luis Reservoir or up into the canal, Delta-Mendota Canal–you probably know that area.

Storey: Yes.

LaBounty: Delta-Mendota Canal and into San Luis Reservoir and so on and so forth. Well, it was leaky and had all sorts of problems with it. I mean, we went to look at it about six or seven years ago, something like that, and we saw all sorts of problems. It's fifties technology. Not bad. But, boy, it had never been upgraded. Never been upgraded. So we found, for example, striped bass this big, they're sitting between–

Storey: Two and a half feet.

LaBounty: Yes. That big.

Storey: Three feet, maybe, even.

LaBounty: Yes. Maybe some. But they were like this. The water goes into the screen, first screen, the primary screen, and then there's a secondary screen. Well, they could leak through. Between the two there's habitat where these monsters were sitting by the hundreds, just smorgasbord, fat and happy. Nobody had ever known that before. So essentially maybe half the fish, maybe three-quarters of the fish that should have been saved were being eaten. That was just one thing of many, many things. So you'd get down there with nets, you get those suckers out of there. They're not suckers, but you get those fish out of there, and they still do that in that operation. They go down there a couple of times a month and get them out, what's in there of them. There's not many of them in there anymore.

But they're replacing that whole Tracy facility, phasing it out into a whole new pumping operation, which incorporates the full–the reason for the engineering in this case, it's one of the first examples is where the biology is dictating what the engineering will be, one of the very first big examples. That's part of the CALFED program, but it's where the biology is dictating what the engineering will be like. Because it's a fish facility.

Red Bluff, yes. That was an experiment, though. This is not an experiment. We're past it at Tracy. We're going into it. Charlie Liston is the fishery biologist. He and I are the same age, very good friends. Rather than retire, he decided to go to work for the Mid-Pacific Region. He worked for me here at the same time I did he left.

Storey: And you had a guy out from, what is it? Virginia Tech?

LaBounty: Yes.

Storey: At Blacksburg?

LaBounty: Right. Lou.

Storey: Oh, Louis–

LaBounty: Halfrech. Lou Halfrech, yes. He'll come back and work at Tracy in the summer. Actually, his wife, different name but wife, of a long time, is now managing the fisheries applications research group.

Storey: Here?

LaBounty: Yes.

Storey: Oh, I didn't know that.

LaBounty: Yes. Yes. Diana Weigmann.

Storey: Oh, well, I know her. I know of her, anyway. Well, we're over time. Let me ask again whether you're willing for information on these tapes and the resulting transcripts to be used by researchers.

LaBounty: Yes.

Storey: Great. Thanks.

END SIDE 2, TAPE 2. APRIL 18, 2000.
BEGIN SIDE 1, TAPE 1. MAY 23, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation,

interviewing James F. LaBounty at his home in Lakewood, Colorado, on May 23, 2000. This is tape one.

I wanted to talk about how your view of Reclamation evolved and how your management responsibilities evolved as you changed jobs and got promoted.

Management Responsibilities

LaBounty: It does evolve. Everybody's career evolves. But I started in Boulder City and one of the first biologists, I guess, really within the structure that existed for doing management-type biology or environmental-type work. There as Al Jenez [phonetic] who hired me in Boulder City and myself, and that was it for about a year. I guess I've talked about this earlier that my first impressions of the job were they never are what you envision what you might be doing or should be doing. But it was great experience and I got to see the Bureau with a regional view.

I've always stayed close to the Lower Colorado Region, and it's quite amazing how after thirty years it's really not all that different down there. It seems like they're under different names, maybe, but their structure is pretty similar, the function is pretty similar. Even though they were a Region in charge of constructing the whole Central Arizona Project, that didn't affect them a whole lot because that was done out of Phoenix. When I went to Phoenix, you learned quickly that they were very independent.

But taking just this one Region, which I'm most familiar with and looking out over a thirty-year period, it's comfortable, in a way, to go back to Boulder City, which has grown as a town but, nevertheless, there's still elements that you can go back to and as a human being have this comfort zone because it hasn't changed. The offices where the Bureau are have been remodeled, but they're still up on the hill. I think it's the only Region that actually owns the building that they occupy. I think the other regions all either lease or provided office by General Services.

So Boulder City has stayed the same, and they have generally the same functions. The lower Colorado River is the dominant function. They're struggling with the very same things that I was in charge of, not in charge of, but were working on when I was there, only it might be a little different slant such as salt cedar. Then it was to get rid of it along the river. Now they're looking at it more as habitat but still with the idea of replacing it or protecting some of it. But still it's salt cedar. It's amazing.

If you look at the same thing with the engineering aspects. Back in those days, we were trying to straighten the Colorado River and dredge it and make it a water conveyance channel and got caught up in the environmental movement. Those actions were really altered in that we had to mitigate what we were doing for fishery losses. But the engineering side of it was dredging. Well, I just learned last week, just the other day, that they're doing more dredging down in the Mohave Division. I don't know. I didn't ask specifically what it was, but the dredges are still in action. So the Yuma Office still does the maintenance that they did thirty years ago. Names have changed but the script is the same.

So in that particular Region I don't see a lot of difference. It's gotten more complicated, because you've got population change, shifts where Nevada's grown. Nevada didn't need the water. Now they need the water and so there's a struggle there. The Indians have always struggled for water. Now they've become more organized, I guess, and they're looking at some of the excess flows. But, nevertheless, it was always a matter of water down there. I mean, how long before? Longer than thirty years ago. So that's just one side of it.

Now, as far as in Denver, you asked me, as I was promoted through the management structure, how my view of the Bureau changed?

Evolving View of Reclamation

Storey: Yes.

LaBounty: Well, it never changed. I remember Ed Lundberg , the Regional Director in Bolder City, the second one out there. Arleigh West was the one when I was there. But Ed Lundberg, who's passed away since, came from the Garrison Project. I remember going out to dinner one time with him one time and saying something about, "Well, you know, in your position you can do us more good if you don't completely join us." What he was saying is, "Yes, you're paid by the Bureau. You're responsibility is to the Bureau. But you're more responsible if you can sit like a little mouse in the corner and watch things that are going on and advise properly from that perspective without being totally biased by the Bureau's stance on things."

I think I always remember that philosophy, and at times it would get me in a bit of trouble, because I would be a little bit of an iconoclast. But I always let the facts speak for themselves. So if I disagreed with some action or impending action it was always with some ammunition. I'm sure that in the early years, I know especially, as the pure engineering groups would walk out of a meeting that probably myself and

others who were thinking like me were not considered–maybe we were talked about a bit. But that's okay. I mean, it was just an evolutionary process of thinking and getting from an engineering organization of constructing all those dams and reservoirs. My training's in Boulder City and then going to Phoenix where it was construction was very valuable and it gave me the insight into how the thinking of engineering is or was and still is. So I could be more sympathetic and also I could use it as ammunition if I needed to where I felt the Bureau needed to alter its stance. This paid off in many respects.

I don't think that ever changed. I think the Bureau changed, of course, especially when Dan Beard came on. That was the big change, although we'd been changing all along. He kind of was the target or the focal point for this change all of a sudden. But the real changes came earlier during the Carter Administration when he had his hit list and the writing on the wall ever since then, and now, as you mention, when you walk in, which is on tape, the G-A budgets suffers even more, and I imagine other budgets are suffering even more, too. I think that politically the Bureau still suffers. I mean, we still have our constituencies in Congress, but I think that it's become more with the local districts.

I know working now for a district, the Southern Nevada Water Authority, I see the power that they have. It's absolutely mind-boggling how much power they have with the Bureau. I'm not saying it's direct with the Bureau. It could be. But it's with the congressional delegation from Nevada, in this case. And in this case, one of the congressional delegation is Senator Harry Reid,[44] who is the ranking minority member of several committees. They're very important. One is where the Bureau's budget comes from. It's call Water and Energy, but I think it's called–resources. I can't remember. Something.

Storey: Water and Power, isn't it?

LaBounty: Water and Power. Is it Water and Power?

Storey: I've forgotten exactly what it's called.

LaBounty: But, anyway, he's the ranking minority member, but he's also the ranking minority member of another committee which has E-P-A's budget in it. So he's a very

44. Nevada Senator Harry Reid participated in Reclamation's oral history Newlands Project series. See Harry Reid, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interview conducted by Donald B. Seney, edited by Donald B. Seney and further edited and desktop published by Brit Allan Storey, senior historian, Bureau of Reclamation, 2013, www.usbr.gov/history/oralhist.html.

powerful person, although he's not going to run again for senator. No that's not true. The other senator is not running. He just was reelected. But, I mean, the lobbyists that they have for the Authority–the Bureau, we can't lobby for funds, of course. It's illegal. But the district can. So they hire a big, physically big, strong, tough, mentally tough lobbyist. And I am amazed at how successful he is. It's sort of magical. So I'm learning another whole side of how these things happen. I can now understand. Of course, being down in the trenches and not really in the political framework at the top of the Bureau in Washington, they know all this. They've all known all this. But those districts can have their way, it seems. But, anyway, this gets far afield from your question, I think. Did I answer it at all?

Storey: No. Let's keep going, though.

LaBounty: Okay.

Storey: What are you doing nowadays? What's the name of the district?

Working for the Southern Nevada Water Authority

LaBounty: Southern Nevada Water Authority, which is a consortium of water interests of southern Nevada. It's dominated by the Las Vegas Valley Water District. Las Vegas Valley Water District was established to provide domestic water for the residents of Clark County, Nevada, southern Nevada, even Laughlin.

When the Bureau of Reclamation constructed the Southern Nevada Project[45] and completed it back in 1971, it was the first time that domestic water was taken out of Lake Mead, outside of what was taken out from Boulder City, from the old days at Saddle Island. But this pumps water to Las Vegas. Then, of course, the district assumed the responsibility of that. Although the title is still in the government, in the Bureau, that's about to change. It's taking a lot to do that. It takes a lot of work to do that, because they have to file environmental statements and all.

A second straw was constructed solely by the Southern Nevada Water Authority to pump water into Las Vegas. But the authority was put together about ten years ago. Actually, Walt Fite, who is the Area Manager up in Yakima, was one of the

45. The Robert B. Griffith Water Project (formerly Southern Nevada Water Project) was constructed as a single-purpose project capable of supplying 299,000 acre-feet of supplemental municipal and industrial water annually from Lake Mead to the service area of Las Vegas, North Las Vegas, Henderson, Boulder City, and Nellis Air Force Base in southern Nevada. For more information, see Jedediah Rogers, "Robert B. Griffith Water Project (Formally the Southern Nevada Water Project)," Denver: Bureau of Reclamation History Program, 2006, www.usbr.gov/history/projhist.html.

principles, and he was on one or two–I think two-year I-P-A when the Southern Nevada Water Authority was started as its General Manager. So he had a lot to do with this.

There was a lot of infighting within Las Vegas as it was growing quite rapidly and grew to a million people, and you had all these various municipalities. In all infrastructure items there was infighting, of course, and there was a lot of combined, such as the police department were combined into metropolitan police force and stuff like that. But the water interests were no different. They have water, which the provider being the Las Vegas Valley Water District, but you had Boulder City and you had Henderson and you had northern Las Vegas, which some of those, some parts of those were providing their own water. Then you also had the dischargers, which there's three discharge plants, one by Henderson, one by the city of Las Vegas, one by Clark County, all discharging into the same area and they're all within the proximity of each other, fighting amongst themselves for different issues, too, and then collectively being pointed at because they're dumping their water into Las Vegas Wash, which gets into Lake Mead, which is the same basin where the drinking water is delivered to Las Vegas.

So the idea was to get this consortium together, a group of interests together, this city's, county, and Las Vegas Valley Water District and form a board of directors made up of directors from those various entities. So you have six different, six or seven, I'm not sure, different boards of directors that make up the Southern Nevada Water Authority. So now the Southern Nevada Water Authority serves as a centerpiece but also as technical services for this group, although it's still dominated, I think, over 80 percent of their bills are paid by Las Vegas Valley Water District, the cost.

But, anyway, that's probably more than you want to know about that. That's what it is. It's rather complex. But it's still evolving and it doesn't have the flood district in it yet. But some elements that are just forming to take care of some of the problems of drainage and stuff and have the flood district signed on to it. It's still a work in progress. They're similar everywhere. Metropolitan Water District has a bunch of water districts that belong to it, and I don't know that they handle wastewater at all. But Denver Water Department, it's a water authority that subcontracts out. So it kind of goes the other way. But there's a lot of little water districts that are made up but they don't have anything to do with the board of the Denver Water Department. Then they have Wastewater [Management] Denver, which is another entity, but I believe there's a connection, and I don't know exactly what it is. The Salt River Project in Arizona is another one that has water interests.

But they also besides water and disposal they handle the power.

So they all have different elements. So there's no generic water authority that exists. There's water districts that supply water for irrigation. But it gets complicated. I mean, Isla Vista Water District of Southern California provides both domestic and agricultural water but also handles all the wastewater in that area. I believe there's some subcontracting of water there, too. They all have their own anatomy. So I'm working for Southern Nevada Water Authority as a consultant, mostly in regard to actions that are being taken and are going to be taken up on Las Vegas Wash, which that's along story. Maybe I talked about it.

Storey: Oh, please talk about it.

Las Vegas Wash

LaBounty: It's the drainage into Lake Mead. Las Vegas Wash is the receptacle of all drainage for Las Vegas Basin. The watershed is 160 square miles. I don't remember the facts and figures real well. But 160 square miles. It drains from the west to the east, from the 12,000 foot peak Mount Charleston and it drains to the east, both groundwater and surface, and the lowest point is Lake Mead, of course.

So you just picture that as a big basin that flows toward Lake Mead, and Las Vegas sits kind of in the middle of all that. Las Vegas Wash is the conveyance channel. It was a natural creek before settlement called Las Vegas Creek, flowed into the Colorado River just above where Hoover Dam is. There's photos and stuff of that. Its flow was intermittent in most places. When Las Vegas was very small, back in the thirties, forties, and fifties, the flow in Las Vegas Wash was during the summer down into Lake Mead it was less than one cubic foot per second. So as the town grew a bit you had these wastewater facilities, which the three of them that I mentioned, were all constructed right on the wash. Their affluent then went into the wash. When it was small, that affluent formed wetland habitat, which was extensive for the desert, and became very good duck hunting. I can't remember how many acres of wetlands there were. I wish I did. But I don't remember the exact figure. But a lot. Extensive. As a kid I'd go out there hunting. So the wastewater had nutrients in it, and it had water and then it had the groundwater seep.

The water that goes into the lake actually comes from three or four main sources. I say four because one of them is the treated affluent, which like I said, was one percent. Today that's 250 cubic feet per second that goes into Lake Mead. So it's quite a bit higher. But that's one. Two, is the shallow groundwater. The shallow

groundwater constituent becomes saltier as you go from west to east. So it's very salty by the time it gets to the lake. Also, during the forties and the fifties, maybe the thirties, too, Henderson, which sits in the watershed was the site–it still is the site–for a lot of chemical plants. During World War II, especially, a lot of very harsh chemicals were made in Henderson. Up until recently rocket fuel was produced in Henderson, and the production process, one of the products is perchlorate which is C-l-O_4. The perchlorate is known to cause kidney damage. But all these things were left out just to evaporate or sink into the groundwater. So what goes into the groundwater from the Henderson area alone is a tremendous pollutant burden and actions still need to be taken, is being taken to take care of that, because some of it's pretty bad. We're leaning more and more all the time. That's two.

The third one, and you can conclude the fourth, but the third one is the urban runoff. The fourth would be flash flood urban runoff. So it's one or two. I usually lump those as the excess surface flow. When the flash floods occur it washes streets and washes the alleys and washes the bug spray and washes the spilt oil and the cigarette butts. Whatever other chemicals there are in an urban area gets washed right into the lake. We've been in the upstream part of the lake where the wash comes in right after a flood and we've seen thousands of tennis balls, for example, which is just an indicator, and soccer balls and footballs. Just an indicator of the kinds of things that get washed in from an urban area. But you have a natural urban drainage all the time, people over-water their lawns or for whatever reason you have.

So you have all those flows that go into Lake Mead, and it's only six miles above where all the drinking water, or over 85 percent of the drinking water, is taken out of the lake. So it's a threat. And then you have to remember that 22 million people downstream from Lake Mead also use the lake, the water for various sources of domestic supply, including Phoenix, Tucson, Los Angeles.

So, anyway, the Las Vegas Wash, went from a surface flow of 1 c-f-s during summer, warm summer, and a series of wetlands, to 250. Then as you constructed your flood channel, the idea was to get the water out of the urban areas as fast as possible and down to the wash, and not considering what it would do to their wash. So taking all this into account, what's happened is huge erosion. You've got banks that are a hundred feet high with the wash down below, down to bedrock. The head cutting from Lake Mead occurred very rapidly once it broke through one of the barrier geological formations near the lake and then the head cut all the way back up. This is a twelve mile channel that's been head cut all the way. So as the flows

increased it softened the soil. They became more erodible and the erosion was just incredible and filled an entire inner bay of Las Vegas Bay of Lake Mead with sediment.

So now the challenge is what happens to the discharge that goes into the lake, the dischargers, the three dischargers I mentioned, Henderson, Las Vegas, and the County that have treatment facilities, and now they treat the tertiary, actually. But, nevertheless, they don't like to be mixed up with all the other constituents like shallow groundwater and urban flow. They like to have theirs separated so they can not be blamed for what happens there. However, they treat it so much it has a good effect on the other constituents. It dilutes the shallow groundwater with its organics and inorganics and chemicals. But they would like to put in a pipe and put it out in the lake somewhere else.

The community down there, they're very hot on reconstructing the wetlands, and so we're going to have as many as twenty-two check dams that are going to be constructed in the wash. One of them's constructed, more or less, temporary. One of them is under construction, which will be permanent. Another one the bid had been let. And this has happened within the last nine months. So we're on a five-year plan to get all these in. It's amazing how things can get down when you have everybody pulling together. Everybody agreed on what to do and how to do it, it's just some fine details. But the idea then is to stop the erosion. The idea is to understand what we're doing environmentally and protect the drinking-water source below on the lake. So all these things require constant investigations, ongoing, to monitor. So my job has been to work with Southern Nevada Water Authority to advise them on what investigations to beef up and what ones to add and working with staff using my experience to facilitate this whole process. I mean, this could cost between 400 million dollars and 1.5 billion dollars. It's not little stuff. This is a big operation. So, anyway, that's kind of in a nutshell what I would do.

Storey: If I'm recalling correctly, when we talked before, you said you were going to be working a couple of weeks a month.

LaBounty: Right.

Storey: My impression from you is you've been working a lot more than that.

Las Vegas Water Authority

LaBounty: Yes. Well, I could work full time. There's no question about that. They're

excellent to work for. They let me do pretty much what I want. So, you know, your kind of your own worst enemy. I started this in February. So we've got February, March, April, now May, and I haven't just spent two weeks once yet. So I think one month I spent two weeks plus two or three days. But most of the time it's been three weeks or three weeks plus. I get a week off at least a month. This month I'm going to have a week.

Storey: What does that do to your budget, though? You're contracting with them, right?

LaBounty: Right. Yes. I signed a contract with them from December to this–this past December I was still working for the Bureau, so they actually started this but I didn't do any work then. So I started, actually, February first. Well, the contract is for a set amount. They'll just add more to it. That's not a problem with them. They have plenty of funds for what they feel needs to get done. I've never seen a district that's so progressive.

It's an interesting district in that the General Manager Pat Mulroy is the only woman manager of a water district in the western seventeen states. She's been described outside of the district as also the most effective. She's an amazing, amazing person. Her staff is amazing. There's no negatives. There's no no. She doesn't make excuses for anything. She faces up to everything. She's a very charming but also extremely strong person. She's what I would envision a water manager should have been all along. She's not a good-old-boy type, but she can be. Don't push her.

Her staff reflects that attitude all the way down. They're doers, can-doers. They pay their staff extremely well. I mean, they start them in the thirties and 40,000 just out of school, more around the forties. I mean, they pay very extremely well. And they attract top talent. They expect a lot out of their talent, but their talent loves to work for them. The morale is very high. I don't see any problems at all. Well, there's always some things. I mean, but I think it's amazing if you pay people enough how happy they can remain. Not that everything's perfect, but it's pretty close to it. They're a very solidly run organization. I'm very impressed.

I've been around other districts that I couldn't say that about. In some cases they have such a narrow focus to what their function is, they take a very narrow definition, of what a water district should do. I realize that a water district is to provide water for something. But it isn't that simple any more. You're going to get chewed up and spit out if you think that way, I think, rather than to consider water resource management and all that goes along with that, and that's why Las Vegas

Valley Water District is very successful. Pat is also the manager for Las Vegas Valley Water District. It's a growing community with a lot of money, so it's a bit unusual.

I have a lot of friends that work for Metropolitan Water District in Southern California, which is the big king of the river and king of water districts. Their morale is horrible. And they don't make bad money.

END SIDE 1, TAPE 1. MAY 23,2000.
BEGIN SIDE 2, TAPE 1. MAY 23,2000.

Storey: . . . about M-W-D.

Water Districts

LaBounty: Metropolitan Water District, I have a lot of colleagues there that have some interesting work to do. But it seems like the morale of the employees is always down a bit. So why is that? The little I know about it, it seems as if the board of directors is always in an upheaval. I suppose that's typical of any organization like that if you have the board of directors that are always changing. They always have their own ideas. That's going to be reflected down to the staff and cause some morale problems. I think this is true with a lot of water districts. Their board of directors, they may have a bunch of individuals, a bunch of individual thinking, and as they're replaced, you get someone else on there who has different thinking, and there's no continuity in what the staff's duties really are.

I noticed this when I worked a lot with the Isla Vista Water District. With a strong board of directors, they're always worried about what the new director thinks or what one director thinks and trying to make this one director happy. Then that one's out and another one's in. The staff is always responding to those things. Seems like they spin a lot of wheels getting ready for board meetings and making the board of directors happy. I'm sure board members wouldn't like to hear me talking like this but, I mean, it seems like you should be trained before you go in–well, this is typical of any organization. So, well, nothing new. I've been part of other organizations, too, where this is true.

Storey: Let's get back to how your view of Reclamation changed. I don't think you've every traced your career clear through the jobs you've held.

LaBounty: Really? I bet I did.

Storey: Well, you've mentioned it, but I don't have a good outline of what happened after you came to Denver, for instance.

LaBounty: Oh, after?

Storey: Yes.

Career in Denver

LaBounty: Well, I spent the first couple of years in Boulder City in '69 to '71. Then I went from '71 to '73 in Phoenix. Then I moved to Denver in early '73 and I stayed in Denver ever since. I came to Denver as a GS-12 Research Biologist in the Environmental Sciences Section, which was one of the sections of the Applied Sciences Branch of the Division of General Research in Building 56, which was under the Assistant Commissioner for Engineering and Research. You remember all that.

Storey: Yes.

LaBounty: I worked for Tom Bartley. He brought me up. He was a section head. He retired after about a year and a half or so that I was there, and then Gene Otto was the section head. I worked for Gene Otto for probably ten years. I don't know. I held the same position, but then it evolved into a Technical Specialist GS-13. So I was promoted. And I was just doing research on different projects. Research. I was the principle investigator. So by attrition of duties, I was promoted to a GS-13. I don't remember exactly when that happened, to tell you the truth, '77-'78, something like that. I'm not sure.

Then we started breaking the structure down a little bit and we formed two units. A lot of the engineering organizations had units. So we formed two. Within Gene Otto's section we had Aquatic Ecology Research Group and we had Aquatic Site Pest Management Research Group. So John Pringle was the Supervisor/Coordinator, I think it was called, or something like that. I remember it was the manager. It wasn't the manager. It was the supervisor of the group. And I was.

Storey: Which was which? Which group were you the head of?

LaBounty: I was head of the Aquatic Ecology Research Group. It wasn't called that, though. It was called–you know, I've forgotten. Aquatic Ecology Group, I think.

Storey: I can find that in the phone books, probably.

LaBounty: Yes. Well, I have some in my car. But I think it's the Aquatic Ecology Group. Maybe it was Aquatic Ecology Research Group. But I know the other one was Aquatic Site Pest Management. It seems I shouldn't remember that one, but that was–ours was just Aquatic Ecology. It wasn't a group. I don't want to dwell on this. I may think of it in a little bit.

Anyway, Gene Otto retired about, I'm going to guess, 1980. Is that right? No, no. That's not right. I don't remember. After about ten years, something like that. I can get my log and I've written all that down somewhere. And I applied for the job of section head. It was a GS-14 or GM-14, so I was really interested in that and working for Lloyd Timblin. Lloyd Timblin selected me, and I was so happy. I'll never forget that. That was one of the happiest moments, and I took nothing for granted. I really, really wanted that job, not just because it was a promotion but I really wanted it. Well, I held that until we had the reorganization, what? Six years ago now? Something like that.

Storey: In '94, you mean?

LaBounty: '94. Yes, in '94. Boy, time flies. But that then collapsed the organization. We did away with the two groups. So I had two supervisors that worked under me, and they both became technical specialists, and I became instead head of the Environmental Sciences Section, it was called Ecological Research and Investigations Group. The other one was called Aquatic Ecology Research–I don't think it had a name. Just Aquatic Ecology Research. It was a unit, but we didn't use that. Anyway, that's how I retired. That's what I remained as head of that.

Storey: Even that last year?

Staying Technically Active

LaBounty: No. No, that's wrong. Yes, you're right. I'd said ten years ago I really am a researcher. That's what I love to do and I always managed to continue doing, as I mentioned earlier, the technical things that I thought I could do. And I didn't try to take on ever too much, but as I was manager the people that worked for me were always very good about helping out with whatever needed to be helped out administratively. So we shared the burden in a lot of ways. I was their leader, but they respected the fact that I would work on some technical things.

There's no precedent in this. I mean, the last head of this–I can't remember his name–of the U-S-G-S still worked on his project in California in his office in Washington. He still did some research. I was working under Lloyd Timblin. I worked under him longer than anybody else. He promoted that idea. He promoted the idea. In fact, if you didn't remain technically strong, you were thoroughly criticized by him. He felt that it was important that you remain close to the technical side. That gave you a good insight into the employees and their thinking, and you can remain more sympathetic to some things that are more at the ground level. I'm not saying this right, but you just aren't overseeing everything.

Of course, you always have to remember that now there's other managers I've worked have thought exactly the opposite, where once you're a manager you should be totally a manger and nothing more. You shouldn't take on any technical. You're busy being a manager. That's what your job is. Some of them have said, "Well, it's all right if you do a little bit of it, but don't ever let it get in the way of your management." Most of the people that I worked for thought that way. But Lloyd Timblin, who I worked for the longest, thought the other way, because he, himself, stayed very technically active. I can remember, he's an amazing man. He worked forty-three years for Reclamation, all in Denver, and one of the smartest people I know. I respect him more than almost anybody on the face of the earth. One of the smartest people I've ever met.

I mean, when I really got into limnology, he said, "Jim, have you got a textbook on limnology?"

I said, "Well, yes."

He says, "Can I borrow it?"

And he read the whole textbook. He didn't have to do that, but he wanted to understand not just when I came in and asked for something it gave him the wisdom and the background to say no, maybe, but also to help me prepare my case to carry it up to the next level if I needed funding or equipment or whatever. Because he could then go in and explain it to other upper level management much better than he could have otherwise. Otherwise, just being part of an engineering organization it would just kind of fall off.

So, anyway, I've adopted that philosophy, too. Obviously, I wouldn't be paid as a consultant like I am if I hadn't stayed technically up. I didn't do it for that reason at all. I had no idea that that would come about. But, anyway, the last five years,

being that I stayed active technically, I said that I'd like to take the last five years and work up all the things that I had done into products, because I don't care where, a researcher at a university or government, especially the government, there are file cabinets. Scientists retire and there are file cabinets full of data that are just dumped out, because nobody can take somebody else's data and work it up the way you can, your own data. Mostly likely, it won't be worked up. It will be just left, maybe put in the archives, and maybe someone will have some use of it. But if you don't finish it up yourself, it doesn't have any value added to it. It's pretty much just a job well done.

Producing Products

I didn't feel I wanted to see that done with my stuff. I wanted it in products. And I figured it would take five years. Well, I never got five years. I got one year. Although I was working on things before, but I worked up this idea with Felix Cook and John Leiss. I said, "I may retire in a year, maybe two years. I'm not sure. But I'd like to be moved over to a technical specialist slot, leave my position, vacate it, and have you fill it and move me physically out of the office and everything."

This took a long time to do. I lost a lot of time. I lost almost a year getting this done. Even at the end it was three months delayed because I was told before all this would happen I had to write all the position descriptions and everything else that needed to be done to fill my position and the ones that were vacated. We had recommended a reorganization of the group because it was too big. There were thirty-one people. So we spread it into two groups. Now we have the Aquatic Ecology Research and Investigations Group and plus the Fisheries Management Group, which is new. So I had to facilitate all that before I left.

So I finally said, "February 1, 1999 I am moving over. If I'm not, I'm going to have a fit or whatever I can do, without any threats." Anyway, I worked night and day, night and day, night and day just to get this all done, and I did. So February 1, '99 through February 1, 2000, the day I retired, I was in another office trying to complete my work. I got a fourth done what I thought I would get done. I intended on doing a lot more. I did get everything, the last ten years worth of data, I did get that all written up. It's in a draft still, and I have a little contract with the Bureau to finish that up as soon as the people in the Bureau who are reviewing it get it back to me. Then I've got the '99 set of data to work up, which I have to do by September. But, again, it's not as easy now as it would have been then. But, nevertheless, it's just a little extension on what I need to get done.

Anyway, that's what I did for the last year, and it was pure pleasure. I really enjoyed it. I think that if I had it to do all over again I would have–I think five years, maybe, is too much, because you have to decide a couple things. One is you have to decide–and this is hard for a lot of people–that I'm not going to start anything new. So if somebody comes in the door with this exciting new challenge for me–say, you're given two years or three years, let's say you're given three years to complete all your work–well, it would be real difficult, say you got a year into this, if someone came in from a region and said, "I've got this exciting idea. What do you think? What do you think? What do you think?" It would be pretty hard to say, "No, I'm not doing anything new. Go away." But I did that for the last year.

For a year it's not so hard. But I pretty much said, "I've done everything I want to do for this organization as far as new things. I want to finish the old things." But I think everybody should do that. You, too. I think everybody should take at some point and say, "This is what I need to do the last couple years." And I think there's a way to do that. Of course, not everybody's in a position that requires that kind. I mean, there are a lot of people who just walk out the door and that's it. They just do their job. But those of us in researchy type, and yours is one of them too, need to think about, "Well, when is it right for me to stop taking on any kind of new. . ."

Stop answering the telephone. I essentially did that. I mean, if somebody would call, I mean, I wouldn't be totally rude, but I would say, "I'm not the one you need to talk to anymore. You need to talk to So-and-so or So-and-so." I delegated it. The people in my old group were absolutely wonderful with facilitating that. Only once or maybe twice did they come down and say they needed to talk to me about something, like managerially. So it really worked out well. It just wasn't quite enough.

So I think if I had it to do over again, I would do this for two to three years. Five might be too much, because then you'd be tempted to take new things on, or go revisit some old places. And I had this idea. "Oh, gee, I'd like to go back to–I have some fond memories when we did this project below Yellowtail Reservoir on the Bighorn River when we did that, and it was such a beautiful place. I'd like to go back there just once." You can always trump up a reason, I guess, to go to these places just to look and see what you've done. Nobody's really going argue with you about that. But I didn't do that. I'd like have gone back to California, maybe, and just kind of said my farewells or something. But I didn't do that. Didn't do any of that.

Storey: Did Reclamation still send you to professional meetings and so on?

LaBounty: Did they?

Storey: Yes. Your last year?

Attending Professional Meetings

LaBounty: Oh, yes. I still am the editor of the *Journal of Lake and Reservoir Management*, which is a journal of the North American Lake Management Society. So I had on my own decided long ago that I could only really go to one meeting a year. Those meetings take up a lot of time, as everybody knows, especially if you're going to give a paper. It's just like a foreign assignment. If it's a week foreign assignment, it's a minimum of three weeks of dedication to that. So you take that away from your year and you start doing a lot of that, you can just eat up all your time. And there are people that do that. I mean, they're famous for that, and you can make a career out of that and get away with it. But I just didn't get a lot of satisfaction out of just going to meetings. You and I know people like that. Or just going on foreign assignments.

The last year I did do quite a few. I went to an international meeting and I went to Spain, really for a farewell trip. They asked that I come over. They were paying for it. They asked for it. So I did go over there, more or less, only to say goodbye. But we did accomplish some things, too, as far as closing out. And I did go to Japan to start that new project with the cooperative agreement with Japan. So the last year I was busy doing some things that really got in the way. But, you know, I can't do them now. I'm glad I did that. So I have no regrets. It was wonderful. The last year is the most memorable.

Storey: One of the things I'm interested in is over the span of your career how did computers change research in Reclamation?

Role of Computers in Changing Research

LaBounty: Well, we would have been a lot more productive in the early years if we had computers they way we are now. When I was working on the Twin Lakes Project, which is back in the early seventies, we would sit there with graph paper and plot, which is fun. It's therapeutic. It's sort of like painting a wall. It's therapeutic. But we would sit and plot X against Y, X against Y, whatever, one after another after another, and I had these stacks of graphs. I always produced a million graphs. So you spend all that time doing that. So come time to ready to use these, you take them over to the draftsmen and you'd have to take them over as tracings, because

they wouldn't take your data and produce a graph. They would do tracings. So they'd put the mylar over the top of your graph, and then you'd have to tell them what lettering and everything else.

Think of the time that took. I mean, my God, just to sit there and draw yourself and then working with a draftsman to trace it and the time the draftsman took to do that, this is just one aspect of it. I mean, you can talk about the text. When you'd put together the text, you'd write it all out, take it over to the steno pool and they would give you it back. Then, of course, we had the recording typewriters come in there somewhere in the eighties, somewhere in there, and we thought we had died and gone to heaven, because they could record the typing as it went in, and you could actually produce it out again, rather than have to retype it again. But I remember having things retyped and multiple copies. I'm just talking about research stuff.

And tables. You had some typists that were good at setting up tables. And imagine the time that they'd spend doing this. Now, you push the table feature on a computer program, boom, bing, presto you have a table. You fill it in. Versus the learning curve of learning the software, but not much. And graphics. Graphics are just–it's amazing. You can just move things around, switch things, change them. You have a template, pop data in and out, attach a graph to your spreadsheet so that the new data you add just goes flying into the new graph. I mean, it's just incredible. So just think of all the time.

I was talking about this to a scientist colleague of mine down in Mexico not too long ago. He's the same age as I am. He kind of excused it. He said, "We had a lot of time then to think about the data. Maybe we don't think about it quite as much." He may be right. I don't know. I don't see that down side of it. I'm still, when I'm plotting it and putting it in the computer, I still think about it. I like to work with my own data.

Same thing with we used to go out, let's just do a water profile of a reservoir where we measure temperature, dissolved oxygen, p-H, electrical conductance, and some other things, and we measure those each meter or each two meters you go down in the depth of the reservoir. The old way to do that would be go out with a thermistor and measure the temperature. Then you'd send a sampling device down and collect water samples at each of the depths, bring it up from each of the depths, put it in bottles, preserve it for dissolved oxygen, go back to the lab and titrate it till you get an end point. You'd measure conductance in each one of them. You'd measure p-H in each one of them. You'd carry all these bottles, and you'd write

these down on pieces of paper.

Well, jump twenty-five years or twenty years, what we do is we send down an electrical probe. It reads out within five seconds what all those parameters are at each depth. You push a button, it goes into a memory. You come back to the lab. You take and hook it up to your laptop and, presto, it goes right into your spreadsheet, and you can spit it right into a graph, although you like to kind of check it first. But, I mean, the time that's saved in all these operations has just been tremendous. We always think that, "Gee, this is as far as it's going to go with computers. They can't help me any more. I mean, I'm helped so much now I can't stand it. I don't know where it can help us more." But, you know, there's something new.

I went to a graduation party this weakened where they had a big, old cake and they had a picture of the graduate when he was a child and just recently, the graduation picture, on the cake, computer-generated edible picture. Well, there's always something new. Have you see one of these?

Storey: No. I haven't seen that.

LaBounty: Cakes By Karen, or something like that makes them. I mean, that's unbelievable. Don't fall asleep too long. There's some new computer gimmick that will help us along. So we cuss them. I guess we get so reliant upon the computers for all of our communication and all of our work that when a computer fails that we're just shut down.

Well, I hate to let that happen. It's sort of like a meeting. You go into a scientific meeting and how many have you been to where a person is speaking, and if their slide tray is stuck they stop talking. Well, I mean, this is 99.9 percent of the people will do that. But I thought myself, "Be ready and don't stop talking. Take charge." I learned that from a guy gave a talk. I bet it's been 25 years ago. His slides didn't make it with him to the meeting. I mean, you've heard of that happening before. Maybe it's happened to you. And he says, "Well, it doesn't matter." And he drew pictures. He got a big board and he drew the graphs. Of course, they weren't exact. I got more out of that paper. It was perfect. Of course, he was very good at doing that. I thought, "Well, you know, sometimes maybe you should just not rely on your slides so much." I thought to myself, "When your slides jam, don't stop talking. Tell them. Give them a verbal picture." [Laughter]

Storey: I was listening to N-P-R [National Public Radio]. I think it was yesterday morning.

They were talking about finding human drugs in the water around the country. Have you run into that?

Human Drugs in the Drinking Water

LaBounty: Yes. It's a big, big deal. It's the new thing that's going to happen. There's a lot of consequences. One of the most commonly heard among scientists, at this point, it's been going on for four years or so, five years, is endocrine disruption. You hear the term endocrine disruption. Endocrine disrupting compound.

Certain animals have been found to have the endocrine systems altered. I'll give you an example. Lake Mead is one of the sites where this is most common. The carp have been altered so that the male carp has female characteristics. Why? Because of all the birth control drugs that are used in the Las Vegas Valley. The drug is not broken down by any system. It passes through the system, not broken down by any process in the treatment that goes into the lake. The fish then that live right near there have been scientifically proven that they are affected by this endocrine disruption.

What I've heard more recently now of concern are like antidepressant drugs that might get in the system, how they might affect drinking-water supply systems. We'll all be taking that. Or caffeine. They say caffeine is one of the biggest and it doesn't break down. So if you measure caffeine–this is really new stuff now I'm talking now. Of course, N-P-R is always right there on the edge of all this stuff anyway. They keep up with it.

But it's a real concern as we reuse our water for domestic supplies over and over and over again like in the Mississippi River or Yangtze River in China or the Colorado. Those drugs that are in the water are more and more concern. Southern Nevada Water Authority have hired a Ph.D. organic chemist to keep up with this just recently, to keep up on that specific topic in that area. He just got a Ph.D. from Michigan State. Sharp, sharp fellow. So that's how serious they take it. That's how serious they take it. That's not something I can know a lot about. I'm not a chemist, for one thing. But I do understand it. I've learned. So is something.

Storey: I only have a few more topics, actually. You have talked about the Tracy Pumping Plant before. Can you give me more details about what's going on out there and the people who are involved?

Current Status of the Tracy Pumping Plant

LaBounty: Now?

Storey: Yes. What's going on and why it's going on.

LaBounty: The Tracy Fish Facility was constructed in the fifties to mitigate the losses of fish through the big pumps that pump water into the Delta-Mendota Canal. Fifties technology built a screen and a diversion facility that divert the fish into big holding tanks and then they put them in trucks and they deliver them downstream, down the San Joaquin River, and let the fish go back into the river and they save a lot of fish that way. It went along that way, the way it was constructed and with the staff that's there. Nothing was done until the early nineties, really, almost mid-nineties, early nineties. They would always talk about, "Oh, we've got to look at Tracy."

END SIDE 2, TAPE 1. MAY 23,2000.
BEGIN SIDE 1, TAPE 2. MAY 23,2000.

Storey: This is Brit Allan Storey with James F. LaBounty on May 23, 2000. You were saying when Charles Liston came on at Tracy.

LaBounty: He was working up at Red Bluff doing some other work on fishery challenges within the Delta system. He was working with Jim Arthur, who since retired out in Sacramento, and Ron Brockman and Doug Ball, and some of those people are quite good visionaries out in Sacramento. I don't even remember who said, "Well, you need to look at that closer." It was, more or less, a grassroots Bureau employees, I think, these people I mentioned plus Herb Ing [phonetic], he's since retired, down at the Tracy Facility, an engineer. I think that Gary Sackett [phonetic], who is head of 400 Division out there. Of course, they're getting support from Roger Patterson.[46] I think it was always, "Let's take a look at it a little closer."

Being a researcher, Charlie Liston is a research fishery biologist, he's an idea person. I mean, if you ask you to look at something and say, "Well, what could you do," he's going to find all sorts of projects to do. So they did. He went in there with a crew from Denver here and with people out there and engineers and began kind of what I would call sniffing around to see what that whole thing looked like and found a lot of interesting challenges, one of which there's a primary and secondary

46. Roger Patterson served as Regional Director of the Great Plains Region from 1988 to 1991, then became Regional Director of the Mid-Pacific Region from 1991 to 1999. Mr. Patterson also participated in Reclamation's oral history program. See, Roger K. Patterson, *Oral History Interviews*, Transcript of tape-recorded Bureau of Reclamation oral history interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, from1994 to 2000, in Sacramento, California, and Lincoln, Nebraska, edited by Brit Allan Storey, 2011, www.usbr.gov/history/oralhist.html.

louvre system that screen the fish. But between those louvre system they went down there with big nets, and they found a huge population of striped bass that lived down there that were just down there feeding on anything that came through including all the native fish, the smelt and everything else that came in there.

So they had to get those out. I mean, that's pretty simple. It wasn't real simple logistically, but it's relatively. That was just a management thing. Well, put the crew down there every two weeks and get all those fish out of there that have gotten in there so they don't get big and fat and put them back out in the system. This really needed a total look-over, look at the whole system, see how it's engineered. It needs engineering to look at it. It needs the biologists working with engineers to look at it to find out where the leaks are and come up with some recommendations.

To make a long story short, what they did then is come up with a new facility that they would like to have authorized under CALFED. I may be a little out of school or a little not up to date, but at this point I believe they have the authority at least to go ahead to the experimental facility, which is, I think, several millions dollars to build adjacent to the existing facility build an alternative system with a new design, new engineering design considering all the biology and the engineering and put this in and it can just be added to, if it's decided that it works well. I may have this a little off, but this is to my understanding.

So there's several researchers that work at the Tracy facility now that are working on this project. Charlie Liston is now assigned to the Mid-Pacific Region, more specially can anything else to work on the Tracy Project. There's a lot of politics in California, especially when it has to do with CALFED, and especially when it has to do with the state. The state runs their own facility, which is only a couple of miles away from the federal facility. Hardly any is there communication between the two. They both have their problems of various aspects and degrees.

But, anyway, CALFED is supposed to bring all this together and it was decided that Tracy would be the place, where they would work out these technical problems and then, hopefully, someday–I guess you could look ahead in your crystal ball and say all the water that both goes in Delta-Mendota and goes into the California Aqueduct would be run through one big facility. I mean, that's not there yet. I mean, that's an idealistic approach to this whole thing. But politics are never simple, as you well know, especially when it has to do with CALFED. But that's where Tracy is. There's a lot of money being pumped into it right now.

Changing Priorities in the Delta

It's a big deal because striped bass are one of those fish that when we first started working in the nineties, the early nineties, in California–I think I explained this before. It's one of those things in your career that turns totally around. Striped bass were introduced back at the turn of the century. It's a game fish that fishermen just love. It's like eating candy. It's a good eating fish. It grows fast. Fights and everything else. It's a tremendous game fish. The whole Delta program by the state and the federal government was–not the whole, a good share of it–the dominant part of it was geared around saving the striped bass fishery. It was declining at a huge rate. And why is it declining? Well, it's because of the pumps. It's because of the chemicals that get into the water from San Joaquin system. It's because of all the other pumps up and down the river. It's because of lost habitat out in the bay. Whatever. I mean, there's all sorts of reasons. But a lot of money, all the money was being spent for that.

In the meantime, you have the unique situation in the Sacramento-San Joaquin River. It's not the San Joaquin so much any more, because it's not too much river. But the upper end I'm talking about. But in the Sacramento you have four strains of salmon. You have one for each season of the year. It's the only place in North America this occurs. You usually have two, but you don't have four. So you have two of those runs that are actually listed as endangered and really the decline has been tremendous.

There were people paying attention to this, but it seemed like all of the money was going to striped bass. But all of a sudden one day that turned around where not only the salmon became–kill the striped bass, kill the striped bass, kill the striped bass, save the salmon, save the salmon. Everybody's work just turned right around. It's kind of an amazing thing. And it wasn't within a matter of two years that this happened, this total turnaround. So the salmon and the other native smaller nongame fish became the important topics.

Introduction of Non-Native Species

So Tracy, being at the bottom of the system there where everything goes up and down, has become an important facility. Then you add upon it the continuing introduction of species, non-native species, into the system, continuous. Just continuous. Some of them become extremely dramatic. Some of them are subtle. The dramatic being like the crab.

Storey: The mitten crab?

LaBounty: The mitten crab. The mitten crab which got into the system and had a population boom. Typical of ecological systems. When we introduce things we don't normally introduce their natural enemies. So they just prosper like mad. It happens in plants. It happens in animals, whatever. So the mitten crab came in and just poof, just exploded. The population exploded over a matter of three years, and that really messed up the system. So now Tracy, you're not trying to save fish. You're trying to save yourself. Because you have crabs. The mitten crabs in these big holding tanks, they just crawl all over the place. It was sort of like the movie, "The Birds," that Albert Hitchcock had. It was terrible. Just terrible. So you had local news stories out of San Francisco about the mitten crabs.

So this new facility that they're constructing, and they built a model of it in the lab down in 56, a big model. Maybe you've seen it. Right there as you walk.

Storey: The big one covered with plastic?

LaBounty: Yes.

Storey: Yes.

LaBounty: They put mitten crabs in that to learn about their behavior and everything. What they've learned from that is this is a good thing for a change. They can design this system to protect it from mitten crabs, because the mitten crabs will crawl a certain way. They'll go away from certain flows and stuff like that. So they can design the engineering. I don't know exactly. But I know they in bunches just go toward things. Their behavior is very specific. So they're using their behavior in their engineering. So, see, the biology fits in with the engineering.

That was strong. That was a monkey wrench that was thrown in this whole thing. That was a big monkey wrench. It gave it a lot notoriety, of course. I mean, this is going to be a continuous thing. There's introductions that go on everywhere. They're one of the things within Reclamation that we need to watch out for more than any other thing, are introductions of things, plants and animals. Whenever you get a bunch of operations people together and ask them what their number one problems are it's usually that. But never is the agency willing to spend the money on them until you have a problem. But to look at it to spend a significant amount of money to be on the offensive, to be ahead of the curve, our agency has never–I shouldn't say never. It's been a very tough sell to get us to keep ahead of the curve on that and probably other things, too. But that's the way the government operates. I mean, it's the way society operates, really.

Storey: One of the guys who's working on that, a guy from Blackburg, I believe, Blacksburg?

LaBounty: Oh, Lou Helfrech.

Storey: Yes. I just needed the name.

LaBounty: Helfrech. H-E-L-F-R-E-C-H. Lou Helfrech is at Virginia Tech. He's going to be out at Tracy all summer. We had him on an I-P-A for two or maybe even three years. The university said, "No, no more. You must come back."

Storey: You have to do what we're paying you for.

LaBounty: Well, we were paying his salary. But it was a position they had and they needed him to come back and teach. He's got, I think, only one more year and he can retire. I don't know whether he will or not. But he's working out at Tracy and he's outstanding.

Storey: You wrote an article for the *Journal of International Water*, I believe, on the environmental effects of Three Gorges.

Environmental Effects of Three Gorges

LaBounty: Right.

Storey: But we didn't talk about what the environmental effects were that you saw or that you anticipated, I don't think.

LaBounty: Well, the project under construction is a bit different. It's a little smaller scale than what we had looked at back in 1980. But Three Gorge Project, nevertheless, is a large dam on the Yangtze River, which we hear little bits and pieces out of. But the Bureau, of course, is no longer has a role in it, which is really a sad, sad deal. We had the talent, the engineering talent and connections, to really work with those people. But the politics being as they are, we couldn't do that. The environmental effects, did we talk about this at all?

Storey: You mentioned that there were a lot of effects and that you wrote the article, but I don't think you talked about what the effects were.

LaBounty: So you want to know about that?

Storey: Yes.

LaBounty: Well, I'd have to go get the article and refresh my memory to tell you exactly, but I can give a general picture. You're changing one of the three largest rivers in the world to a large reservoir. It would be like backing water up from Hoover Dam to Glenwood Springs, Colorado. That's how big this reservoir is. I mean, just imagine that goes through Lake Powell, through Utah, and into Colorado, well into Colorado. Just imagine a dam that size, a reservoir that size. Huge. Now, the slope's different, so it's a little different. There's a lot more slope on the Colorado. So we're talking about distance alone. That's the way to think about it, how much land is being inundated.

Now, think about the most populous country in the world. So what have you got? You've got a lot of people that have to be moved, millions of people. We couldn't build the Narrows Project up in northeastern Colorado and we wanted to move what? Thirty people or eighty people or something like that? Remember that old Narrows Project?

Storey: Yes.

LaBounty: Couldn't build it. You were with Lower Missouri Region then.

Storey: No. I wasn't with Reclamation then.

LaBounty: Oh, okay. But, I mean, so they're moving millions of people. So the effects on population are huge. I mean, you had to put that right at the top, because it is a populous country. So that's kind of the effects on humans. Now, whether they have places for these people to live, I don't know. They always said they did, but whenever they showed us places that might be moved to that were now used as temporary facilities for when they have floods for people, and people are already living there, and they only have as much as that chair. Each person is that one person you're sitting in. I mean, it's pretty sad.

So it's a huge effect on the population, moving them. Then changing the river to a reservoir, you've got a change in the fauna. We hardly know all the aspects of that, because the Yangtze is such a big river it's hard to sample. We don't know all the animal in it. But we do know that it has a couple of endangered endemic restricted found-nowhere-else sturgeon, for example.

Storey: You talked about the sturgeon efforts before.

LaBounty: Yes. So, I mean, it affects that. But then there's all the other things, the aquatic life that you go from a running big river to a standing water. All the sedimentation that that's causing. It carries a lot of sediment. So what do you do with all that sediment.

Then you've got the whole category of historical. Along the Yangtze River is the cradle of civilization, to some degree at least. You've got monuments. It's incredible the number of artifacts of the old civilizations. I'm not talking about two hundred years, I'm talking about thousands of years. Buildings. Artists' drawings. Monuments. Religious things. It's just incredible all these things that will be inundated. They won't have a lot of regard for them, because to them it's not as precious to them, in general, them being their country. So there's a huge effect on the history which, you know, the archeology. We would never do any of this. It just leaves you in an unspeakable way when you see what's going to be lost. You see one or two things, you see five or six, you see five hundred things. Having taken a boat all the way up the Yangtze through the reservoir, I saw all this.

It's a gorgeous, gorgeous canyon. It's like putting a reservoir nearly halfway up to the brim of the Grand Canyon. What would we think of that if we were told that was to be done? That's what it's like. I mean, they're going to make this beautiful–it's not like the Grand Canyon. It has no resemblance whatsoever, because it's green hills mostly. But it's beautiful. The three separate gorges each have their–one is kind of a rocky group, swift running stream. These go on forever. They go down for hundreds of miles. The Wu Gorge is very green and beautiful.

Now, some would say, "Well, it will be more accessible for people to see by boat. They can go travel up the new reservoir." That's true. But in every time people are going to have to look. Their eyes are going to have to rise above that bathtub ring, because you're talking about a reservoir that it's major function is flood control. So it's going to have to be low in the springtime when their floods start, because they have huge floods.

Then there's the other, the effects on the downstream environment. Whenever you put a reservoir in that stops water, you stop nutrient flow, too. The Yangtze, where it hits the ocean–I can't think of the word right now–

Storey: The delta?

LaBounty: Not the delta but the freshwater/saltwater interface.[47] I can't think of it. But that's one of the most productive food sources in all of Asia. It's going to be affected because the nutrients will be cut off and stored in that reservoir.

Now, you can look at the other side of it and say, "Well, yes, but if you're talking about environmental effects you can't just talk about these negative things. What about some of the positive things?" And I tried to point these out in the article in a diplomatic way so I could get it published or get it through everybody that needed to approve. And it's true. Not just for that reason. But it's true you need to look at, one, is it is going to help in flood control. Flooding is a horrible thing for the people of the lower Yangtze River. It's also going to be the largest hydro-generating power plant in the world for a country that does need energy. It will make them more prosperous. It's a little scary to other countries, because they're so populated and who knows what's going to happen. But as long as we keep on good terms with them I guess we're okay. But it will produce more electricity, and they're terribly hard working people. Given all this, they will be leaders in this world. But, anyway, those are two of the aspects, and it will give them more freshwater fishery, which they can use for food, a productive reservoir. They say it will help their navigation up and down the river, which it's very, very important to those people.

So those are the kinds of things that I wrote about, in general. That was translated into Chinese, the article, and used in China. I've gotten various opinions through the years about it. [Chuckles]

Storey: Always those opinions. You mentioned in one of the earlier interviews that there are two parts to research. One part's the biology and one part's the engineering. One of the things that I've run into in the hydraulics lab is trying to design fish ladders for the slower swimming fishes. Were you involved in that in any way?

LaBounty: No. No. Well, only in relation to the Three Gorge Project, because they were going to build a fish ladder. But, no, I haven't. I'm not even familiar with what you're referring to in the hydraulics lab. I didn't know that they're working on fish ladder work over there, really.

Storey: Yes. They were telling me there was something going on.

LaBounty: Really? Recently?

47. Mr. LaBounty is referring to an estuary.

Storey: Yes. That was when Phil Burgi[48] retired. So not terribly long ago they were talking about it.

LaBounty: Well, you probably better ask him about it.

Storey: Yes.

LaBounty: Are you going to talk to him?

Storey: We've already got four or five interviews with him.

LaBounty: Oh, he's good, isn't he?

Storey: Yes. He's very interesting.

LaBounty: He's a very good friend, and he and I match up very well together. He's one of the easiest persons I worked with through my whole career, because we matched up pretty well, I mean, as an engineer and a biologist. I wish that I could have spent all my time working with him. I look up to him a lot.

Storey: You were talking earlier today about Ed Lundberg.

LaBounty: Yes. You remember?

Storey: And suggesting that you be a mouse in the corner. What kinds of situations came up where you played that role for Reclamation? Do you have any examples that you'd care to share?

"Mouse in the corner"

LaBounty: In the early years, and what he's referring to is this is before we really got into the environmental impact law, the National Environmental Policy Act. It was more related to Fish and Wildlife Coordination Act, 1954 or '56, whenever that passed. What that did is it required mitigation for losses of fish and wildlife habitat by public works projects, specifically Corps of Engineers, Soil Conservation Service, Tennessee Valley Authority, Bureau of Reclamation, Bonneville Power. Other's,

48. Phillip H. Burgi participated in Reclamation's oral history program. See, Phillip (Phil) H. Burgi, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, and Michael Jackson, a volunteer, in 1999, in Denver, Colorado, edited by Brit Allan Storey,2010, www.usbr.gov/history/oralhist.html.

too. But specifically, I mean, anybody. I would say those are the ones that were targeted by this law, I think. I may be naive. Maybe they were trying to get others, too. But at least I found that effect more with us.

In the lower Colorado that meant then that if we dredged Point A to Point B and straightened the river out that had curves in it and some backwaters where the water flowed around in circles, so to speak, before it got to Point B and we wanted to make that a straight line, rather than make a straight line like we had been doing and we began to do on the Colorado in some of the upper divisions like Mohave Division near Laughlin and that area there, Bullhead City. But as we were progressing down, once that law passed, that meant that we had to work it out with Fish and Wildlife Service, who was charged with carrying out the Fish and Wildlife Coordination Act. They actually set up ecological resource offices throughout the country, I guess, that were supposed to work with the federal agencies to work out the mitigation plan, work between the states and the agencies.

So we would have these meetings with the state of Arizona, state of California, Fish and Wildlife Service, Bureau of Land Management, and our self, whomever, to talk about mitigation plans. It was a give-and-take situation. "You give me this and I'll give in to this. We're going to lose 2,000 acres of habitat. For waterfall we want you to dredge this loop over here, construct and inlet and an outlet, and provide a freshwater source, and we'll manage it for fishery, and we'll replace the habitat that's going to be lost for the waterfall for fish habitat." Sometimes that's the best they could do.

These were very, very difficult meetings. The engineers weren't about to give up anything. That's a blanket statement, but it's pretty much we-they. I mean, not pretty much. It was cut and dry; we-they. So bring in a biologist from your own agency. Now, tell me, where does that biologist sit? Academically he or she are trained, especially Al Jenez who came from Nevada Fish and Game Department, they're trained to protect and to manage the natural resources, the fishery, the wildlife. The engineers are trained to construct things, improve public works, without really any regard to the natural environment. Yes, we always put down for our fish and wildlife aspects. But that wasn't our function.

So, anyway, especially in the early days it was really uncomfortable to go to those meetings. You didn't know whether you had a black hat or a white hat. But I'll tell you, the agencies, the natural resources agencies, looked at you with a jaundiced eye. I was told that you sold your soul. When you went to work for Reclamation, you sold your soul. You're no longer one of us. You're them. Told that many

times. I nearly had tears in my eyes sometimes over that. And the engineers, you're with them every day. So they are a little more trusting, and you can use your interpersonal skills to work with them and try and do your own little negotiating.

In explaining that to Ed, you know, not that long, maybe, but maybe, of how uncomfortable this way, that's when he said, "Well, you've got to be careful. Don't go joining us. Be like"–and I paraphrased it–"be a mouse in the corner and try and listen a lot and come back and don't let yourself, just because you're a member of the team, be a total team player no matter what. It's not a football game. This is to do what's right." And I thought that was kind of a good way for him to think. He had some good vision and all that. We're trying to serve the public here. The public has passed this law. The public has also passed the law for Colorado Frontwork and Levee System to do this improvement work on the lower river.

So between the two there's got to be a happy medium. But it was always tied up in legal terms like mitigation. You use the word mitigation you better know what you're saying, because you can't just use it as a loose term. It had a legal connotation. Or you had enhancement. Another legal term. It said we're going to enhance the environment of the lower river by producing habitat for blah-blah-blah. Well, that means it's over and above mitigation. That's the definition, legal definition. So, therefore, somebody must pay. Fish and Game must pay. That's what the engineers would say, "Well, then they need to pay for it. That's an enhancement feature. They need to pay for that. What are we paying for that for? We just do mitigation." Well, there's no measure of this. There's no economics in it. There's nothing. There's never been economics in this.

Fryingpan-Arkansas Project

So, anyway, I'm going on and on. But that's the situation that we were brought to where being a mouse in a corner. One of the better ones I think I talked about earlier was the Fryingpan-Arkansas Project when I was up in Denver. Of course, I was put in a different role then. I was working in research, and the data that we produced was then provided to the managers of the environmental resources within the Lower Missouri Region, in this particular case, and we were working with the Fish and Game researchers trying to come up with a common product that they could use to make a decision on what mitigation might occur or what enhancement might be put in that they could–under that particular law they had some room for enhancement. But I can remember during Carter's years, early years, when he had the hit list.

END SIDE 1, TAPE 2. MAY 23,2000.
BEGIN SIDE 2, TAPE 2. MAY 23,2000.

Storey: You were getting ready to talk about the Fry-Ark Project.

LaBounty: The Fry-Ark Project was one of the projects that was on the hit list, and we all know–well, we don't all know, maybe–but many of the projects that were even well into construction were zapped, zeroed. Orme [Oahe] Project up in South Dakota.[49] There's still a big pumping plant building up there.

The Fry-Ark was well on its way. We got calls from state people who had gotten calls from aides to Carter's committee who were checking up to see, gathering information on whether this was a project that really should be put on a final list of hits. We were flat out told that due to the fact that the Bureau had responded as a mouse in the corner, so to speak, and were working to produce this information which was going to benefit the resource before, during, and after construction that this was a very positive time for the Bureau in a positive way. We were told later on. I was told by state people and by others that that fact went a long ways at keeping the Fry-Ark from being on the hit list. I was amazed. Still am. But that's what I was told.

Storey: The data that you had gathered?

LaBounty: Well, not only me but, I mean, all the state, the cooperative effort that was going on. It was very cooperative effort. No, it wasn't me personally. The project started before I came to Denver, so it wasn't something I started. I was one of the players in it. But they got the right answers. In other words, if another project that was on the hit list that got zapped, like the Orme Project, had taken the approach that the Fryingpan-Arkansas Project had taken–and I have to give credit to Dick Eggen, who was the environmental officer over in Lower Missouri at the time. He would be the one that should be, if you want to single someone out, be given the credit. Because he was a biologist that worked before Reclamation, before me. He had worked as a natural resource specialist down at Pueblo for the project office down there and then moved up. When they added an environment specialist name, he got one of those positions. He had been around the Bureau a long time, and he knew the right way and the wrong way. He had a way of convincing the management within Lower Missouri this is the kind of projects that they ought to get into. He was responsible for a lot of nice environmental features from the Fry-Ark Project, especially, like the fish hatchery up at Pueblo Reservoir.

49. The Oahe Project was in South Dakota; Orme Dam was to be a structure of the Central Arizona Project.

Even though these were considered mitigation projects. I mean, there's still a mitigation open check for some of that yet, I think, still on the Fry-Ark. I don't know how much you've ever gotten into the Fish and Wildlife Coordination Act, and Wayne Deason would be the one to talk to about those things. He knows that stuff inside and out. He worked a lot on that stuff in the early years. But, anyway, does that kind of answer your question?

Storey: Yes. What other things should we talk about, or maybe I should say do you want to talk about?

LaBounty: As you know, I'll talk on and on about anything. So I don't know. I'm starting to get confused of whether we talked about something or not. So I don't know, because it's been a lot of time. It depends on what you want to know. I've, more or less, covered everything, I think.

Storey: Well, if there aren't any topics you want to deal with, let me ask you again if you're willing for the information on these tapes and the resulting transcripts to be used by researchers.

LaBounty: Yes, I am.

Storey: Great. Thank you. Good.

END SIDE 2, TAPE 2. MAY 23,2000.
END OF INTERVIEWS.