ORAL HISTORY INTERVIEWS

Al R. Jonez

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STATUS OF INTERVIEWS:
OPEN FOR RESEARCH

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OF ORAL HISTORY INTERVIEWS OF
AL R. JONEZ

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Date: June 23, 2000

Signed: Al R. Jonez
Al. R. Jonez

INTERVIEWER: _____
Brit Allan Storey

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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.

The senior historian of the Bureau of Reclamation developed and directs the oral history program. Questions, comments, and suggestions may be addressed to the senior historian.

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

Oral History Interviews
Al R. Jonez

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing Al R. Jonez on June the 15th, 2000, at about one o'clock in the afternoon in Building 67 on the Denver Federal Center. This is tape one.

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

Jonez: That's a big question.

Storey: It's a big question, yeah.

Born in Seattle, Washington, September 24, 1928

Jonez: Well, I was born in Seattle, Washington, in 1928, September 24th.

Family Lived in Alaska, but His Mother Decided to Give Birth in Seattle

My folks were living in Alaska at the time, and the reason I was not born in Alaska is that my mother decided she wanted to come out and have the baby in Seattle at the hospital there, so that's how I ended up being born in Seattle. We went back to Alaska, of course, and after a few

months out, my father's mother lived in Seattle, and so when they came out, when Dad and Mom came out to Seattle, they always stayed with Grandma. Her name was Grandma Jones. That got us born.

Father Fished and Ran a Cannery on the Kenai Peninsula

Went back to Alaska and we spent the next few years in Alaska. My dad was a commercial fisherman, and he had a cannery down at the Kenai Peninsula, across the bay from the current town of Keni. That's spelled K-E-N-I. We would come down to the cannery in the spring, and Dad would set it up and get it going, and then, of course, he fished all summer, *or bought* fish, either way.

Family Returned to Anchorage after the Salmon Season Was over

We would then go back to Anchorage in the fall, after all of the runs had come through, runs of salmon, and then he did do a little bit of digging of clams and put them up in the cannery, and he also got a few birds, primarily geese and ducks, for our own winter use. And then we would go back to Anchorage and spend the rest of the time in Anchorage until the next spring again,

and then, of course, we'd go back out to the cannery.

Mother and Father Divorced and He Lived with His Mother in Various Locations in the Western Lower Forty-Eight States

So that's kind of the flow of the way my life went up to the time Dad and Mom did decide to split. Mom came out to pick up her mother in Park City–that's Park City, ~~Wyoming~~ [Montana][1]–and when we got out to there–and I was about eight years old at that time–we went from Park City, where Grandma sold her house and her property, and went with us to Los Angeles. We went across the great Salt Lake Desert in a car that had a rumble seat in it and one of those *racks* along the side of the car where you put your luggage in a rack. It's kind of interesting, on the way out we got sideswiped by

1. Note that in the text of these interviews, as opposed to headings, information in parentheses, ( ), is actually on the tape. Information in brackets, [ ], has been added to the tape either by the editor to clarify meaning or at the request of the interviewee in order to correct, enlarge, or clarify the interview as it was originally spoken. Words have sometimes been struck out by editor or interviewee in order to clarify meaning or eliminate repetition. In the case of strikeouts, that material has been printed at 50% density to aid in reading the interviews but assuring that the struckout material is readable.

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.

another car and had clothes strewn all over the Salt Desert out there at night. We did get out and get all the clothes organized again, back in the car, and came on through Nevada, down into Los Angeles.

Mother Worked as a Nurse

We lived there for several years. Mom was a nurse, registered nurse, and so when she went to wherever we lived, she would always get a job at the local hospital, and this was kind of a way of life for us for a few years.

Lived on a Ranch for Awhile in the Area of Turlock in the San Joaquin Valley

When we left there, both my sister and I–and my sister's name is Evelyn, she was about a year and a half older than I was–Mom wanted us to go out and live in a ranch setting, and we did. She got us a place to live out in the San Joaquin Valley on two different ranches. My sister was in one ranch where there was a girl child, and I was put in another ranch–and they were fairly close together–where there was a *boy* in the family, and the people wanted somebody to be around more so for company, and, of course, my mom wanted us to be there to learn all about farming. So that's where we lived for the next two years is on the ranch, and we went to school down there in the

San Joaquin Valley, and we lived near Turlock. That was the little community close by.

Lived in San Francisco for a Couple of Years

We then went back to San Francisco, where my mom had moved to, and we were trying to figure out what to do. She was trying to make up her mind where she wanted to live. We lived in San Francisco a couple of years, and the biggest things that I can remember about San Francisco is roller-skating all over town. Looking at the skaters today, I guess they would have much more fun than I did. But anyway, I did do a lot of skating. I'd go up to the park, Griffith Park, and spent most of my time in the aquarium up there.

Spent a Lot of Time at the Aquarium in Griffith Park

All my interests were seeming to settle towards wildlife-fisheries interest, and I decided that the park was the place to be, and the aquarium was the building to be in. So I spent a lot of time, when I wasn't in school, of course, up there at Griffith Park.

Moved to Eugene, Oregon

We went to Eugene, Oregon, from there. I raised rabbits, and we had a great big farm. I mean a great big not farm, but garden, I guess you would call it, about an acre-and-a-half garden, so it was *big* for a person my interest. Anyway, we did raise food for rabbits, and then I raised rabbits. About this time was when meat was getting pretty scarce. We were getting close to the Second World War. So actually, the rabbits came in pretty handy, because I was able to sell them to the local grocery stores and meat markets, because meat was hard to find in about '41 and that period in through there.

Went to Oregon State University in Corvallis to Study Game and Fish Management

I went to school there at Eugene, and when I got out of high school, I decided that I was going to go to Oregon State and go to college up there and take fish and game management courses. I had already decided on that. One thing just about marred the whole idea of what I was going to do.

Worked in an Orchard

I went to work for a gentleman that had orchards and he sprayed orchards, so I went along as a sprayer and worked for him. Somewhere in one of my spraying episodes, I walked around a tree

that I shouldn't have, hung the spray gun on the back of the truck. There was two of us. The other fellow, he was behind me, and when the truck moved forward, it pulled his hose straight, but my hose was in a U-shape, and in this particular instance, was around a tree. I didn't know it, and nobody else knew it, until it was too late.

The gun came sailing off of the back of the truck, broke the chain that was holding it, hit me in the face, and I pitched forward into the dirt, with my jaw broken, and knocked me out, of course. I didn't know what had happened. All the way into the hospital I kept waking up and then I'd say, "Well, what happened?' and then they'd tell me, and then I'd say, "That's a funny thing to have happen."

Anyway, that just about knocked me out of college, but not quite. I was able to get healed and spend the rest of the summer on the golf links, since the doctor told me to go out and exercise, but don't do anything that would hurt my jaw. So he put it back together, and it's still, even today, what is called a glass jaw. There's so much cartilage in there that it isn't a very strong thing that you want to go out and lead with your chin on. Anyway, I did get over it, and I did get to go to college.

Storey: When was this?

Went to College in 1946 and Signed up for the Draft

Jonez: This would have been in 1946. I signed up for the draft, and they said, "We don't think we need you in the Army. Why don't you go to college?" Of course, I already told them I was planning on it.

Was Not Drafted, but Did Take ROTC in College

So I did not get involved in the Second World War, but I did go to Oregon State and I did take ROTC. At that time ROTC was a requirement, so I took it, and I had no problems with that. In fact, some of my best grades in college was ROTC grades. So I did enjoy it, can't say that I didn't.

Graduated in 1950 and Joined the Army and Then the Army Reserves, in Which He Spent Twenty-Seven Years

I did take fish and game management, and I graduated with fish and game management as my major. The Army kind of wanted me to join them. At this time, they were over the hump of getting people out of the army–this was 1950–and they could see things coming up on the horizon. Of course, I didn't realize it at the time, but Korea was just about ready to blast off. So I did think about going in the Army, but with the degree I had, which was fish and game

management, I couldn't see how I could get ahead in the Army with that kind of a degree, and I was probably right at that point in time.

Today is different. Today the Army is one of the many federal agencies that has to deal with the National Environmental Policy Act [NEPA], so I guess it would have changed as time went on. But at least at that time, I would have been in the Army and I would have been in probably a field artillery unit rather than anything else that I would have preferred to do.

So anyway, that's how that went, and I decided that I was not going to join the Army. They wanted me to join as a second lieutenant in the regular Army, and that's why I–actually, I enjoyed the Army, and so when I got out and went to work, I did go into the Army reserves, and I spent twenty-seven years in the Army reserves. I'm a lieutenant colonel in the Army reserves, and, of course, I'm now retired in the Army reserves, as well. So I'm not only retired from the Bureau of Reclamation, but I'm also retired from the Army.

Army Reserve Time Was Spent in Civil Affairs Military Government Units, and He Was Never Called into Active Duty

It's kind of strange if you look back on things like this. The Korean War came along. I was in a civil affairs military government unit in Las Vegas. Then the Korean War ended and our unit was never activated, so we didn't go to Korea. And then when Vietnam came along, they didn't want civil affairs units in Vietnam, so our unit was again not called up. I kept waiting and expecting to be called up at any time, and as I was going up in rank, I knew it was going to be more difficult for them to pick me up just individually, that my whole training had been with civil affairs and military government. So anyway, we did *not* get called up, and I kept expecting it any time, but it just didn't happen.

Worked for the Oregon Game Commission for Awhile

Moved to Nevada Fish and Game as a Fisheries Biologist in the Lake Mead/Hoover Dam Area

In the meantime, I'm working for the Nevada Fish and Game. When I got out of college, I worked for the Oregon Game Commission for a while, but that wasn't exactly what I had in mind, and so when a job offer came along for the Nevada Fish and Game Department, I applied for a fisheries biologist position in the area around Hoover Dam and Lake Mead.

Primarily Studied the Effect of Filling Lake Mohave Behind Davis Dam on the Trout Fishery in the Colorado River

At that particular time, which was 1950, they were starting to fill Davis Dam and Lake Mohave was starting to show up on the maps, and my job at that particular time basically, as a fisheries biologist, was to follow the filling of Lake Mohave and watch and see what happened to the trout fishery, really, that was *excellent* in the Colorado River below Hoover Dam. With Hoover Dam's cooler [water] temperatures coming down, it was an excellent trout fishery, and, of course, everybody was wondering what would happen to the trout fishery once Lake Mohave formed and did whatever it was going to do.

After a Few Years Moved North to Work on Fisheries Issues in Pyramid, Walker, and Tahoe Lakes

That was my major activity for several years, was following the filling of Lake Mohave. After that happened, I went to northern Nevada and worked on Pyramid, Walker, and Tahoe, those three lakes, and I spent a couple of years doing that. There were other fisheries biologists assigned to my team, and one of them worked at Walker Lake, and the other one worked at Tahoe,

and I spent most of my time on Pyramid Lake. Yet those other two fellows worked for me, in essence.

Returned to Southern Nevada as a District Supervisor for Nevada Fish and Game

But as it turned out, I ended up going back down to southern Nevada in a year or so as a district supervisor. I thought I would try that aspect for a while. I'd been doing nothing but fisheries research up 'til then. So I went back to southern Nevada as the district supervisor for that area.

In 1966 Joined Reclamation in Boulder City and Was There until about 1970

That went on until 1966, when I decided that I would join the Bureau of Reclamation as a wildlife biologist in Boulder City. Since most of my career had been on fisheries research and research associated with Hoover Dam and Davis Dam and the river below Davis and the river above Hoover, it was quite simple for me to fall into this kind of a position, because the things that they were concerned about were things that I was concerned about as a fisheries biologist anyway, so it worked out quite well.

Worked on the Colorado River, Including Dredging of the River, and on the Central Arizona Project

I went from '66 to about '70 in this position, working the Colorado River, and also did get involved in several other projects, the Central Arizona Project for one, and the activities that the dredge was doing on the Colorado River was another activity that I got involved in.

In 1971 Moved to the Office of Environmental Affairs in Washington, D.C.

The rest of it, I decided that I was going to stay with the Bureau. I liked what I was doing. A job showed up in the Washington office as an assistant to the gentleman that was the director of the Office of Environmental Affairs. So that's 1971.

". . . in 1976 I did become the director of the Office of Environmental Affairs. In fact . . . the day that Teton Dam broke was the day that I took over as director of the Office of Environmental Affairs . . ."

I went to the Washington office and spent pretty near twelve years there in that position, although in 1976 I did become the director of the Office of Environmental Affairs. In fact, it was ironic, the day that Teton Dam broke was the day that I took

over as director of the Office of Environmental Affairs, and, believe me, that was a hectic day or two.

Storey: Um-hmm. I'll bet it was.

Jonez: And, of course, there was a lot of concern about why the dam broke and a lot of people casting aspersions at the environmental statement that was done. But basically, as it turned out, probably you realize, it was a break that was not caused by the things that they were thinking would be problems associated with that dam. As it turned out, it was something altogether different. But those were things that happened that you'll never forget.

". . . the office did change from being just a generalist office. It became an office that dealt with the National Environmental Policy Act. . . ."

As we went along, the thrust of what the office did change from being just a generalist office. It became an office that dealt with the National Environmental Policy Act.

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"Most of the regions developed a staff of biologists and ecologists to work on NEPA matters. I think all of the regions had the same problem, and that was convincing the regional directors that we needed these kind of people on our staff in order to come to grips with writing a decent environmental statement and then making a decision based on what those environmental consequences were thought to be. . . ."

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One of the things that *did* come about as we did those environmental statements, most of them were done on projects yet to be done, projects that were out ahead of us. But there was a certain number of activities that were already ongoing that got swept up with the concerns of the environmental people, not only *our* environmental people, but our environmental people in several agencies that showed up on the street.

Both New and On-going Projects Had to Be Addressed

So it became a task of not only looking at what's down the road and what needs to be

looked at with respect to environmental concerns of some of our bigger projects, but some of the projects had problems with endangered species, and so part of the chore of our environmental people was to understand more about endangered species and try to come to grips with those kinds of issues on ongoing projects, as well as new projects.

Native Species on the Colorado River as an Issue

For example, one of the things that became quite of concern was the native fish on the Colorado River, and that's still a concern, but they've finally, I think, got enough information developed to understand what happened to those species. Even as of today, Colorado is going to have a hatchery pretty much dedicated to the native species, and they do propagate in a hatchery quite well. And so there are chances of saving some of those species, not, of course, in the area where they were always native to, but in other areas of the system. They're trying them out in different streams.

The Washington, D.C., Office Provided Guidance about NEPA and Approved Environmental Statements

That pretty well, in a nutshell, brings you up to date. I spent most of my time dealing with

National Environmental Policy [Act] matters, providing information from headquarters how to do environmental statements. We became the office that approved of them for the Bureau before we sent them over to the office where they were deposited.

END SIDE 1, TAPE 1. JUNE 15, 2000.
BEGIN SIDE 2, TAPE 1. JUNE 15, 2000.

Storey: So it was your office that approved these in Washington.

One of the Major Tasks in D.C. Was Distribution of Environmental Statements to People Who Requested Them

Jonez: Right. And we also had, then when they were sent over by the commissioner to the Council on Environmental Quality, they became available for the public, and we did have a small library there in the Washington office where we sent them out to people who requested them. And, of course, when we ran out, we either had the regions send them out or they would send us another stack of them to put out. But that became one of the major tasks.

Providing Guidance on Environmental Statements

The other task that we were involved in was providing guidance on environmental statements to our regions, and that became an interesting exercise. The regional directors felt they had the responsibility to do the products, and this was a logical assumption because they had staffs to do those kinds of activities. So it was a *while* before that smoothed out and became routine, but eventually the regions became competent at doing their NEPA compliance, and that made me feel much better, because there wasn't any way that that could be done at a distance. It had to be done by the people who were closest to the information. So from my perspective, I felt that worked out quite well.

"It took time, because I went there in '71, and it was quite a few years before we really had a smooth-running NEPA process . . ."

It took time, because I went there in '71, and it was quite a few years before we really had a smooth-running NEPA process, but it finally came into being.

Our office had a couple of people in it back in Washington and a couple of secretaries, and that was it. We spread the work out as much as we could to everyone else, and that worked out quite well.

Applied to Manage the Colorado River Water Quality Program in Denver in about 1983

When I decided that I wanted to try something different for a while, I put in an application for a job out here in Denver, the Colorado River Water Quality Program, and was approved to take that position on, and I came out to Denver then to head up the Colorado River Water Quality office.

Storey: When was that?

Jonez: This would have been ‘80–how soon you forget. Let’s see, it was twelve years, so ‘71. ‘81 is ten. ‘83. At least that’s fairly close.

Primary Responsibility Was Reducing the Salt Load in the Colorado River

I was getting involved in a different kind of environmental concern in this particular office. The major concern of the Colorado River Water Quality Program was seeing if there was some way that you could cut down on the salt load going into the lower basin. Projects were being looked at that cut down on that salt load.

Reducing the Salt Load at Grand Junction

For example, one of the kinds of projects that would have helped was getting sprinkler systems in areas like Grand Junction rather than using flood irrigation, which has a tendency to push a lot more salt out. One of the programs down there was to get the farmers to use sprinkler irrigation, which worked, and it did the job.

Using Deep-Well Injection at Paradox Valley, Colorado, to Reduce Salt Load

Other such things were point source concerns. I was just noticing that Paradox [Valley] was one of those point source programs, and I see in the papers that we've had some tremors over there.

Storey: Oh, really?

Jonez: Yeah. So that's one of the things that you have to be concerned about, and I'm sure we were concerned about at the time. I can remember that as being one of the concerns of that kind of a deep-well injection.

Retired in 1987

I spent my waning years with the Bureau in this particular job until I retired, and I retired in 1987.

Storey: So when I met you, it was *after* you had retired.

Jonez: Yes.

Storey: But you were in the building for some reason. Were you consulting?

Jonez: No.

Storey: Okay. Well, I have a few questions. You said "Jones." Is that the way you pronounce J-O-N-E-Z?

How He Took the Name Jonez

Jonez: Well, my father was Jones and my *mother* was Jones. My uncle was Jonez. My uncle tried to get my dad to change to Jonez.

Storey: Your uncle on your dad's side?

Jonez: Yeah, his brother. Consequently, there was a push by my uncle to get me to do it. When my dad passed on, I did go ahead and went to the Jonez. I haven't been able to find in my genealogy work whether Jonez is correct or not. Very possibly it isn't. But it was something that I went ahead and did anyway. And there's only a few Jonezes in the United States that I can find, and we're *all* related. So there are a few of us.

Storey: Tell me your dad's name and the name of the cannery.

Father and the Kuskatan Cannery

Jonez: My dad's name was Algernon Sidney Jones, and he hated the Algernon and the Sidney part of it, so he became known in Alaska as Al Jones, and that was his moniker. When I came along, he did not want to have me have the problem that he had with Algernon, and so he called me just plain Al. So my name is just Al. But I do have a middle name, Ray, and the last name was Jones. And then after my dad passed on, I changed it to Jonez.

Storey: Do you remember anything about the cannery?

Jonez: Yeah. It was kind of interesting.

Storey: And the fishing boat. I take it there was a boat.

Jonez: Yes, there was fishing boats. Here a few years ago, after we retired, we went to Alaska, Barbara [Whitmore Jonez] and I, and I wanted to go down and see if I could find out where that cannery was. The cannery was called Kuskatan, and it was right across the straits at Kenai there on the opposite side of the shore. The Kenai peninsula is about ten, fifteen miles across, and the cannery was over here and the town of Keni was over on this side.

Storey: So it was on opposite sides.

Jonez: Opposite sides.

Storey: Of the peninsula.

Jonez: Right. And there was nothing over there other than the cannery. Well, in the days past, some of the Natives, Indians, lived over there, but there was no buildings or no activity going on at that time.

Traveled to Alaska to Locate the Cannery Site

The cannery I had some pictures of from earlier years, and I also found a book in the library there that had a picture of the cannery with the name on it, and you could see the location and you could see a scar on the cliff in back of the cannery. So when I went up there, I hired an airplane to fly us across the bay and around until I finally found that scar on the side of the cliff, and that's where the cannery was. Now it's no longer there. There's some people that bought that land and the cannery, and they had several houses close by, but they didn't rebuild the cannery. They just rebuilt some houses that they used when they went out and fished. But they would take their fish back to the cannery in Keni, which saved them having to deal with the cannery.

Father Closed the Cannery in the Late 1930s

So dad's cannery lasted until about 1936, '37, somewhere in there, '38, his cannery. He moved all of the equipment up to Anchorage. He did open up a cannery there in the Anchorage area, and that cannery worked for a couple of more years until Dad finally decided that he didn't want to be a fisherman anymore, and he decided that he was going to learn to fly, which he did, and then he was going to move over to Bethel.

Father Learned to Fly and Moved to Bethel on the Kuskokwim River

Bethel is about five-, six hundred miles from Anchorage, north and a little west. It's on the river. It's a large river. Dad liked it over there, and he also wanted to do mining. In fact, his whole idea in life, *goal* in life, was to be a miner, and he wanted me to be a miner. He told me one time when he came out to visit us that if I would go into the *mining* business, he would see that I would get an education in the university there in Anchorage. Well, it was a nice idea, but I'd already decided to be a wildlife biologist and I already had one year behind me, so I told him thanks a lot, but no thanks.

Father Became a Commercial Pilot out of Bethel During World War Ii and Died Because of a Crash in 1947

When the war came along, he ended up getting a commercial license, and he became a commercial pilot working out of Bethel, primarily, with small aircraft, carrying supplies to operating mines and canneries, and then for the Army, taking supplies to their bases, as well.

Dad was–I guess I would call him a haphazard pilot, from the looks of things. He did have several crackups. In going through some of the material up there that I found in Alaska, it was obvious that he wasn't the best of pilots. But he did do it, until it finally killed him. In 1947, he was asked to go to Nunivak Island, which is down river about four hours' flying time.

Storey: From Bethel?

Jonez: From Bethel. The hospital asked him to go down and pick up a load of reindeer meat, the hospital in Bethel. The population of Bethel was nearly 100 percent Native Indians that lived in that area, the Eskimo type, and they liked reindeer meat. They didn't like beef. So the hospital just automatically would get in a load of reindeer meat for the hospital.

So he went down. This was his birthday, by the way. On his birthday, he got up out of his sick bed. His wife assumed it was flu or something like that. But anyway, he got up, got in the plane, flew down, picked up his load of meat, and came back. When he was coming in to land–he had pontoons on so he would land in the river–he flew over the hospital to buzz them to indicate that he was back and send a truck down and pick up your meat. Well, apparently in buzzing the hospital, when he dove, that load of meat must have shifted, because he couldn't pull it up, and he just flew it right into the ground. He lasted maybe a day, and that was about it. He hit pretty hard.

His wife decided to continue running the airways, Al Jones Airways, for a while, but eventually decided that she'd had enough and went back to the Lower 48. But she ran the outfit for quite a while, a couple-, three years, before she finally decided she'd had enough.

Storey: What do you remember about Alaska and the cannery?

Jonez: What do I remember? From the earlier years, just having fun. I was a kid. I skied and I ice-skated in the wintertime. I guess my dad had to keep a good, sharp eye on us kids, because we would push a boat out in the middle of the bay there and

try to row around the bay, and, of course, with the currents that you have there, if we would have known that, we would have had our head examined. But it was fun. Like I say, what I remember of it my childhood is just having the fun.

Going back up now and looking at it and looking at where we lived in Anchorage, as well as on the Kenai, I can see why Dad liked it. It was a fantastic area.

Father and Mother Lived in Hope for a Time Where He Cut Ties for the Alaska Railroad

I'll have to tell you another story. There's a little town of Hope right across the bay from Anchorage, down a few miles, and Dad, when he was first married to Mom, the two of them went over there to the town of Hope and Dad set up a business of cutting ties for the railroad. The Alaska Railroad was being built about that time. And so he got several fellows to working for him, and he would cut ties, and then they'd float them across on a barge to where they could pick them up and use them on the railroad.

Well, when Barbara and I were up there, we went across to Hope. We didn't know all of this at that time, but I did know that my dad had been in Hope. So I went to the people in Hope

there that had the records of those early years, and they said, "Well, we might be able to find something in the records, but why don't you go talk to this old-timer that lives up on the hill up here in back of us?"

So I did. I went up and introduced myself to him. He had a sly grin on his face, and he said, "Yeah, I know your folks." He said, "I'll tell you one on your mother." He said, "When I was cutting timbers (this is the old gentleman talking), I sliced the ax on my thumb, and not knowing what to do, I asked your mother if she would fix it for me. Being a nurse, she had no qualms about that, so she doctored it up and then sewed it up." He would hold that thumb up at you and say, "Didn't she do a good job?" And so, yes, she did a good job of it. He did like my mother.

He didn't think much of my dad. [Laughter] He thought Dad was a goldbricker, as he called it, and in some ways I can see why he would be concerned like that. Dad would rather do the management of a business rather than doing the *work*, although when he was flying, that was a little different. He did enjoy flying.

Father and Mother Guided Hunters for a Time

Dad also, and Mom, after they got done with the tie business, they went down further in

Kenai, hadn't bought the cannery yet, but they were doing commercial parties that wanted to hunt bear or dall sheep or whatever. So Dad did that for several years, and got a little bit miffed at my mother because she was doing a better job of guiding the people than he was. [Laughter] So anyway, it was kind of amusing, some of the things that you pick up haphazardly.

But then the next thing that I found out was, he was down on the peninsula down there with the cannery. I'm a little surprised that he would do that, do the cannery, because I can't visualize him having those skills. But again, maybe he did most of the management activities.

Storey: Did you ever go in the cannery?

Jonez: Yeah, as a kid, but that's all, and I know what they're like. I've been in canneries. They're steam-operated. Like I say, I'm amazed that he was able to do it, and what I assume was he had some good help.

Storey: Do you have any sense of why your mother chose Los Angeles? And you said Park City, Wyoming. Did you mean to say Park City, Wyoming?

Jonez: Montana.

Storey: Not Utah, though?

Jonez: No. No, it's Park City, Montana.

Storey: Do you have sense of why Los Angeles?

Jonez: No, not really. I think she was looking for a job, and I think she felt that–of course, you've got to remember, Los Angeles isn't like it is today. We're talking about the 1930s. She just wanted a place where she could get a job.

Storey: Why did she think you needed to know how to farm?

Jonez: She was raised as a kid in Loveland.

Storey: Colorado.

Mother Raised in Loveland, Colorado, Area

Jonez: Loveland, Colorado. Her life on the ranch–and it was a ranch–was some of her best years, and she enjoyed them. She loved horses. And she always told us, "If you ever get a chance to ranch, do it," or a farm. So she wanted us to know something about it, because, obviously, at that point in time we had had no experience with farming or ranching.

The ranches that we went to were not of the type that she was used to. These were milk cows instead of steers, and there were pigs, and

Mom, of course, didn't get involved. They didn't have pigs where she lived.

It's kind of interesting, Frank Bartholf was her grandfather, Harvey Bartholf was her father, Leila Cram Russell was her mother, and they were all on the farm there, the ranch. It was primarily a cattle operation. Frank Bartholf became probably one of the wealthiest men in Loveland. He had a lot of knowledge about pretty near everything. He was a very well-tutored individual, and Mom thought a lot of him.

We've done a little bit of genealogy work, trying to piece together Frank Bartholf's life, and it is interesting. To our knowledge--we're talking about 1864, 1865, somewhere in there–my great-grandfather apparently was involved in the massacre down at Sand Creek.

Storey: Yes. '64 would have been Sand Creek.

Jonez: '64, yes. Apparently he was one of the 100-day militia that were put together to go down and do that fighting. At least that's what we understand. In digging up, I did find his enlistment record and also when he was discharged. So it was the 100-day militia, and he was in there 100 days and then discharged.

I often wonder what his thinking was when he did that. When you look at the times and all of that, I can see why it could have happened. I can't find enough records to indicate that he was there on the massacre, but I can't help but believe he was. That's some interesting tidbits of history.

Storey: When you were out at Turlock, was there any irrigation going on?

Living out at Turlock

Jonez: Yes. That was kind of interesting. That's where I learned to swim, was in the irrigation canals. There were some big ones. Now, the farm that we–

END SIDE 2, TAPE 1. JUNE 15, 2000.
BEGIN SIDE 1, TAPE 2. JUNE 15, 2000.

Storey: This is Brit Allan Storey with Al Jonez on June the 15th, 2000.

There wasn't irrigation on those places where you were and your sister were.

Jonez: No. We did, especially in the summertime, we went up and went swimming in the irrigation canals. There was a network of canals throughout the valley at that time, but nothing like there is, of course, today. But it was interesting. I learned a

lot about taking care of animals. We had horses that we could ride, and we rode them to school, about six miles away. It was primarily milk cows and pigs. I think the biggest operation was the pig operation. He must have had three or four hundred pigs there, and it seemed to be his biggest sale item, although the milk from the milk cows was picked up daily, and we got out early in the morning and milked the cows. There was no machinery in those years. And chickens. They had quite a few chickens. But the big activity was the pigs.

Storey: How did you get to town?

Jonez: Well, truck. He had a truck and he also had a car. That town was quite a ways away from where we lived.

Storey: What kind of roads?

Jonez: Well, dirt roads for part of it, and the rest was paved.

Storey: Tell me more about the Depression and how it affected your family.

Jonez: Well, I asked Mom that specific question one time, because I guess I must have been studying the Depression or something in school. I asked Mom, I said, "What happened to you folks in the

Depression? You were both in Alaska at that particular time."

When asked about life in the Depression, his mother replied "Alaska *was* like living in a depression."

And she said, "Alaska *was* like living in a depression." At that particular time, things were very difficult up there. Transportation was difficult. Getting food was not the easiest. And so she really didn't think that the Depression was any more of a hardship than they were going through, and that's probably true. It's kind of interesting. I never thought of it that way when I was studying the Depression. I assumed that that wasn't the case.

Moving Farmers to the Matanuska Valley During the Depression

If you remember, there was an effort made to bring northern farmers that would know how to deal with climate, adverse climate, and they went into the Matanuska Valley, which is about seventy miles north of Anchorage. These people were ranchers and farmers, primarily farmers, and they did a fair job of raising vegetables. The whole concept was that they could get a certain amount

of land if they farmed it, and, of course, those people knew cold weather, so they could handle that. Also, the farming was of a nature where it was cold until you got to right around June, and all of a sudden the longest day of the year is there and daylight pretty near all the time, but it's cool. Potatoes, cabbage, certain things that did well in cool temperatures, they did well with.

They also had cattle and had insulated barns, more insulated than their houses. It's amazing. But all of this was a by-product of the Depression and trying to move those people out of the Depression areas into Alaska to get them to farming. Not very successful. But some of the people did real well and others gave up and went back.

Storey: What about World War II? What do you remember about that? You were in Eugene then, were you?

Jonez: Right. I was, of course, growing up at that time, as a teenager, and, of course, all the papers were full of the war every day, like they are full of TV today. I guess it never dawned on me that I would be involved. Of course, as the war drug on, I got closer to being called up, and by the time I was eighteen and had to sign up [for the draft], the war was over. I really never got involved in it, or

even thinking about having to go, until it was over with.

Storey: Oregon State's [in] Corvallis?

Jonez: Right.

Storey: And you went there four years?

Jonez: Yes.

Storey: Did you study to be a fisheries biologist? What did you study to be?

Jonez: Well, my major interest was fisheries, but I took a course called fish and game management. In other words, it dealt with the whole spectrum of wildlife management, not just fisheries. It just so happened that I was a little more interested in the fisheries end of it than I was the game end of it, at least to start with.

When He Moved Back to Las Vegas He Began Studies of the Desert Bighorns of the Area

As I moved back into Las Vegas and was no longer a fisheries biologists, I started to branch out in my concerns. Bighorn sheep was the most interesting animal in southern Nevada, and so I spent a lot of effort on studying the bighorn sheep.

Storey: What were you doing when you went to–was it Oregon Fish and Game?

Worked for the Oregon Game Commission During the Summer While Attending College

Jonez: Yeah. I was putting myself through college, so it was my expense, and in order to have enough money to go to school, I would get a job in the summertime, and it just so happened I was able to get a job with the Oregon Game Commission as a fisheries technician, more than a biologist. They had a program at East and Paulina Lake out of Bend.

Storey: I know Paulina Lake.

Marked Fish and Did a Creel Census Program at East Lake and Paulina Lake

Jonez: Do you know Paulina? Well, they had a marking program of marking the fish and then a creel census program to determine how those marked fish were returning to the catch. And so that was the task I had. I lived there all summer long. I had my own car, and I would go to the campgrounds towards evening and check all the fish that were caught that day in both East and Paulina Lake. The studies were different for the two lakes, but I was involved with both of them.

And so I did that for three years to get enough money to go to college. I used the money that I gained working up there, because I could save most of my salary and just use the per diem money to live on. They provided the cabin, so I didn't have to worry about a place to stay. So I did that each year for them, and then I would go back to college when that program was done each year.

Storey: So it was a summer job?

After Graduation Took a Job Marking and Stocking Fish on the McKenzie River in Oregon

Jonez: It was a summer job, strictly. And then the fourth summer I, of course, didn't need to go back, so I was trying to get a job that was a little more year-round. And so I asked them if they had a different kind of a job, and they did, and this was a job where they were marking fish and then putting them out in the McKenzie River. So I did that for the next summer. Then the job with Nevada showed up about that time, and so I accepted it and dropped the other job.

Storey: And so then you moved to the Las Vegas area.

Moved from Oregon to the Job in Boulder City, Nevada

Jonez: Yeah, Boulder City.

Storey: What effect did the filling of Lake Mohave have?

Lake Mohave and the Colorado River Fishery

Jonez: Well, prior to Lake Mohave being filled, what you had was a river, a large river, cold temperature-wise.

Storey: And it was cold because of Hoover?

"The fishery that was there then was an exceptional trout fishery . . . the trout moved all the way down . . . below Davis Dam. The fishery down there wasn't as good as it was in the upper reaches of Mohave. . . ."

Jonez: Because of Hoover, right. The fishery that was there then was an exceptional trout fishery, not only from the *size* of the trout, but also the number of fish, and so the trout moved all the way down to Davis Dam, really, and below Davis Dam. The fishery down there wasn't as good as it was in the upper reaches of Mohave.

When they started to fill Mohave, the dividing line for the warm water and the cold water was just slightly above Nelson's Landing. The cold water, as it came down, dove underneath

the warm surface layer of the lake as it was filling.

Storey: It was denser, I presume.

Jonez: Yes. It was cold and it would slide underneath, and the warm water would be on the surface, and you could see that dividing line just as clear as a bell. The cold water went downstream and ultimately exited Davis Dam probably about ten degrees warmer than what it was where it slid under at Mohave.

Storey: When you say you could see this, you mean visually you could see it?

Jonez: Yes, as well as feel it. All you had to do was stick your hand down in the water and you could feel it. As you'd drive your boat across that line, it would be 70 degrees here and 55 degrees here.

"It did change the trout fishery in Mohave. It pushed it upstream, because as the lake filled, finally, the cold water/warm water interface was now ten miles upstream from where it was initially. . . ."

It did change the trout fishery in Mohave. It pushed it upstream, because as the lake filled, finally, the cold water/warm water interface was now ten miles upstream from where it was initially. The trout fishery was still good above

the upper reaches of Lake Mohave because the water was such a volume, and it was so cold, that it just kept coming downstream, until it finally hit the real warm interface, and at that point it changed.

"Probably over half of the area that would have been trout fishery was gone, and other fisheries took their place–bass, bluegill, catfish– worked into the lower reaches where it was warmer. The native species were having a difficult time. . . ."

Probably over half of the area that would have been trout fishery was gone, and other fisheries took their place–bass, bluegill, catfish– worked into the lower reaches where it was warmer. The native species were having a difficult time.

Started Diving to See Spawning Activity

". . . the bluegill and the bass and predator fish were having a field day eating up the little native fish. . . ."

I used to put on the diving suit and go down and watch these native fish spawning, and I could see that this wasn't going to be a very happy existence, because the bluegill and the bass and predator fish were having a field day eating up the little native fish. So things were not all that great

for those fish. It was pretty obvious that they were having a difficult time.

The bass, well, eventually the bass fishery turned into a good fishery, and bluegill not very much. Catfishery was pretty good. It was kind of amusing to see all of these various changes take place, and, of course, you really didn't know what the result was until ten years down the road. You could see the changes taking place, but you really wouldn't know what the long-term effect was until ten or fifteen years later.

Storey: What other techniques were you using to look at this issue at Lake Mohave? You mentioned diving and watching.

Jonez: Well, yes. Diving was an activity that dawned on me early in life as a fisheries biologist that you didn't really know what the heck was going on by being up on the surface and all of this other thing going on below you. And so I bought an aqualung early, probably one of the first ones down in that area, and I was diving all the time all through the years of working on the lake.

Creel Census Was Also Useful

The diving was probably the most important aspect. Other things that helped out

immeasurably was creel census techniques, finding out what the people are catching.

Studying Rainbow Trout Spawning

One thing I was curious about was whether the rainbow could actually spawn in Lake Mohave, and so I spent quite a little time with strong flashlights and hip boots in the evenings, seeing where I could find the young trout. The upper area, just right below the dam, had a tremendous number of fish spawning in it. These were rainbow, primarily. And you could see it from the air above, they were digging nests all along those areas up there. So I assumed that there was fish being generated.

What I did was, I took and built an aquarium out of wood and put a basket in it, and then I went down and I caught a female and a male, brought them up–this was inside Hoover Dam, by the way. In their lab there, they let me set this thing up. I stripped the eggs from the females into the basket, and the sperm, and they took, and then I watched them develop until they finally turned into little fish, at which time I released them back into the Mohave.

So *I* was convinced in my mind that the temperature was not a problem and that the water was sufficiently moving out there so that there

should be rainbow hatching, and, sure enough, there was. I could find them in the evenings with the light and dip net, working those upper shores and trying to find whether the fish would live or not. And they were living. So that was one of the other techniques I used.

Fish Tagging

I did a lot of tagging of fish in that upper reach to see if they were moving down and getting caught into the creel, and they were. Apparently, the fish moved a lot in Mohave. Temperature-wise, Mohave was about 55 degrees in that upper reach, 54-, 55. As you moved downstream, of course, the temperature did get warmer.

Brought in Threadfin Shad as Forage Fish for the Predator Fish

One thing we did was bring in a fish as a forage fish. One of the recommendations that I came up with on the fisheries program was that we needed a forage fish for not only the trout, but for the predator fish in the lower reaches of the reservoir, and those fish were the threadfin shad. They're a native to the TVA system, and we decided, Nevada Fish and Game decided, as one of my recommendations, was to bring that species

to Mead and Mohave and see if we could get them going.

"Looking at the life history of those fish and the unintended consequences of doing something like that, we really couldn't find out anything that wasn't good, at least in our concern. . . ."

Looking at the life history of those fish and the unintended consequences of doing something like that, we really couldn't find out anything that wasn't good, at least in our concern. So we did bring out a load, on the airplane, of threadfin shad.

Establishing Threadfin Shad in Lake Mead and Lake Mohave

We put some of them in Mohave directly, put some of them in Lake Mead directly, and then we had a little pond up at Overton in the wildlife management area there, and we put another batch of them in there as a precaution, feeling that, if nothing else, *they* would make it and we could use them to put out in the lakes.

"It's amazing that they ended up as the salvation to a lot of the fishing, just a real good forage fish by the million. We used to say a 'blue million.' When you see them, you just can't believe it, they get so thick. . . ."

Well, as it turned out, when we had a batch of those little fish ready to go–and they did well in the pond at Overton–we put them in a tank truck and went down to Lake Mead. When we backed into the water with the fish, there was a ton of little fish already there. So they really didn't need to be replanted. They'd done it all on their own. So instead of putting the fish there, we took them down to Mohave and put them in Lake Mohave, because we didn't figure we had a very good start there, and they came out and did fine. It's amazing that they ended up as the salvation to a lot of the fishing, just a real good forage fish by the million. We used to say a "blue million." When you see them, you just can't believe it, they get so thick. But that's what we needed, was a forage fish for the predator fish.

Storey: Like the bass and the trout. Are they a warm water or cold water?

Jonez: The shad? They can do both. They needed to have it a certain warm in order to spawn. The fish that were up in the Hoover Dam area were not spawning up there. They were just up there. It seemed like they'd circle and go down and come back up again, because we'd find them as adults. They were four inches long, something like that, five inches. But we never found any, quote,

"detriment" to the fish. It was quite an experiment.

Storey: Did you do anything else while you were down in that area?

Jonez: We had a diving team for the Bureau of Reclamation.

Storey: That was later, though, right?

Jonez: Yes.

Storey: I meant while you were working for the Fish and Game down in the Las Vegas area, the *initial* job.

Worked the Desert Bighorn Sheep Which Would Occasionally Be Hit by Cars on the Road down to Hoover Dam

Jonez: Probably the only other thing was working with the bighorn sheep. The road down to Hoover Dam was always an attraction for those bighorn sheep, and they would get clobbered down there repeatedly from the cars traveling up and down, so that became a chore that we had to try to deal with.

Desert Bighorn Sheep Issues and the Colorado River Bridge (Hoover Dam Bypass Bridge)

I know they've done a lot of work since I left the Nevada Fish and Game on bighorn sheep, particularly associated with that bridge that's crossing the–they're trying to build across the–

Storey: The Black Canyon Bridge?

Jonez: Yeah. That became another issue that people never thought about when they ended up having all kinds of people traveling down in that area.

Storey: What were you doing with the bighorn sheep?

Jonez: We were trying to see if we could move some out for transplants to other areas. Rather than having them get hit with a car, we thought that if we could capture them and move them out to other areas, at least you would have a better result in the long run.

Storey: And did you get any of that done?

Jonez: We did a little of it, not a lot, but we were able to do some of it.

Moved to Pyramid Lake to Work on Fisheries Issues at Pyramid, Walker, and Tahoe Lakes

Storey: So how did the job at Pyramid come up? Was this a promotion for you?

At Pyramid Lake the Fish Could No Longer Get past the Delta of the Truckee River to Spawn in the River and Lake Tahoe Tributaries

Jonez: Yeah. Yeah, it was. Actually, those three lakes–Pyramid, Walker, and Tahoe–all have a strange history. Part of it is a history associated with the dams that created those three lakes. In Pyramid, we had a situation where the fish could not get up the delta area to spawn. This was the native fish, as well–

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Storey: You said the native fish as well as the cutthroats. Does that mean that the cutthroat trout were not native?

Jonez: Good question. They were native. I keep using the term "native fish" to represent the cui-ui, in this case. But you're right, the cutthroat was a native species to Pyramid. They were big fish. Thirty pounds was not unusual. Twenty pounds was common. Forty to fifty pounds was uncommon. But the fish were big. And they ran up out of Pyramid, in the Truckee River, all the way to Tahoe. Well, when [Derby Dam] ~~Noumana [spelling] Dam~~ was put in, that stopped the upward migration, and eventually the cutthroat disappeared from Pyramid. We didn't

see quite as dramatic a decline in the cui-ui, but there was a decline.

"I was there just at the start of all of this information-gathering, and I went to Las Vegas then as the district supervisor, so I didn't get involved in the ramifications of what went on after that. . . ."

I was there just at the start of all of this information-gathering, and I went to Las Vegas then as the district supervisor, so I didn't get involved in the ramifications of what went on after that. But in going back and looking at what happened, they did get some hatcheries to not only raise the cui-ui, but also to raise cutthroat, and they have been putting them back in, and they've been successful.

The Original Cutthroat Trout in Pyramid Lake Went Extinct, but Lahontan Cutthroat Have Been Stocked Back into the Lake

Pyramid Lake is about one-tenth of the salinity of ocean water, so it's fairly saline. Rainbow didn't have much of a chance. We put them in, but they didn't seem to make it. But the cutthroat, the Lahontan cutthroat, did seem to be able to handle the salinity, and so the cutthroat population rose again from the hatchery plants.

Storey: Um-hmm. But this isn't the original stock?

Jonez: No.

Storey: If the native cutthroats were migrating up to Tahoe, are they up in Tahoe?

Jonez: They would have been, yes. Yes, they would have gone into Tahoe. And from Tahoe, they could go up the streams around the edges of Tahoe to spawn.

Storey: So that's why they went up there?

Jonez: Yes.

Storey: Interesting.

Jonez: Yeah, that was something.

Storey: What were you studying down there? What kinds of techniques were you using? What were you looking for?

Jonez: Well, looking to see whether the cutthroat was actually gone or not, and I used nets, large seines, gill nets, fishing, and ultimately decided that the cutthroat were gone. The cui-ui looked like it was in pretty good shape yet, because there was even young ones of those. They apparently, at the time

I was there, hadn't disappeared and were still doing real well.[2]

Also Looked for the Sacramento Perch

There was another fish called the Sacramento perch that I was trying to find, and finally did, but not in large numbers. Again, I think it didn't like the saltwater, either. In Hawthorne, down there at Walker Lake, there was more of them down there, quite a few more of the Sacramento perch, big ones, four or five pounds.

Storey: Maybe a foot long?

"The lake [Pyramid] was a treacherous lake to work on. It wasn't unusual to have windstorms, very little chance to get off the lake once it really starts blowing. . . ."

Jonez: Yeah. Big ones. Did a little diving. Lot of diving, I should say. The lake was a treacherous lake to work on. It wasn't unusual to have windstorms, very little chance to get off the lake once it really starts blowing. If it blows hard enough, you'd better stay on the lake. You'd swamp your boat getting off.

2. Chester C. Buchanan later studied the cutthroat and cui-ui for the U.S. Fish and Wildlife Service, and Reclamation interviewed him for its oral history program. He shared more detailed and later insight into the fisheries situation at Pyramid Lake.

Storey: Of course, the cui-ui's a concern of the [Pyramid Lake] Paiute [Tribe] there.

Jonez: Right.

Storey: Did you have any interaction with the tribe at that time?

Jonez: A little bit, yeah. In fact, one of the wardens, as they called them, worked with me on a lot of the projects. He was a very knowledgeable individual and enjoyed doing the work, so I used him a lot.

Storey: Um-hmm. And then you went back to the Las Vegas area. Another promotion?

Jonez: Yeah.

Storey: What was going on down there then?

Went to Las Vegas as a District Supervisor in the Nevada Game and Fish Department

Jonez: Well, of course, in the new job, all of the activities of what we did were under the district supervisor.

Law Enforcement and Big Game Management Were Activities

Law enforcement was one of the activities. Big game management, not only the bighorn sheep, but deer and elk in Mount Charleston. Small game activities.

Built Guzzlers for Gambel's Quail

We had a program of placing drinking-water devices out in the desert where the Gambel's Quail were common. These devices are called guzzlers, and what they did is, they had an apron, either a concrete apron or an apron made of roofing material, and they would spill the water down into the underground cistern, and the birds would come up and walk down in there and get a drink.

***"What we found out was that the Gambel's Quail had that water fairly close to wherever they were living, and if you didn't find water within a half a mile of where you found the birds, you weren't looking very good. . . ."**

What we found out was that the Gambel's Quail had that water fairly close to wherever they were living, and if you didn't find water within a half a mile of where you found the birds, you weren't looking very good. It was there, but you weren't finding it. We built a lot of guzzlers and put them out, just trying to improve the range of the quail, and it worked, did the job.

Storey: How long would it take to see results on something like that?

Jonez: Probably five years. Usually you saw it right away. What usually happened was, say you had a one-mile circle, and in the middle of it was where the birds were now living. Then you could go out at half-mile intervals around there and put the guzzlers, and then the birds would branch out to those extra guzzlers, that extra water.

If you had a real good, wet spring and a lot of feed, they spread like wildfire, because the young that they would have would be twelve, thirteen, fourteen little ones, and, of course, that gave you a good population to move out. If it wasn't that way, if it was a poor year, two or three, three or four young, and your population would drop down then.

It's amazing. Some of these devices, we tried different kinds. Some worked better than others. But we finally went to a plastic tank and a roof over the top of it to give it shade, as well as to provide the supply of water. What you had to have was rain in order to get that cistern filled.

Storey: So you weren't pumping water or anything like that?

Jonez: Well, yes, we were, but not there. We would take water out and put it in the guzzlers if they got low. Every year we'd check them and see how they were standing up and see how much water was in them, and if they were low on water, probably they got missed in the rainstorms. And so we would then take them and put water in them, and that seemed to work, because they weren't dry when we would do that. So there was still water there for the birds, even though it wasn't a lot. And then as we put water in there, of course, then that solved the problem for that guzzler for that year.

Storey: Did these attract any other game?

Jonez: Yeah. It wasn't unusual to attract fox or coyote, rabbits occasionally, although rabbits didn't seem to care as much about it. Of course, the predators found them as a good source of food. But the quail were used to that, so they made it quite well.

Storey: When did you first start working with Reclamation? Was it while you were at the Game and Fish Department?

'I spent quite a little time down in the lab at the Hoover Dam, worked with the fellows there a lot, checking the temperatures and volumes and what level they were taking the water at. . . ."

Jonez: Yeah. I spent quite a little time down in the lab at the Hoover Dam, worked with the fellows there a lot, checking the temperatures and volumes and what level they were taking the water at.

Worked with Reclamation to See If Water Releases Could Come from Lower Levels in Lake Mead to Assure Good Temperatures for the Rainbow Trout Downstream

That was another thing that we ended up doing. In looking at the records, we saw that occasionally Hoover Dam would be run at a higher–the water coming out would come from a higher level intake. What happened, we pretty near lost our trout fishery. This was before Mohave was full, and instead of 54- or 55 degree water, 65 degree water came out of the dam, and the rainbow had a tough time of it. They got diseases, parasites would get frequent. So we recommended to the Bureau at that time that, if they don't have to use the upper gates, don't.

". . . finally decided that they could function without using the upper gates, and so that made a difference right there. . . ."

And they finally decided that they could function without using the upper gates, and so that made a difference right there. So that was something that we were able to contribute to the Bureau's

concerns and work with them on it, and it saved a lot of fish.

Storey: So how did you come to end up at Reclamation, then, from this job, what kind of contact or whatever?

How His Move to Reclamation Occurred

Jonez: Well, I guess I was–it seems like about every ten years I get the urge to move on, and that was kind of where I was on this one. I just wanted to do something different and put some of the things that I had learned to use, and this was a opportunity that I didn't want to pass up.

Storey: Was it a job advertisement, or . . . ?

Jonez: There was one out, and I was over there one day talking to A. B.[Arleigh] West[3] about something, I forget, and he said, "How come you haven't put in for that job?"

I said, "What job?"

Well, he showed me the leaflet then, and I looked it over and went and talked to a few people and finally decided to put in for it, and I did.

3. Arleigh B. West was regional director of Region 3, subsequently renamed the Lower Colorado Region in 1972, of Reclamation from October 1959 until October 1970.

Storey: What was the job for?

Hired to Work on the Dredging Program, Operations, and Endangered Fish

Jonez: What they were looking for was somebody that knew the river, knew the wildlife on the river. Two things. One was the dredging program, which was under fire from the wildlife people, and the other one was just the operations of the systems, and particularly dealing with endangered fish. So anyway, I thought I knew enough about those things that I could provide some help.

Storey: So when was it they hired you, then?

Jonez: July of ‘66.

Storey: What was the grade?

GS Grades over the Years

Jonez: As I remember, it was an 11. And I got a 12 two years later, and then I got a 14 going back to Washington, to the headquarters, got my 15 back there. And when I came out here to the Colorado River job, it was a 15, so I just maintained it.

Storey: Well, I’d like to keep going, but my watch says it’s three o’clock.

Jonez: Mine does, too.

Storey: So I'd like to ask you whether you're willing for the information on these tapes and the resulting transcripts to be used by researchers.

Jonez: Sure.

Storey: Thank you.

END SIDE 2, TAPE 2. JUNE 15, 2000.
BEGIN SIDE 1, TAPE 1. JUNE 23, 2000.

Storey: This is Brit Allan Storey, Senior Historian of the Bureau of Reclamation, with Al R. Jonez, on June the 23rd, 2000, Building 67 on the Denver Federal Center. This is tape one.

Mr. Jonez, I think last time we started talking about your studies at Lake Mohave, and we'd talked about Pyramid, hadn't we?

Jonez: Pyramid, Walker, and Tahoe. Mostly Pyramid.

Storey: Had we talked about Mohave, also?

Jonez: Yes.

Storey: I think we did.

Trout Spawning below Hoover Dam

Jonez: I was talking about the warm water/cold water interface, and then you asked was there any other activities besides that, and I was mentioning the diving and then the activities in the upper end of the reservoir, right below Hoover Dam, where the trout were spawning and lots of large trout up in there.

Storey: Did we do any special operations for trout or fisheries?

Jonez: Yeah, we did that. They finally decided, after a lot of study, that they could deal with only using the lower gates on Hoover Dam for flows out of the dam. The upper gates gave you a lot of 64- or 65 degree water. The lower gates gave you 54-, roughly, degree water.

Warmer Water below Hoover Dam Saw an Increase in a Parasite Called Lernia

While I was working as a fisheries biologist, they did go to the upper gates one time, and this was before I knew what would happen. So I heard that they were going to make the switch, and so I went down and watched what went on and took temperatures and so on, and that's when it dawned on us that those fish were being *stressed* by that warmer water. And we found a parasite called Lernia that became quite

numerous as that warm water was there, and then as soon as the cold water came back in, they sloughed off and were no longer a problem.

Storey: And that's while you were still working for Nevada?

Jonez: Right.

Storey: Then you moved back down to the Las Vegas area, right?

Jonez: Right.

Storey: That was mostly a management kind of position?

Work of a Regional Supervisor's Office

Jonez: Well, that was a regional supervisor's position. They're always the same. You end up as being responsible for all actions that the district took as far as fish and game matters. It included law enforcement, big game, small game, fisheries, all of those activities, and we had usually one or two people in each one of those positions. So it was a small crew, but I also had a secretary.

"We did set up a system of radio contacts. . . . Two-way radios were getting important, and we found that we could work a lot more efficiently with them . . ."

We did set up a system of radio contacts. That's one thing that came in about that time. Two-way radios were getting important, and we found that we could work a lot more efficiently with them, so that was part of the activity in the office, as well.

Storey: What kinds of fishes was Nevada dealing with down there?

Jonez: Fish, the type?

Storey: Fisheries and the other issues, coatimundis and whatever.

Jonez: No, we didn't quite get to coatimundis. That's further south. But we did have a cold-water fish program that was below Mohave, below Hoover and above Davis. And then there was another program. We found out that the water *below* Davis Dam turned out to be cool enough to where we had a trout fishery downstream from there, as well.

California Planted Pike below Davis Dam, and That Hurt the Trout Fishery

About that time, the state of California and the state of Arizona, which is right below us on that stretch below Davis, one of those outfits, and

I can't remember who it was, did plant pike in there, and they played havoc with the trout. They ate them. But, of course, they're big fish, big game fish. But people like them, because if they could catch them, they really caught a nice fish.

Of course, below Davis Dam it was warm enough that your bass, bluegill, and particularly catfish, did well. But the trout fishery was what most people came there for, and it did deteriorate when the muskies were put in. They also ended up in Lake Mead, and actually there made a better fishery.

". . . the major fishery in Lake Mead was largemouth bass. . . ."

Of course, the major fishery in Lake Mead was largemouth bass.

In 1952 Lake Mead Filled Almost Completely Resulting in a Better Fishery

Part of the work that I did when I first went to Nevada was, I had another person working with me who was working on Lake Mead, and I was spending most of my time on Lake Mohave. But in 1952–and I don't know whether you paid much attention to the ups and downs of the reservoir, but in 1952 we had a full reservoir for a change, not 100 percent full, but it

was certainly a tremendous upsurge in water in the reservoir. Like all reservoirs of that type, where they fluctuate each year, you get a lot of terrestrial vegetation growing in the washes and so on. So consequently, when the reservoir filled that high, it inundated miles and miles of brush, primarily salt cedar, but it was also mesquite and cat claw and all of those other things, too.

That particular year was a bonanza for largemouth bass and crappie. They were able to not only find places, the secluded places to build their nests, but the lake was coming up at that time, so they didn't have to worry about their nest drying out or anything. As the largemouth bass brought off their young, it was pretty obvious that that year was going to be a bonanza year–just little fish everywhere. Your male bass herds them around in a school until they get to the point where they get unruly and decide they want to be on their own, and when that happens they disperse, and there was little bass everywhere, three-, four-, five-, six-inch bass, and it was just a real bonanza to see that kind of a hatching going on. That didn't happen very often, by the way, that elevation.

So the next year was still pretty good, because it was still up into the vegetation. But by, oh, '54 or '55, it worked its way down into the less vegetation, and you could see a dramatic

change in how many fish were spawned and how many young ones you saw around the shoreline. And so we started looking at things like that to see if recommendations could be made to solve some of those kinds of problems.

Brought in the Threadfin Shad as a Forage Fish

We found it pretty impractical to do many things that we would like to have done, but we did try a few things. One of the things that we tried, of course, was bringing in the threadfin shad. That's a TVA fish, and it's a forage fish in the TVA waters. It gets up to five or six inches long, but thousands and thousands and thousands are hatched out. The male and female reproduce in the upper surface of the lake, ten or twelve feet down at the max. Usually they're right on the surface when they're spawning. And then the eggs float, they're buoyant, and they float until they hatch, and then once they hatch, you've got shad everywhere.

Shocking the Fish in Order to Study Them

One of the tools that we used on Lake Mead was a barge that we fitted out with electrodes, booms out in front and electrodes hanging down in the water. We would go out at night and shock the fish, and then we'd dip them up and put them in a container, and then we

would work them over on trying to find out what size they are and the number in the various size groups, just general information. We could see very vividly the differences between the years that we had high flows and lots of vegetation inundated and low flows and none or very little inundated. So that was an interesting piece of work.

The other thing we were trying to figure out was when would they spawn, what month. That was all of the fish. So our diving helped us there, and the electrode shocking machine also helped there.

Humpback Sucker and Boneytailed Chub

One of the things that we *did* notice, and it is now of interest to everybody, and that's the endangered species in the lake and also in Lake Mohave. There was basically three that were obvious. One was the humpback sucker. One was the boneytailed chub. Those were the major two that you could see were having problems as time went on.

Native Fish Spawning Preferences

We could see, especially in Mohave, they were trying to find out where to spawn. They used to spawn in the river and were able to spawn

even though the water got fairly cold. But they were still having trouble with the cold temperatures. They preferred a warmer climate, and, of course, that was something that they had before any of the dams were in. Hoover created a cooling effect, which they didn't like, and so they went downstream to do a lot of their spawning. It was a little easier to spot them there, too, with your diving gear, because as the young came off of the eggs, the bass and the bluegill went in and had a heyday trying to catch the young fish, and, of course, they had no trouble catching them. They were sitting ducks, in essence, for the predator fish.

Storey: How did the threadfin shad experiment work?

Stocking Threadfin Shad

Jonez: That went quite well. In 1954, I quit southern Nevada and worked up in Pyramid, Walker, and Tahoe. But one of the recommendations–I put together a report about an inch, inch and a half thick on our recommendations for Mead and Mohave, and that publication recommended that we try bringing out the threadfin shad from Tennessee and see if we can't get them to become a forage fish, because one of the obvious things that we saw over the years is that when you had predator fish, they eat each other. They don't just eat somebody else, but if they're the only food

that's available, they'll eat their kind. So we felt we had to try to bring some kind of a forage fish in.

None of the species that were there provided the goal that we wanted provided, and that's more food than the bass could consume so they left their own kind alone and other game fish alone. We sent a team back to Tennessee who went out and caught a tankful of shad, fish tankful, brought them in and put them in an airplane. The Air Force graciously helped us out on the trip by providing a crew and a plane to bring the shad from Tennessee back into Nevada. I was able to get involved in that activity, and I ended up on the plane that brought the shad in, trying to keep them alive.

Interestingly, they swim in a circle in a tank, and we learned that we needed to encourage that. So we got rid of the old-fashioned spray system and built a circular pattern of water going in there, and for some reason or other, the shad like that. They would settle down into the current, and they wouldn't spook or anything else.

The first time we tried moving them–and this was an experiment that we were doing on the ground–we lost a lot of fish just from–well, the spray system is what we were using. And we noticed that if we made a sudden stop with the

truck, they would go in all directions, like a burst, and then we'd see them come belly-up. What they were doing is, when they hit the tank, they were crushing their skull from hitting the tank too hard.

So we had to figure out something, and that's when we tried this other approach, and it worked. The fish settled right down, and even with starting and stopping the truck and bouncing it and things like this, the loss was minimal. So we thought, "Well, we'll try it." And it's good we did, because every time the plane landed and fueled up and then took off, we would have lost a lot of fish. But as it turned out, the fish didn't seem to mind all these other extraneous activities as long as the water kept circulating in the tank.

So we got in. It was about an eighteen-hour trip, because we weren't in any hurry. We had to go south because of the cold temperatures. And that's another thing we found out is they're very sensitive to temperatures, so we knew we had to be careful on not getting into the freezing weather. So we went way south. The Air Force plane just about went over New Mexico–it didn't quite–and then, of course, came up the river. It was a long trip, but we didn't lose hardly any fish, so that was very good. And the tank that we had on the ground in a fish truck was also hooked up

the same way, had the same water in it, and temperature-wise it was about the same.

So when we got in, we dipped the fish out of the Air Force tank and put them in our other tank, and off we went. We took them up to Overton and put a batch of them into a pond that we had built just for that purpose, about a half-acre pond. And then the rest of them, we took a batch of them down to Lake Mead, and then the rest of them went down to Lake Mohave, and so all three areas were pretty well saturated with shad.

This was in the wintertime, and so in the spring we were expecting hatching, and, sure enough, we were getting it in the pond at Overton, because that pond was shallow enough that we could see what was going on, and also it was a little warmer than the other areas, so it was ideal for the fish, and they did come off. Like one of the fellows said, "That looks like a 'blue million,'" and that's about the way they looked. They swam as a coherent group. When they turned, they all turned. When they went forward, they all went forward. They have an uncanny sense that way, and it became interesting to find out more about the fish.

Then by about May–I think that's about right, April or May–the spawning for these fish

had pretty well taken place, and the fish were half-inch to an inch long. We took them down, we loaded up a load of them, took them down to Lake Mead, backed the truck into the lake, but before we pulled the stopper holding the water in, we noticed out there in the water it looked like a bunch of little fish there. And so we went with a dip net and caught some of them, and they were shad. The batch that we had put into the lake had already spawned. We thought, "Well, there's not really a tremendous need to put *too* many more."

We did bucket some in, but we took the rest of them down to Mohave and put them in down there, because we felt that of all the places that didn't get a large number, that was Mohave, and we wanted them *there* for the trout fishery. So that's what we did, and they've been a boom ever since for predator-prey relationships. They really do the job. Some day they may *not* be able to make the competition, but that's for other people to figure out. It's beyond my sphere of influence now.

Storey: So it worked. They reproduced fine.

"The only time that the Bureau got involved– as these adult shad grew up . . . they would go up to Hoover Dam and work their way around the lower portals down there. . . . They had intakes that brought cold water into the generators to keep

them cool . . . They cracked open one of the valves, and inside of it, it was just packed tight with shad. Apparently, a school of them happened to swim by the intake, and in one instant it went (sucking sound), and, of course, the fish were pulled right into the screens. . . ."

Jonez: Yeah, they reproduced, and everything liked them, as you can imagine. The only time that the Bureau got involved– as these adult shad grew up–again, liking this current–they swam up out of the warmer waters of the lower lake. The current seemed to attract them, and they would go up to Hoover Dam and work their way around the lower portals down there.

I got a call one day from the Bureau, and they said, "Would you please come down here?" So I did. They had intakes that brought cold water into the generators to keep them cool, the bearings in the generators. They cracked open one of the valves, and inside of it, it was just packed tight with shad. Apparently, a school of them happened to swim by the intake, and in one instant it went (sucking sound), and, of course, the fish were pulled right into the screens.

Well, needless to say, they were a little panicking about that time, because they didn't, of course, want to lose any bearings, and these little shad would get so thick that they would fill the

basket in just one pass-by out in the water. So I said, "Well, the only thing I can think of that could help you is build a deflector and put it down in the water eight or ten feet deep so that the fish don't get that close to the intakes, keep the fish far enough away from the intakes." Since they swam around in a pattern, there was a way of solving that problem.

Sure enough, they did that and did solve the problem. Little things you never think about, but it's something that did happen.

Storey: How was the fishery down there in those days? Real good fishery?

Jonez: Yeah, it was good. The fishery for trout was excellent before they put Davis Dam in. It was probably world-renowned for its fish, size as well as numbers. The filling of Lake Mohave did change that. Wasn't as good as it originally was, and we felt at the time that one of the big problems [was] the lack of forage.

Originally the Rainbow Trout Fed on a Small Freshwater Shrimp

In the early days of Hoover, before Davis was put on line and filled Lake Mohave, the rainbow ate primarily what is called a shrimp, freshwater shrimp, and the river was just ideal for

production of those shrimp. They lived in sandy and gravely areas, and particularly areas that had vegetation, aquatic vegetation in it. And so that was the big food source for the rainbow of all sizes. You'd open them up and clean them, and they'd just be full of them.

"As Mohave filled, we lost these freshwater shrimp in the lower part of the reservoir. It was just too warm and wasn't suited to having the shrimp outguess the predator fish. . . ."

As Mohave filled, we lost these freshwater shrimp in the lower part of the reservoir. It was just too warm and wasn't suited to having the shrimp outguess the predator fish. So it became obvious, as time progressed, that we needed a different kind of a forage animal in there, and that's why we ultimately went to the threadfin shad as a replacement for the shrimp.

Now, the shrimp didn't die out in Mohave. The upper reaches still contain them, the last time I was there, so I assume they're still there. But the shad did help out immeasurably, because it provided a source of food that–well, it's just so numerous that you just can't believe it.

Storey: Now, when you say shrimp, I think of what comes on my plate in the restaurant. How big are these things?

Jonez: Probably a half inch, maximum, more likely a quarter of an inch. They're small. They look like a shrimp when you hold them up with a magnifying glass and look at them. They look like the kind that you go down and buy, but they weren't. They did make a tremendous food source for the trout.

Storey: This was when you were down working Lake Mohave mostly. This was your earliest stint with Nevada.

Jonez: Right, 1950 to '54, four years.

Storey: That's interesting. You said, "The only time Reclamation became involved."

END OF SIDE 1, TAPE 1. JUNE 23, 2000.
BEGIN SIDE 2, TAPE 1. JUNE 23, 2000.

Storey: It's our lake. It's our dam. Why weren't we more involved in all of that?

Jonez: I think probably at that time the Bureau ran the facilities and were the owners of the facilities. At that particular time, a fisheries biologist was not on their staff. They didn't know much about environmental concerns in that time frame, and there wasn't any reason for them to be all that

concerned when other people were taking care of it–the biological aspect of it.

Whenever we found out anything worthwhile that they should know about, the operators of the dam, we would set up and have a meeting and talk it through. For example, using the lower gates instead of the upper gates on Hoover. That Was an Issue That Was Discussed, and like I Say, They Resolved it by Determining That They Could Get by by Just Using the Lower Gates.

The 1952 Filling of Lake Mead Resulted in Extra Nutrients and a Plankton Bloom Which Was a Good Food Source for Young Fish

The same thing on everything else. We would talk about things like fluctuating the reservoir and putting a fertilizer of some type in the reservoir to see if we could build up the plankton bloom. That was another thing that happened in 1952. The vegetation, as it would go to pot and disintegrate, would provide a lot of extra nutrients to the reservoir, and the plankton, the little critters that are the food source for the young fish and for crappie–they eat solely plankton–the plankton blooms were fantastic.

"Part of our routine activity on both Mead and Mohave was using a strainer, per se, to determine

the amount of plankton that was available and what kind. . . ."

Part of our routine activity on both Mead and Mohave was using a strainer, per se, to determine the amount of plankton that was available and what kind. So we would tow this gadget at various depths and for various times and then save what you got in a test tube and put a little alcohol in it and take it home and look through a microscope and tell what you got.

That was one thing that we figured that probably fluctuation wasn't the answer there. Of course, when it did fluctuate itself and we had a high volume of water, those kinds of activities took place no matter what. You did get a certain amount of extra spawning taking place when you had high water.

I was trying to remember the year when it got so high it went over the spillways.

Storey: '83, I believe.

The Effects of the High Water Years in 1983 and 1984

Jonez: Was it '83? That was another high-water year. And, of course, going over the spillways didn't

help the fish downstream just because of the temperature.

Storey: It would raise the temperature of the water?

Jonez: Yeah. But there nobody could do anything. The water was there, and they had to get rid of it. It wasn't like the lower gates/the upper gates type of thing.

Storey: No choices here.

Jonez: Sometimes you don't get a choice, and that was one of them. It did make a good product on Lake Mead, though, because like '52, it did provided a tremendous amount of cover for the young fish. Those are things that happen, and as a biologist, you have to realize not everything can be controlled, and probably it's just as well they couldn't.

Storey: You said earlier the higher temperatures stressed the fish. My suspicion is that means something to you, and it means something different to me. Could you explain that a little more?

Jonez: Yeah. I guess it would be similar to if humans were put in a container, big enough, of course, so they wouldn't run out of air, and you crank the temperature up in there, and the people would just not do as well in all activities that they do in that

artificial temperature environment that they're not used to.

That's the same thing that happened to the trout. They were not used to that temperature range. The forage, these little shrimp, didn't like it, either. So you stressed them by giving them a temperature range that they didn't like, and you stressed them by having a situation where they not only didn't *like* the temperature, but it affected their food resource, and that they don't like. That's really what we're talking about. It puts a stress on their doing things the way they want to do them and are used to doing them.

Storey: How do you identify that when you're watching?

Jonez: Well, it's not as simple as just seeing it. What I was starting to notice–and this is when I'd do creel check work down there–I would notice that the fish were getting thinner, physically thinner. These parasites I was talking to you about, when they attach themselves to the fish, they're like an eel. They have a sucker mouth, these little parasites, and they grab hold of the side of the fish and burrow in there with their mouth parts and suck out nutrition that they're looking for. The fish don't like that. It'll stunt their growth, the fish, and actually you can get enough of them on there, they can actually kill them.

You would start to pick these fish up in the creel, and here these Lernia, we call them, were stuck to the sides of the fish, particularly around the gill area. So you could see the fish getting thinner, you could see them getting eaten up with parasites, and the fishing itself was poor, just the actual catching of the fish. Of course, some of the fishermen didn't like looking at the Lernia on their fish and didn't know whether they should eat them. You know, all kinds of questions arise. But that's basically what it boils down to.

Storey: Interesting. Well, when you went back down, what kinds of terrestrial things were you doing, was your district doing?

Jonez: We had a program with the quail, the quail that live in that area, and we had the guzzler program which provided water.

Storey: You had talked about that.

Checking on the Guzzlers Each Year

Jonez: We talked about that. We also, each year, as part of our season recommendation program, we would go out sit on the springs and the guzzlers with our vehicle and back it out of the way so it's not intrusive to the birds, and the little Gambel's Quail would come in with their broods to get

water. Whether it's a natural spring or whether it's a guzzler really didn't make any difference. If you saw ten or twelve young quail with their parents, you could just about say that you've had a pretty good year. And if you saw thirteen, fourteen, fifteen, sixteen of them, you could say we had an excellent year. If you saw eight or ten of them with adults, then you had a fair year. If you saw one or two or three young ones, then you know you had a poor year.

"If you have a winter storm and you get a good moisture out of it, whether it's rain or snow, and then you come off with a lot of vegetation, and usually a lot of insect life along with it, then your Gambel's Quail takes advantage of that . . ."

What we're talking about by poor or good is the amount of vegetation that is produced by winter storms in the desert. If you have a winter storm and you get a good moisture out of it, whether it's rain or snow, and then you come off with a lot of vegetation, and usually a lot of insect life along with it, then your Gambel's Quail takes advantage of that kind of an environment and the amount of young that they produce is a byproduct of that environment. And instead of half of the bunch of young birds making it through to adults, they all do, and so you get a tremendous *upsurge* in a population in one year.

When we see that coming up, we then make recommendations that are a little more lenient, because they only last a year or so, so by the next winter and fall, they've already lost a bunch of the birds just through normal attrition. If it's a good year and you get a lot of them, your vegetation will produce seeds, the vegetation will produce all kinds of insects, and so the adults can make it through, a good share of them can make it through to the next breeding season.

We would notice in our counts whether we had a lot of adults in relation to, say, the year before, because we would do these counts every year. So we could manage our resource by indices of what was going on. To be a good biologist, you need to do more than just deal with the animal that you're dealing with, or the fish; you have to kind of know what's going on around you. And so part of all of this is that knowledge of what's going on around you. The rains, the snow, the temperature conditions, vegetation, whether it's a good year or a bad year, all of these things become things that you deal with.

Big Game Is Harder to Track than Small Game

The same way with big game. It's not quite as easy to track the big game as it is the small game. Small game seems to be easier to look at, but it's still the same relationships. In

that southern Nevada area, say from Boulder City on south, or even north of Boulder City, there's a lot of bighorn sheep in that area. In those early days, we didn't know too much about them. As time progressed, we found out more.

"We eventually ended up with hunting seasons on the bighorn sheep, just because we felt we knew enough about the animals . . ."

We eventually ended up with hunting seasons on the bighorn sheep, just because we felt we knew enough about the animals to not only know what they were doing, but it appeared that we were getting a natural die-off every year of the older animals, which is normal, it happens. But if you're going to lose them, we always felt that, from a perspective of a game management program, that it would be better to try to at least take some of them by hunting methods. And so that's what we ended up recommending, and they're still doing it even to this day.

Storey: I've seen them down there on that little park below the regional office, in that area.

Jonez: Yeah.

Storey: I understood ringtails were in the dam at Hoover. Isn't that the coatimundi?

Ringtail Cat

Jonez: No.

Storey: Different animal?

Jonez: Different animal. It's a Bassariscidae [*Bassariscus astutus*].[4]

Storey: Okay, if you say so. [Laughter]

Jonez: It looks more like a raccoon than a coatimundi, but it does have the tail with the rings on it. It's just a small animal that loves to go into places that are cave-like, and that's the reason they had them down there at Hoover Dam. They didn't worry about going into the areas where there were bright lights and gleaming walls. They would go into the cave parts of the facility, where it was just dark, which is what they like. They were a nocturnal animal, and they ate mice and rats and any type of rodent that they could get. They were, oh, tail and all, maybe two feet, with the first part of it being, the first foot being the head down to the tail, and then the tail was long and bushy.

4. A small mammal commonly called a "ringtail cat" and sometimes called miner's cat or civet cat, this animal is really a member of the racoon family and is related to racoons and coatamundis. The Aztec called them *cacomistle*. Source accessed on September 29, 2010, at about 5:30 p.m.: http://www.desertusa.com/mag01/mar/papr/ringt.html

It's kind of amusing. When I was a regional supervisor down there, I got a letter from a Barbara Whitmore. They were trying to find a ringtail cat to live with the one that they had. I had to write her a nice letter that we didn't allow that particular species to be harvested in that way, there just wasn't enough. The other day she dug the letter out and showed it to me. I'd even forgotten I'd written it to her.

Storey: This is your current wife, right?

Jonez: Right.

Storey: What about like desert tortoises?

Desert Tortoises

Jonez: Well, the desert tortoise was a natural species there. It wasn't introduced or anything else. It's just a natural species. They're vegetarians. They've got a long life, and occasionally would get out on the highways and get hit and occasionally would be taken home by the kids because they thought it was cute to have a turtle at home, a tortoise. It wasn't a turtle, it was a tortoise, because it was a dry land species.

Storey: Oh, is that the difference?

Jonez: Pardon?

Storey: That's the difference between turtles and tortoises?

Jonez: Yeah.

Storey: That's interesting.

Jonez: They do migrate, to a degree, and one of the things that they were concerned about over in Arizona, which also has them, when they were thinking of building the various Central Arizona Project features, which was primarily canals, they were concerned about cutting off the migration path for the tortoise. I don't know exactly all that they found out, but they did do quite a little study on that, I do know that, and came up with some recommendations that I'm sure would help.

"The unintended consequences of a lot of our actions are never really fully understood until we have a situation come up to where you try to determine what is going on . . ."

There really isn't too much you can do for them, other than build fences, and they don't have to be high. They can't get over anything much more than a foot. So there were things that they could do that would help. The unintended consequences of a lot of our actions are never really fully understood until we have a situation come up to where you try to determine what is

going on, and that kind of a study I'm sure they did over in Arizona.

Storey: Was Nevada doing anything with these tortoises?

"Until the National Environmental Policy Act [NEPA] came into being and until people were trying to understand the environmental consequences of some of these things, really we had very little legal concern or people just didn't *think* about animals and fish and bugs and things, amphibians and reptiles, just didn't think of them in the same way that they do today. . . ."

Jonez: Not in those early years that I was there. I'm sure there's a better attunement, better thoughts today about things like that than there was then. Until the National Environmental Policy Act [NEPA] came into being and until people were trying to understand the environmental consequences of some of these things, really we had very little legal concern or people just didn't *think* about animals and fish and bugs and things, amphibians and reptiles, just didn't think of them in the same way that they do today.

"NEPA caused a lot of new concern about unintended consequences, and that's where a lot of times species do become endangered because of those unintended consequences that they never thought of. . . ."

NEPA caused a lot of new concern about unintended consequences, and that's where a lot of times species do become endangered because of those unintended consequences that they never thought of. For example, cold water coming out of dams *can* be a good thing. If it kills out all the native fish, then it may not be such a good thing. And so you need to know those kinds of things before you move forward into the planning phase of how you're going to get the water out of that facility.

"Those are the kinds of things that we started coming to grips with when we tried to write an environmental statement. . . . the first environmental statement we wrote, a far cry from what we ultimately were able to do. There was no guidance, really, from anybody . . . But the courts probably were the ultimate guidance producers . . ."

Those are the kinds of things that we started coming to grips with when we tried to write an environmental statement. I can remember the first environmental statement we wrote, a far cry from what we ultimately were able to do. There was no guidance, really, from anybody, other than the Council on Environmental Quality. They tried to give some guidance. But the courts probably were the

ultimate guidance producers, because when things got into court, you had to back up what you were saying in your environmental statement, and if you couldn't back it up, you went back to the drawing board and did it again.

". . . NEPA never said that we couldn't take the actions that we wanted to do. It just said that we needed to know what those actions did to the environment and the area around the project and that we were willing to accept those actions . . ."

If you won the case and you did make a good-faith attempt and you understood the environmental consequences before you took your action, it never said, NEPA never said that we couldn't take the actions that we wanted to do. It just said that we needed to know what those actions did to the environment and the area around the project and that we were willing to accept those actions before we asked for money for the project.

"It was difficult for our people to go to court. However, I'll say one thing. We did do pretty good in court as far as how well we came out in the end. Very few environmental statements did we lose in court. . . ."

It was difficult for our people to go to court. However, I'll say one thing. We did do

pretty good in court as far as how well we came out in the end. Very few environmental statements did we lose in court.

Storey: We're talking about Reclamation?

Jonez: Yeah.

Storey: Well, let's see. You went to Reclamation in '66.

Jonez: Right.

Storey: If you think back to those years when you were at Nevada Fish and Game, what kinds of *things*, what kinds of activities did you see going on in fish and game management, for instance, that were *changing*, that would ultimately cause the pressure that would result, the political pressure that would result in the passage of something like NEPA three years after you went to Reclamation? I would expect there's *something* going on. Do you have any insights into that?

Worked to Make Dredging Different than it Had Been

Jonez: Well, yeah. On the Colorado River, we had a dredging program which would straighten out the river, and there was a lot of people that were concerned about our activities on that–again, coming to grips with unintended consequences,

trying to understand what was happening. We even had a situation arise where we tried to, with the dredge, make a situation different than they would normally do. For example, instead of a straight cut, they would meander it. Instead of a depth all of one size or amount, they would make it deeper in some spots and shallower in other spots.

"This was going on without NEPA. This was going on because we were trying to have less concerns voiced about our activities. . . ."

This was going on without NEPA. This was going on because we were trying to have less concerns voiced about our activities.

Storey: Now we're talking about Reclamation now?

Opposition to the Central Arizona Project, Glen Canyon Dam, and Bridge Canyon and Marble Canyon Dams Might Have Contributed to the Push for NEPA

Jonez: Reclamation, yes. So that would be a kind of an activity that would give emphasis to having NEPA come about, because we were doing it because the regional director wanted those kinds of things done; but if he didn't want them done, he wouldn't have done them. People wanted more hold on Federal agencies at that time. So I

think the Central Arizona Project brought lots of concerns before it was built.

I think the fight over Glen Canyon Dam location was another example. If you'll remember, there was a couple of dams being proposed down in the Grand Canyon, and those were other issues that were vocal in that area. In fact, I remember some of the battles that they had, particularly over the dams in the Grand Canyon. That became quite a siege. And, of course, part of the–

END SIDE 2, TAPE 1. JUNE 23, 2000.
BEGIN SIDE 1, TAPE 2. JUNE 23, 2000.

Storey: This is tape two of an interview with Al R. Jonez on June the 23rd, 2000. This is tape two.

The unintended consequences.

"They built a powerplant at Page as a byproduct of that activity. In other words, instead of Marble or Bridge Canyon dam . . . one of the unintended consequences was the air quality degradation . . ."

Jonez: Yeah. They built a powerplant at Page as a byproduct of that activity. In other words, instead of Marble or Bridge Canyon dam they built a

powerplant, because one of the major issues was extra power, so this was a way to get it.

As time progressed, one of the unintended consequences was the air quality degradation around the plume of that park land. When you think you've solved a problem, you probably have, but you might have created another one.

". . . that's where NEPA really did its biggest good, I think, as far as an environmental statement, was the requirement to look at the unintended consequences of your actions. And sometimes that is pretty hard to do, but I think that's one of the things that NEPA brought about. . . ."

And that's where NEPA really did its biggest good, I think, as far as an environmental statement, was the requirement to look at the unintended consequences of your actions. And sometimes that is pretty hard to do, but I think that's one of the things that NEPA brought about. A lot of things could be solved earlier in the planning stage if you had enough knowledge to go through those kinds of what-ifs, and that's the kind of thing I think we ultimately needed and ultimately got.

Storey: While you were at Game and Fish, were there concerns circulating in *that* community about what was going on?

Jonez: Yeah, I think so.

Storey: What kind of issues were being talked about, do you recall?

Jonez: Well, I know the things I've already brought up, which was locally there, but up in northern Nevada there was concerns about the endangered fish on Pyramid. I can't think of any others offhand.

Storey: At that time, did you participate in any national organizations or anything?

Jonez: No.

Storey: Belonged to any?

Jonez: No. About the only organization I belonged to was the Desert Bighorn Council. I was active in it. And that was mainly a byproduct of my work.

Storey: How did you like transitioning from being a field biologist to managing a district?

"It's one of those things . . . you're either going to be a biologist all of your life . . . I enjoyed it, just

because it was a tremendous *challenge* being a regional supervisor. The same thing kind of happened to me when I joined the Bureau. I was a field biologist for the Bureau, and I ended up going to Washington . . . management-oriented. It was policy-oriented. . . ."

Jonez: Well, I thought I was pretty good, until I did it. It's one of those things that you have to make up your mind you're going to do, and that's–you're either going to be a biologist all of your life–and a lot of people are, and were–and deal with biological issues, get better at it until you finally become *world* renowned, or at least until you get good enough to have some activity show some good from what you're doing.

I enjoyed it, just because it was a tremendous *challenge* being a regional supervisor. The same thing kind of happened to me when I joined the Bureau. I was a field biologist for the Bureau, and I ended up going to Washington to work in the environmental office there, and ultimately became the director of the office there. *That* twelve-year period of my life was *different*. It was management-oriented. It was policy-oriented. Working up guidance for NEPA was a real chore, probably one of the biggest chores I've had. And coming back out here to Denver was a management activity again.

Storey: How did you transition over to Reclamation? How did that come about?

Chose to Go to Reclamation

Jonez: Well, it's a by-product of trying to get a promotion within my own organization. I was trying to, as regional supervisor the next step up would be to go into the headquarters office of Nevada, and I had put in for a couple of jobs. I didn't make it on any of them, and so I decided I was going to quit worrying about that.

Then I heard about this job that was being advertised over in Boulder City, and finally went over and talked to them about the job to see what, really, they wanted and whether I could provide any help or not. What finally sold me, was my interview over there, that it was worth trying. I could see that, from a pay standpoint, it would be better. From the standpoint of retirement, it would be better. At the time, of course, the job was kind of a field job, and so I decided to take it.

Storey: Who did you interview with?

Jonez: He ultimately became my boss, the 400 man out there. How soon you forget. Well, of course, the regional director, I did talk to him, but the 400 gentleman out there, I can't think of his name right offhand. But he was insightful. He

ultimately ended up being my boss, so he knew what he wanted in the way of help and made me realize that I could help him, the types of things they were concerned about. Of course, the dredging issue was one of them.

Storey: What other kinds of things?

Worked on Central Arizona Project Issues

Jonez: Well, there was others. I did work on the Central Arizona Project, helping them out on their activities.

Storey: Yeah, but in '66 it would have been planning activities, right?

Jonez: Right, planning. That's one thing that's kind of interesting in the Bureau. I was housed in 400.

Storey: Which was?

Worked on Dredging Issues on the Colorado River

Jonez: Was irrigation, drainage, land purchase, all of those kinds of activities. But then I ended up doing planning work with CAP, kind of a planning activity with the dredge, but it was both, 400-type concerns and planning concerns.

Worked on Pesticide and Herbicide Issues on the Yuma Project

I did work down at Yuma at the Yuma Project Office, and this was primarily concerns about pesticides and herbicides. They used a lot of them down there, and there was a lot of concern about their use.

Storey: Let' see, would this have been about the time the DDT stuff started up and everything?

Jonez: Yeah.

Storey: So what did they want you to do for them?

Jonez: Well, first they wanted me to try to determine what kind of fish kill we were getting in the canals, and so I set up a program to do that. They were also trying to get other products to use. One of the things that I recommended that they try was the tilapia, a fish that, like a carp, is a vegetation eater and does have some sporting capabilities, not much, but some.

Storey: And eatable, I think.

Jonez: And it is eatable.

Storey: By American standards, I mean.

Jonez: So those were the kinds of things that we would get involved in there.

Storey: And the idea being that the tilapia would then eat the vegetation in the canals?

Jonez: Right. Really, they didn't want to make the canals devoid of the life. They were trying to see a way to improve the life in the canal and still do the job. When your canal gets too full of vegetation, you can't run water through it.

We had a lot of research in here, over at the lab, on some of those things. We didn't, but they did over there, LaBounty and his crew.

Storey: They wanted you to be a field biologist.

Jonez: Yeah, which was all right. I didn't mind that.

Storey: How many others were there?

Jonez: At that time, none.

Storey: So what kinds of issues did you face? You were, in effect, the first environmental person, is that right?

Jonez: That's about right.

Storey: What kinds of issues did you run into as you were working with these people? Do you remember who the regional director was?

Arleigh B. West

Jonez: Yeah, A. B. West.

Storey: Did you ever talk to him about what it was you were supposed to be doing?

Jonez: Oh, yeah.

Storey: What did he have to say?

"He was ready to have some of those issues tackled. It's like anything else. It's all right until it creates a problem, and when it creates a problem, then you have to sit down and work it through. . . ."

Jonez: He was ready to have some of those issues tackled. It's like anything else. It's all right until it creates a problem, and when it creates a problem, then you have to sit down and work it through.

"I was making some recommendations, field recommendations, that weren't all that popular once or twice, and he backed me up, which was important. . . ."

I was making some recommendations, field recommendations, that weren't all that popular once or twice, and he backed me up, which was important. Otherwise, I would have left. But *I was* getting support, so that was the important thing.

Storey: At that level, it's very helpful.

Jonez: Yes.

Storey: But what kind of opposition were you getting?

". . . people who had been there for thirty years with the Bureau, I just didn't know enough for them about their activities. And so when I was asking, I was getting answers that I didn't think were right . . . Finally, they would come clean on the issues, and then we could make progress. . . ."

Jonez: Well, people who had been there for thirty years with the Bureau, I just didn't know enough for them about their activities. And so when I was asking, I was getting answers that I didn't think were right, and so I'd work them over. Finally, they would come clean on the issues, and then we could make progress. But it's interesting. This happens a lot in life, I found out later. I had the same type of activity going on back there in the

headquarters office. Again, it was some of the people that were there had been there all their life, pretty near, and just didn't think an upstart should come in and upset the process.

Storey: I was just going to ask if you remember what grade you came in at or what salary.

Jonez: Let's see. As I remember, I went in as a 14.

Storey: Really?

Jonez: Yes.

Storey: For a field person?

GS Grades in Reclamation

Jonez: Well, see, I'd been a 13 out in the field.

Storey: No, I'm asking about when you first came to Reclamation. I'm sorry, I wasn't clear. You're talking about when you went to Washington, I presume.

Jonez: Yes. I came in as an 11, and A. B. West told me that if I made it through a year and he was satisfied, I could get my 12, which I did.

Storey: You talked about dredging. That was Corps of Engineers, is that right?

Reworking the Dredging Program for Biological Purposes

Jonez: No, in this case it isn't. One of the few programs that the Bureau did with the dredge was there.

Storey: Oh, that's the Colorado River rather than the Corps. Were they trying to do this meandering and variation in depth and so on before you came or is that something you helped create?

Jonez: That's something I helped create.

Storey: And this was for visual purposes, or what?

Jonez: Visual, obviously. But, no, it was more for biological resources. Some of the old activity of the Colorado River, the natural meanderings that it did, did make some nice areas along the lower river. When we would go in and straighten out the channel, while it did the job that they were trying to accomplish, and that's move the water from A to B with the least amount of effort.

Storey: And the least loss, I'll bet.

Jonez: Least loss, yeah, that's right. Each little back bay caused some evaporation. These were some of the things that I had to learn. But likewise, if you're going to try to make it so the people can live with it who live there, make it look nicer and

provide additional activities, that was a good task, too. Not always could we accomplish it. We found there was times that, when you had high flows, again, you could lose some of that type of activity, and that was something we had to factor into it.

Storey: What kinds of habitat were you trying to help with when you were doing this kind of stuff?

Wanted to Create Marsh Habitat along the Colorado River

Jonez: Marsh habitat.

Storey: Creating marshes. And that would be expected to do what?

Jonez: Be a source of environment for wading birds, ducks, geese, beaver. There were a lot of beaver on the old river. Before they put in Davis Dam, there was a lot of beaver down in the lower river. They ended up leaving, ultimately because when Davis filled, there wasn't any food for them. The beaver took off to the south, and we started picking them up down below.

"The beaver in that river were big . . . They didn't have the kind of a beaver lodge that you see . . . These beavers lived in caves that they shaped out of the bank of the river. . . ."

It's kind of interesting. The beaver in that river were big, six feet, five-, six feet long, weighed probably forty-, fifty pounds, *great big* things. They didn't have the kind of a beaver lodge that you see when you see most of your *Nova*-type programs on beavers. These beavers lived in caves that they shaped out of the bank of the river.

Storey: Interesting.

"One of the things that we were trying to accomplish was to keep the water running through that oxbow, and so they would put in culverts to keep that oxbow fresh . . ."

Jonez: These areas that we were talking about, when the river went across a piece of land, and you tried to make that better there, you also cut off an oxbow over here in doing that. One of the things that we were trying to accomplish was to keep the water running through that oxbow, and so they would put in culverts to keep that oxbow fresh so you didn't lose it, because ultimately you would lose it. So those are the kinds of things I had to think about.

Storey: So you were out there quite a bit, I guess.

Jonez: Yeah.

Storey: How long was it before Reclamation hired somebody else like you?

"Utah, the office there, probably had the next biologist, Harold Sersland. . . . and then all of the regional offices eventually built up a staff of biologists and ecologists. . . ."

Jonez: It wasn't too long. Utah, the office there, probably had the next biologist, Harold Sersland. I remember Harold going to a *tête-à-tête* with, as I remember it was Barney Bellport. We were sitting in a meeting, and Barney said something and Harold bristled. So they had a *tête-à-tête* right there. But Harold was probably the next one, and then all of the regional offices eventually built up a staff of biologists and ecologists.

Storey: How about Amarillo?

Jonez: Ultimately. It took a while.

Storey: Why was that?

". . . we had a regional supervisor there that really wasn't all that excited about it, about having a biologist. When they finally got a biologist and the gentleman came to the regional office . . . his desk was out in the hall. . . ."

Jonez: Well, we had a regional supervisor there that really wasn't all that excited about it, about having a biologist. When they finally got a biologist and the gentleman came to the regional office to find a place to sit down and have an office, his desk was out in the hall.

Storey: Do you remember that guy's name?

Jonez: Al Hill.

Storey: This was the biologist?

Jonez: Yes.

Storey: Do you remember who the regional director was?

Jonez: I can't remember his name. It was interesting. How I happened to know, I called him when he just got on board, and he said, "Well, when I get my office–"

I said, "It doesn't sound like you're going to get it very soon."

Storey: Yeah, I'm afraid that's a famous story.

Now, the dredging we're talking about was on the Colorado River.

Jonez: That's right.

Storey: And we were basically trying to make it so that the water flowed to our satisfaction. What about CAP? What was going on there?

Jonez: Planning for the canal and how far it should go, what size should it be. There was concern about animals crawling into the canal, concern about turtles falling into the canal.

Storey: The desert tortoises?

Jonez: Yeah. As I remember, and I can't remember all of it now, it's too far back. There was also a lot of concern about dams, and I don't think there was any dam projected there. I can't remember now offhand. It seemed to me that more of the concern was with the canal and those things. Also some concern about trying to make the canal a little more pleasant looking. That became an issue. They even tried some planting along reaches of the canal to see if they couldn't do something that would enhance the looks of it.

Storey: How were you involved in that?

Jonez: They were asking me if I knew of this being done. As it turned out, I didn't. But I did go out and do some research and talk to people who should know how to do things like that. We ultimately

did try it, and it worked. I was amazed at how well it did turn out, when nobody had ever tried it.

Storey: When they were doing this, were you still in the regional office or did they send you down to CAP for a while, or how did that work?

Jonez: They'd send me down for a week or two weeks.

Storey: But they didn't reassign you or anything?

Jonez: No. No, it was a peculiar hybrid in our organization at that time, because the organization had their 700s and their 400s and all of the numbered organizations. But the 700 planning office didn't have any biologists, so I ended up doing that for them. And that's kind of the way A. B. West wanted it. That way he kept his fingers on it.

Storey: How was he as a regional director? What was he like?

Jonez: I thought he was real good. We didn't see eye to eye on everything, but I didn't feel I had to. He didn't create a situation that would make it unbearable. He wanted me to come and do what I could do, and recommend what I could recommend, so he wanted that kind of thing going on. He didn't mind that I would get my tail

feathers singed once in a while. That was all right.

Storey: Do you remember any of those instances?

Jonez: No. They weren't that big.

Storey: What was–let's see, how should I ask this? What was the regional office like there in the late sixties while you were there?

Jonez: Well, of course, I didn't really have anything to judge from, because that was the first job I had, and walking in that position, I–

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BEGIN SIDE 2, TAPE 2. JUNE 23, 2000.

Storey: As to whether–

Jonez: Whether we were doing things like everybody else or we weren't. At that time, the regional director and the regional engineer were very strong people in our organization. They are even today, but at that time, I felt they were pretty significant. And I guess that's the way I looked at Mr. West. He was a very, at least with me he was straightforward, and I enjoyed working for him.

Social Life in the Region

Storey: What was the social life like at the region?

Jonez: There really wasn't a lot. I can't even remember a get-together.

Storey: No Christmas parties?

Jonez: Oh, I guess probably we had a couple of Christmas parties, and I think when somebody would leave, we'd have some kind of a get-together. But that would be about it.

Storey: Boulder City, in a lot of ways, was a Reclamation town. In those days, what was it like living in Boulder City?

Jonez: Well, I enjoyed it. I lived there when I was with Nevada Fish and Game, and when I was working for the Bureau, I was *living* in Las Vegas, so I commuted every day.

Storey: Oh, you did?

Jonez: Yes.

Storey: When you worked for Nevada, you lived there. The first stint or the second stint?

Jonez: The first stint with Nevada, I lived in Boulder City in a little community called Nelson down on Lake Mohave. And then when I went north, I

came back, and then I was the regional supervisor, and I got a house in Las Vegas. When I left that job and went to the Bureau, I stayed where I was living and I just commuted.

Storey: Out to Boulder City.

Jonez: Out to Boulder City.

Storey: Oh, okay. So you never actually lived in Boulder while you worked for Reclamation.

Jonez: That's correct, while I worked for Reclamation. I really couldn't afford to change houses just for that twenty-, thirty-minute drive.

Storey: So when you were working for 400, they didn't have parties either?

Jonez: Occasionally, but not often.

Storey: How many people in 400?

Jonez: Oh, golly. Maybe twenty-five or thirty. They had a pretty big land program and recreation. There was a recreation person in their office. They did have a fairly good activity on keeping track of the water in the '60s, a thing as big as this wall here.

Storey: Something like maybe 14-by-8, huh?

Jonez: Yes. They knew what was going on on that river daily, hourly. Fantastic. And it came in handy when they needed it, no doubt about that.

Storey: Who were some of the other people you worked with? Other biologists, maybe?

Jonez: Yeah. I can't call them to name. No, I can't even call them to name now.

Storey: Okay.

Jonez: I'm getting senile.

Storey: I doubt that, but any other major activities?

Jonez: No, that was about it.

Storey: While you were there. So how did the transition to Washington come about?

Applied to Work in the Office of Environmental Affairs in Washington, D.C.

Jonez: Well, they advertised for an assistant to the gentleman that was the director of the Office of Environmental Affairs back there, and so I put in my application, résumé, and, lo and behold, I got hired. So I ended up having to uproot everything. That's when I did uproot and went back there.

Lived out in Fairfax, Virginia, and I spent twelve years there.

Storey: Um-hmm. '71 to '83, was it?

Jonez: Yeah.

Storey: What did the assistant to the director do?

Jonez: I did all the grunt work, and he did all the other work. That's why you get an assistant.

Storey: What kinds of stuff was it? What was the Office of Environmental Affairs doing?

"At that time, we were trying to provide guidance on NEPA, and that probably was what I did more of than anything else, because we had back there, just like we had in the region, we had the 200, the 400, the 600, the 700, all the people in various offices around there, and they were providing guidance. . . ."

Jonez: At that time, we were trying to provide guidance on NEPA, and that probably was what I did more of than anything else, because we had back there, just like we had in the region, we had the 200, the 400, the 600, the 700, all the people in various offices around there, and they were providing guidance.

"We were getting into trouble there, getting some cases in court, and we weren't winning them right off the bat, because we just weren't doing the right job. . . . my biggest task for the first four or five years, was to get NEPA flowing and working, getting environmental statements that we could live with in court . . ."

We were getting into trouble there, getting some cases in court, and we weren't winning them right off the bat, because we just weren't doing the right job. So that was my biggest task for the first four or five years, was to get NEPA flowing and working, getting environmental statements that we could live with in court, understanding what the consequences of our action was, so when a regional supervisor recommended to the commissioner that such and such be done, this is the environmental consequences of doing that.

The Commissioner Had to Approve the Office of Environmental Affairs Taking the Responsibility of Providing NEPA Guidance to All Reclamation Offices since Many Felt the Office Was Assuming Too Much Control

So that became my biggest chore, was working with these various staff people in the various divisions, but we had to really go to the commissioner at that time and ask that we be

given the authority to do these things, because there was a lot of concern that, just like being in the region, there were a lot of concerns about these people down there in that environmental office taking on a lot of responsibilities.

"That part was the hardest. . . . Taking on all of the other divisions and making one set of instructions coming out, policy instructions coming out from the Washington office. . . ."

We were trying to get environmental statements, the quality brought up, and so we were also kind of stepping on some of the toes of the regional directors, but it needed to be. It wasn't going to get straightened out unless we did it that way. So that's the way it ultimately went. It took time. That part was the hardest.

Storey: Which part is that, now?

Jonez: Taking on all of the other divisions and making one set of instructions coming out, policy instructions coming out from the Washington office.

Storey: So this was written guidance? This was not them calling up and saying, "What do I do?" and you said, "This is the way you do it"?

Jonez: No.

Storey: And it took five years to write our guidance?

"We wrote [NEPA guidance] . . . several times, but it took at least five years before they were really a good set. . . ."

Jonez: We wrote them several times, but it took at least five years before they were really a good set.

Storey: So you're saying we operated under several *successive* sets of guidance?

Jonez: Yeah.

Storey: Oh, I see. And what did rewriting mean to you? How did you go about doing that?

Jonez: That was strictly sit down and go through NEPA and try to understand the act, and then take that into our operation and maintenance activities, our construction activities, because we had ongoing construction at that time in a lot of places.

The Issue of Whether Environmental Statements Should Be Written for On-going Projects

Some of the regional directors did not want to do an environmental statement on an ongoing project. My feelings on that was kind of ambivalent, I guess, at the time, but I look back on it now, I was probably pretty straightforward,

thinking they had to do them. They didn't *like* that at all. The regional directors thought that if they had started a project, they could carry it to completion, and basically that's what happened in most instances. But we still went and made an environmental statement on their ongoing activities, and then, of course, looking out ahead at what is going to be the unintended consequences of our actions. So those were some of the things that your 200 people, your 600 people, your power people, building power lines or getting ready to build them, no environmental statement. So we put them on slow track and had them do their environmental statements first.

Storey: Let's go through these numbers. Two hundred is?

Organizational Designations Within Reclamation

Jonez: Construction. Four hundred is operation and maintenance; 600 was power; 700 planning; and as I remember 1200 was the snow pack program.

Storey: Who hired you to go to D.C.?

Jonez: Actually, the commissioner did.

Storey: Who was that?

Jonez: I'm trying to think. Who was the fellow from Utah that was in the Highway Department there?

Storey: Ellis Armstrong.

Jonez: Armstrong, yes. Yes, that's who I came to work for.

Storey: And he actually–

Jonez: Oh, I don't know whether he did or my ultimate boss did.

Storey: And who was your boss? I can tell you're the way I am with names. I don't remember them well.

Woody Seaman

Jonez: I don't, either. Seaman, Woody Seaman.

Storey: S-E-A-M-A-N?

Jonez: Yeah.

Storey: So you got there, and NEPA had just been passed, let's see, two years–well, really a year before, maybe, a year and a half before.

Jonez: Yeah.

Storey: How was Reclamation dealing with the NEPA process when you arrived as opposed to when you left that position, or that five years?

Each division was directing NEPA compliance, and "The divisions never worked together. They worked separately because they had a [separate] responsibility. . . ."

Jonez: I would say they didn't know what to do. They tried to perceive what to do, and they did it. And really, until there was–again, this was guidance from each one of these divisions coming out of national headquarters. And I'll say one thing. The divisions never worked together. They worked separately because they had a responsibility in that arena. And so really until we had the environmental office and took on the responsibility of trying to put guidance out, these people felt that they were putting it out, and they were. Each one of the division heads was taking care of his own NEPA responsibilities.

Storey: So the electricity folks had their own set, the 400 folks had their own set. Now, were you in 400, were you in 700?

Jonez: When I went back there, no. When I went back to the headquarters, I was in the environmental office, even though there was only two of us and a secretary, but that was it. We were under the commissioner.

Storey: Just like the other division chiefs?

Jonez: Yeah.

Storey: What was your code?

Jonez: Jesus, how could you ever forget? 151.

Storey: I've forgotten all of the units I've been in except the one I'm in right *now* at Reclamation. I can't remember any of those kinds of things.

Jonez: Well, you're digging back quite a ways, anyway, on this.

Storey: Do you remember anything about a meeting in Tucson that had to do with environmental issues?

Jonez: How long ago?

Storey: Right about the time you went to this office, maybe within a year or two or three.

Jonez: Tucson. Yeah, it seems to me I do.

Storey: Do you remember anything about it, what it was about? Did you go to it?

Worked on the Central Arizona Project While in Washington, D.C.

Jonez: It was about that sector of the canal on the Central Arizona Project. There was a lot of controversy

over whether that reach should be built, and I think the tortoise was one of the issues. That's about all I can–

Storey: Do you remember anything about a planning conference?

Jonez: Yeah.

Storey: Trying to deal with NEPA issues. This is Reclamation-wide, not just something related to–what was that about, if you recall?

Jonez: Probably dealing with the guidance that we were trying to put out. You're picking these up out of other testimony?

Storey: Other interviews, yes. How did you go about developing these guidelines? Did you just sit there and write it and say, "Here Mr. Commissioner, please sign"? Or how did this work?

Development of NEPA Guidance

Jonez: No. I brought in from all of the regions their thoughts about what we should have, and, of course, naturally everybody had a different idea. And then I asked our Washington division heads to give me some input. I went to NEPA, the law, and broke it down, and looked it through, and

tried to understand it, and then I went to the lawsuits that were coming out, and looked at those issues. And then I put together a draft set of guidance, and I sent them back out to the people that had helped me and asked them to look at the draft, see if it was going to do the job. And then I probably had several planning O&M meetings around to try to make sure we were on the right track, we weren't just spinning our own wheels.

We had several meetings that I put together, and we'd go through these instructions, and eventually I brought them back and put them out in final form. By that time, they were in pretty good shape. I went to the commissioner–I think it was probably Gil Stamm at that time– and told him if we could get these out and follow these, at least we should be doing what NEPA requires us to do, and he agreed and signed them and sent them out.

"Of course, by the time everybody out in the field got them, you could tell that not everybody got involved in the early planning of the instructions, because I was still getting comments back from that a year later. . . ."

Of course, by the time everybody out in the field got them, you could tell that not everybody got involved in the early planning of the instructions,

because I was still getting comments back from that a year later. But anyway, it did work.

Storey: When you were gathering input, did you bring people to Washington or maybe you went to Denver for a meeting, or how did that work?

Jonez: I mostly went out.

Storey: Go to each region?

Jonez: It's too hectic to try to do it in the national office. Too many things going on. And so I would go out into the field and have the meetings out there.

Storey: Did you bring everybody together in a room to discuss or just individually?

Jonez: No. I usually had the crew put together. I would have the regional environmental officer put together the group that should be there at the meeting, and they would set it up and they would run it. I had to realize that I didn't have enough experience on day-to-day concerns of their region to be concerned about all the things that they should be concerned about, and we got into a couple good arguments on whether they should even do an environmental statement. Some of the regional directors kind of won out. They never did do it on some things, and as long as they didn't get nailed in court, they didn't care. But

most of them were very knowledgeable about what they were trying to accomplish.

Storey: In the meantime, beginning, I guess, in ‘70 sometime, probably, we had responsibility for these environmental studies. How was that being handled within Reclamation?

Jonez: Basically by the regional director. Again, this thing of divisions and responsibilities to the regional director, the way we were set up, the regional directors had to do it. They would get advice from us. They would get advice from the commissioner. We would write the advice. But again, most of the times the regional directors could tell that they needed it, they needed these studies to come to grips with the issues.

Storey: Say they prepared a study. Say they decided they needed a study. Where was that done, and who did it, and what kinds of approval processes were involved?

Jonez: Well, for example–and I don’t know all of it. They did a study on the Colorado River, in the upper reaches of the Colorado River, to determine what the flows in the river were required to scour out sand and all of those things in the Grand Canyon.

Storey: This is while you were there in Washington? This is the recent study?

Jonez: It's the recent study. I was just about leaving at that time. But the regional director set up a team, and his environmental officer was the crux of the team, he and several others. They put together this study, and it was so expensive that, as I remember, they had to get special dispensation to do it. But the regional director was basically the kingpin on setting it up and doing it.

Storey: And then what happened to the study after the region had prepared it?

Jonez: It depended upon what the recommendation was. In most instances, the recommendations can't be followed in all cases, just because the law won't allow them. It would require a change in the law. And so a lot of times the studies would come up with information that really couldn't be acted upon.

I think they did act upon this recommendation to provide large flows of water down through the Grand Canyon to act as similar as they could to what happened in the early days, when you had a flood effect of some kind come down through the Grand Canyon, move the silt around, move the vegetation around, move the fish around. They've tried a couple times to see

what they can accomplish with that. It's important that they do it. This was all done after I left, but that was a monumental study, really, bigger than you would ever expect.

Storey: Well, we've used up two hours.

Jonez: My gosh, we have.

Storey: I'd like to ask you again whether or not you're willing for these tapes and the resulting transcripts to be used by researchers.

Jonez: Yeah.

Storey: Great. Thank you very much.

END SIDE 2, TAPE 2. JUNE 23, 2000.
BEGIN SIDE 1, TAPE 1. JULY 6, 2000.

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing Al R. Jonez, on July the 6th, 2000, in Building 67 on the Denver Federal Center. This is tape one.

Developing NEPA Guidance at Reclamation

Last time we were talking about the NEPA [National Environmental Policy Act] guidance process while you were the assistant to the director of the Office of Environmental Affairs.

Tell me about what kind of process you folks went through at that time to get guidance through the Reclamation process.

". . . it really just kind of fell in place as time went on. . . ."

Jonez: Well, I guess we looked at Reclamation instructions, different documents, and found out that none of them really fit the mold of what we were trying to accomplish, and so we kind of made up our own. As we went along, we refined it, and when we sent it out for review, we got comments on format as well as content. So it really just kind of fell in place as time went on.

Storey: Were there any meetings, for instance?

Jonez: Oh, yes.

Storey: And who would be brought in, and all that kind of thing?

Jonez: Well, what we would try to do is have a meeting in each region and let the regional environmental specialist handle the meeting and set it up and invite the people that he thought needed to be there. If they needed advice, they just called in and we'd yak a little bit on the phone about, "Yeah, that's a good idea," or, "No, let's try it another way."

But most of the time it worked out quite easily, no major glitches at that time. We were trying to put together something that would last for years and be helpful to our people for many, many years to come, because I felt that NEPA was going to be with us.

Of course, one of the things that was obvious is that as time goes on, you've picked up the old projects and did what you needed to do there, and then we didn't have an awful lot of new projects coming down the line, so it wasn't a matter that you're going to have something that you couldn't handle. It was something that would fit right into your normal planning process, for example, or into your O&M activities if you needed it that way, or construction.

Trying to Anticipate the Kinds of Discoveries That Might Require Attention During Construction Activities

You always found that as you moved forward in the construction phase, a lot of your NEPA process that you did before then, while it was adequate for the purposes of NEPA, there were times that we found things coming up that we didn't anticipate–dinosaur bones, for example, or wattle & daub construction activities in an area that we didn't realize that that's what it was. In other words, we didn't know that ahead of time.

When the shovel and the construction bucket hit something that it didn't know what it was, then we'd get the archeologist out and go through another process right on that given activity.

So you always have the construction aspect that you try to make sure you have enough knowledge and enough concern for the various things that could come up, that you've covered them all, but just like these two examples I was telling you about, those are things that just came up that we didn't expect. Or if we did expect them, then we knew we would have to do something different when it did happen.

Storey: Do you remember the first environmental statements? (Jonez chuckles. Yeah.) Tell me about them.

Reclamation's First Environmental Statement Was about Six Pages ". . . and the people that wrote it had no more idea what they were writing than you can imagine, because they really had no guidance. None of us had any guidance at that stage. . . ."

Jonez: It was about six pages, and the people that wrote it had no more idea what they were writing than you can imagine, because the and the people that wrote it had no more idea what they were writing than you can imagine, because they really had no

guidance. None of us had any guidance at that stage. y really had no guidance. None of us had any guidance at that stage.

"We did ask the Council on Environmental Quality people . . . They wanted something considerably more detailed and considerably more professional, not just done by a reports writer that, while he was good at English . . . didn't necessarily know the aspects of what he was dealing with. . . ."

We did ask the Council on Environmental Quality people, "Is this what you were looking for?" And in essence, it wasn't. They wanted something considerably more detailed and considerably more professional, not just done by a reports writer that, while he was good at English and had a good penmanship hand, he didn't necessarily know the aspects of what he was dealing with.

Storey: Do you remember which project that was?

Jonez: Oh, golly, no, I sure don't.

Storey: Did we have to redo it, do you remember?

Jonez: No, no, we didn't. Strangely enough, we decided that that was our best effort at that moment in time, and go on from there. It wasn't a big

project, as I remember, but I can't, out of my head, pull it up.

Storey: Did we talk about the Tucson meeting?

Jonez: Yeah.

Storey: We did. How did the environmental statements change while you were at Reclamation?

Changes in Environmental Statements over Time

Jonez: Well, I suppose they got bigger and bigger and bigger.

Storey: Why was that?

". . . as we wrote our guidance, we included things that our people just weren't used to doing, and so consequently there was things come up that we needed to cover. . . ."

Jonez: Well, a couple of reasons. One is that as we wrote our guidance, we included things that our people just weren't used to doing, and so consequently there was things come up that we needed to cover. Well, for example, we did a lot of engineering on inlet structures into dams coming in from the topside and, of course, how it gets through the dam, and where it discharges.

". . . we got to looking at issues that we *hadn't* been looking at before, such as water temperature and water quality, and all of these things all of a sudden splintered off into new areas of concern. . . ."

Then we got to looking at issues that we *hadn't* been looking at before, such as water temperature and water quality, and all of these things all of a sudden splintered off into new areas of concern. We knew that we had some structures that would be fairly large and fairly deep, and that we would have situations where we would have colder water than we really wanted, wanted from the standpoint of the fishery that we were going to try to live with downstream. Of course, this also doesn't necessarily mean that we're talking about trout or game fish of that type. It could be native fish that we were concerned about. In a situation like that, you probably needed a lot warmer water than you would have if it was a salmonoid of some type.

"So it brought new studies into the construction thinking. In other words, it was more than just the construction aspects of it and those planning aspects, but it also started to get into other realms. . . ."

So it brought new studies into the construction thinking. In other words, it was

more than just the construction aspects of it and those planning aspects, but it also started to get into other realms. So those made the statements bigger, those issues.

It also required our people to do some additional engineering work. Of course, it wasn't unusual to find out that they didn't know how to look at those kinds of issues. So our environmental people that were coming on, this was part of *their* task, was to make sure that these issues got covered adequately. So as we went along, and it wasn't long before we had bigger environmental statements.

"The courts also did a lot for us, from the standpoint of giving us some guidance . . ."

The courts also did a lot for us, from the standpoint of giving us some guidance, not necessarily on our own environmental statements, because we didn't have too many of them go to court, but we did have some, and that taught us some valuable lessons. But when we didn't cover a subject adequately, we could see that in the future we needed to make sure we did a better job on that given issue.

Distributing Environmental Statements and Holding Public Meetings to Obtain Comments

That is the way you learn. You see what other people are doing, and there was a lot of environmental statements starting to show up on our desks that were from other people. One of the processes that we designed and made sure was working was that when we got to the draft stage to where the document was ready to review, that we made sure we tried to get the correct names and addresses and the correct people to send the document to.

We also needed to have a setup organized to have a public hearing on it. One of the things about NEPA was the fact that it did require a lot of public participation, and so we had to allow for those in our time frame of putting the document together and also in the time frame of revising it once we got the comments in during the comment period. We would allow for the written comments and we would have usually at least one or two public hearings that allowed people to tell you things verbally.

These are all things that ended up in the instructions were these kinds of details, and it helped because usually the environmental statement was put together initially at the lowest level of the organization, the team that was doing the planning, if that's what it was, or the team that was doing the construction, getting ready for

construction, or getting ready for an O&M activity.

Roy Gear Was His Supervisor in Boulder City

I was going to mention that on the way home from our last meeting, I remembered the name of the fellow that you were asking me who my supervisor was in Boulder City. It was Roy Gear. I'd forgotten his name for some reason or other. When I was driving home, I thought, oh my gosh, how soon you forget.

Anyway, the lowest level of reports writing or construction activities associated with doing the planning of a construction activity or an O&M activity, these are the people that *tried* to write the environmental statements. The guidance we gave them helped them organize the environmental statements, helped them decide who to send them to for review. And when we got a reasonably good environmental statement from another agency, we would try to pass these around to our staff people so they had somebody else's product to look at, as well as our own. We would send our own around, too, especially if we had one we considered as a good one. Maybe it stood a court test, maybe it didn't even get one, but that kind of activity helped out because it was a learning process.

When they wrote NEPA, they wrote it and it was fairly general, the write-up of it, so it really became an issue that each agency had to deal with themselves, because the responsibility was back on the agency. The Bureau was responsible for its environmental statement work. They were responsible if they went to court, to be there as a witness. If there was issues that were raised that couldn't be answered, you ended up usually losing the case and the judge giving you a year or whatever time frame to redo it and bring it back.

"The judge didn't try to make these decisions as to whether it was adequate . . . if they were really concerned about an issue–'they' being the public–they were able to find 'experts' that could tear you apart . . . our people that did go through that process, it wasn't hard to convince them that they needed to do a better job in the future. . . ."

The judge didn't try to make these decisions as to whether it was adequate or not; that kind of came out of the public hearing, because usually if they were really concerned about an issue–"they" being the public–they were able to find "experts" that could tear you apart if you didn't do your homework. The ones of our people that did go through that process, it wasn't hard to convince them that they needed to do a better job in the future.

"We'll always have a certain amount of O&M activity that will end up with some kind of a NEPA document. . . . we tried to put a handle on . . . [when] do you go to an all full-blown environmental statement that takes a lot of time and money to put together, and when can you get by with something less. . . ."

Ultimately we may run out of new construction projects. We'll always have a certain amount of O&M activity that will end up with some kind of a NEPA document. That's the other thing that we tried to put a handle on was [when] ~~where~~ do you go to an all full-blown environmental statement that takes a lot of time and money to put together, and when can you get by with something less. That becomes kind of one of those issues that you live with, keep your fingers crossed, and if you make it, you did it all right.

Making a Negative Determination about the NEPA Process

This is what we called a negative determination. What they were was a mini-environmental statement that kind of got to the issues that are before you, looked at the impacts that were going to happen, and decided that the impacts were not of sufficient magnitude to

require an environmental analysis that went the full-blown environmental statement.

"NEPA didn't require the agency to not do a project . . . What NEPA required was a responsibility to determine whether the impacts are significant or not. . . . if they were and you, as an agency, felt it was something that you could live with and you were willing to go ahead . . .You didn't have to not do a project because there were impacts, but you did have to know what those impacts are and trying somehow to let people know that, yes, you've looked at it and you're going ahead irrespective of those impacts. . . ."

NEPA didn't require the agency to not do a project if there were impacts associated with it. What NEPA required was a responsibility to determine whether the impacts are significant or not. If they aren't, that's one analysis. Or if they were and you, as an agency, felt it was something that you could live with and you were willing to go ahead with, knowing full well there were these kinds of impacts, that was your responsibility to do. You didn't have to not do a project because there were impacts, but you did have to know what those impacts are and trying somehow to let people know that, yes, you've looked at it and you're going ahead irrespective of those impacts.

What we ended up doing there was, in essence, putting a letter together that, in essence, said that, and that was sent out to the people that would normally receive your environmental statement and that allowed them to look at what you decided, and if they want to take you to court, that's up to them.

". . . NEPA was a strange law from the standpoint that we just weren't used to that kind of analysis, and it took a while for us to get geared up as an agency to where we could do a good job of an environmental analysis. . . ."

So, NEPA was a strange law from the standpoint that we just weren't used to that kind of analysis, and it took a while for us to get geared up as an agency to where we could do a good job of an environmental analysis.

Storey: I would think it was costly.

"It wasn't easy for our people to change their way of doing business, but they did. . . . "

Jonez: Cost money, yeah. And what we found is that we needed our own people at various levels of our organization that had the capability to work within their own organization so they understood what they were trying to analyze. It wasn't easy

for our people to change their way of doing business, but they did.

Storey: Do you remember any stories about that kind of activity?

Jonez: [Chuckles] Well, probably the–let me do a little thinking now. There's probably some of that activity going on right now with respect to the bridge across Hoover Dam or downstream from Hoover Dam.

Hoover Dam Bypass Bridge and the Impact on the Desert Bighorn Sheep

Storey: The Black Canyon Bridge, I think they call it.

Jonez: That's what it is.

Storey: It's being proposed.

Jonez: It's being proposed. One of the things that we knew was going to be of concern was what effect this new structure and the ultimate traffic and other roads and things that are more needed, what were the impacts to the desert bighorn sheep. The bighorn sheep was common in that area, been there as long as man knows about them, and I'm sure that that's one of the things that we'll have to come to grips with, is what will the impacts be to

those creatures. That's one that they'll be working with for a while.

I still go to the Desert Bighorn Council meetings every two or three years, just to keep my feet wet, but I'm impressed with the work that the Bureau and Nevada and Arizona and the Fish and Wildlife Service have been doing on that issue, and doing some additional work to make sure they understand fully what the impacts are going to be or could be.

Right now, today and yesterday, and once or twice a year cars hit the bighorn sheep as they drive down towards the dam, and so that issue has to be analyzed to see whether it's going to be worse, better, and then if it's going to be worse, is there any ameliorating activities that you can do? If it's going to cause less problem, that's just knowledge, that gave you that information. But that's the type of thing that we're looking at in the future.

One of the things that they've been doing is tagging the animals and following them with the proper radio equipment, to understand where they live the year around. Are they always in that area or is that just one area that they go into, the area around the dam? But that's a classical example of something that I'm sure wasn't your sole concern when you started thinking about

putting another bridge across the canyon and rerouting the traffic.

Storey: Who was the director of the Office of Environmental Affairs when you went there?

Woody Seaman

Jonez: Woody Seaman.

Storey: And what was he like?

Became Director of the Office of Environmental Affairs

Jonez: He was an ecologist, fisheries biologist, ecologist. We shared the work in the office. There was two of us, plus a secretary for each of us. It was one of those things where you had enough work for both of you twice over. He did most of the traveling to start with. I had more than enough to do to get these instructions on the way and other things like that. Ultimately, when did–let's see. I'm trying to think when the dam broke on us.

Storey: June of '76, I think.

Jonez: '76? Yes. That was the day that I became the director of the Office of Environmental Affairs, was the day that that dam broke.

Storey: Where did he go?

Jonez: He went to the Fish and Wildlife Service, and I don't know where he is now. I'm sure he's retired.

Storey: He went to Fish and Wildlife Service in Washington?

Jonez: Yeah.

Jonez: Do you know what he was going to be doing?

Jonez: No.

Storey: So how did your job change when you became the director?

Jonez: Well, some of the things that I had been pushing for and not getting, I was able to do on my own and push them forward. Whether they were better or not, time, I guess, will tell. I guess it really didn't change all that much. I was doing pretty much most of the office work anyway, so that didn't change. I did get a couple more fellows to help me. We put together a library of environmental statements for the Bureau, and we became a office that did send out most of the environmental statements from the Washington level, at least. We found that worked out better.

Also when the public wrote to us and asked for environmental statements, our office had a supply that they could send out.

Storey: Which ones would have been sent out of Washington and which ones wouldn't, and where would they have been sent out of?

Jonez: Okay. If you're going out for a normal distribution, the Washington office would send out ones to the heads of the agencies, EPA, for example, Forest Service or BLM [Bureau of Land Management], whatever, whoever should be getting that statement. We would put together the package and the commissioner would sign it, and out they would go.

We would coordinate–

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Storey: ...coordinate with?

Jonez: We would coordinate that distribution with the region who would be putting out the bulk of the rest of the documents. Their environmental office would do that just like our environmental office did it in Washington.

If there were any additional documents needed, then we would get a supply from the region so we would have a supply on hand, and then, of course, you always have a news release of some type and usually a document in the *Federal Register*, the availability of the document. Those usually came to us and we would send them out, those requests, because usually they were from the Washington level that they were coming from.

We spent a lot of time trying to refine the instructions, and what we found that was more practical, probably, you can only write the instructions so many ways, and then it really becomes a job for the person that was doing the task if he needed additional help to go somewhere for it.

What we also tried to do to help that person was put out a manual like the planning people put out for their people, and tried to put together a document that would give them some guidance at all levels, but primarily the level that was going to do the environmental statement. That became a three-inch notebook, ultimately, those instructions.

I had my two staff people help me on that. They wrote most of it. At this stage we'd had quite a little experience, five, six, seven years of it, and so that wasn't the Herculean task that a lot

of people envisioned it to be. It turned out pretty good, I thought. Whether they're still using them or not, who knows.

Storey: Do you remember any instances where, say, CEQ objected or anything like that?

Jonez: Yeah, we had several of those. I remember this was in the earlier years and we just hadn't learned how to do our job well enough to not get into controversy. That was one thing that we did end up doing, was trying to listen to CEQ and try to do what they asked us to do. Sometimes you weren't able to accomplish it just because you didn't have the information. When that happens, that's one of those times where you write that letter and hope you analyze it correctly, and even though you knew there were going to be some significant impacts, you were accepting those as you went forward.

CEQ didn't take a strong hand in how the people did their instructions. They let you do what you wanted to do, what you thought you needed to do, and sometimes they were happy with the results and other times they were less happy. But most of the time we were able to convince them why we were doing it the way we were doing it.

Storey: Did we have a contact over there we used a lot?

Jonez: Yeah, we did then. I don't know what they're doing now.

Storey: Who was it at that time, do you remember?

Jonez: Golly, no. Sure don't. I can see his face, but I can't pull up his name.

Storey: You told me last time that you became the director of the office the day Teton Dam broke.

Washington, D. C., Office's Reaction to the Failure of Teton Dam

Jonez: Yes.

Storey: Tell me how the Washington office reacted to that.

Jonez: They had a meeting set up that morning, and as I remember, it was a Sunday morning, and I drove in for it. The office was flabbergasted, really. I don't think anybody in their ~~fondest~~ thoughts would have ever expected that to happen. I probably had the least of those kinds of concerns, and I was more concerned about the environmental damages that were taking place, as well as the impacts on life.

We had a long discussion, I remember that. Commissioner was there and all of his staff

was there. And, of course, their first reaction was, "How did it happen?" Well, we really didn't know that for quite a few months.

But it wasn't the thing that was expected to be the problem, at least from the standpoint of the environmental community that took us on, on that one. They were concerned that underneath the base of the dam there would be these chambers left over from earlier days' activities of volcanic origin and whatever else, and with that concern, their thought was that "The dam broke right where we told you it was going to break." Break into one of those cells and water went underneath it and came out. Well, that wasn't what happened, and thank goodness it wasn't, because we were right in saying that that was not a problem, and it wasn't that particular concern.

Ultimately they determined that it was a variety of things, but apparently one of the contractors, or the contractor, I forget which, had considered that it was a lens of compacted material that was frozen and the water seeped through that area. They had the water awfully high in the reservoir, and it really put a lot of pressure on this lens, and it gave way. Again, nothing that we had anticipated. We should have, I guess. But apparently we didn't.

Storey: Who was commissioner then?

Gil Stamm

Jonez: [Gilbert G.] Stamm.

Storey: What was he like?

Jonez: Probably of all the commissioners that I had to deal with, and daily, and dealing with him, he was one heck of a guy. I can't say enough about him. He was a very compassionate person. He was the kind of person that analyzed things well. He wanted the best information he could get, and he made good decisions. So I really can't say enough about him. I felt that he was the best commissioner that we had, that I dealt with. There was a lot of them before my time and a lot of them after.

During that time frame, he pushed to make sure there was as much help as possible for those victims for the dam break.

Storey: Who was before him?

Jonez: [Ellis L.] Armstrong.

Ellis Armstrong

Storey: Ellis Armstrong. What was he like?

"He was a person that wanted to know things. . . . he ultimately did understand NEPA well enough that he could function with it, and it wasn't unusual for him to ask his other staff people to explain something and he already knew the answer. He just wanted to make sure they knew the answer. . . ."

Jonez: Well, I got along with Ellis quite well. He was a person that wanted to know things. He would sit us down and ask to go through NEPA frontwards and backwards just so he could understand, because he couldn't understand it then. To him it was hard for him to deal with. But he ultimately did understand NEPA well enough that he could function with it, and it wasn't unusual for him to ask his other staff people to explain something and he already knew the answer. [Laughter] He just wanted to make sure they knew the answer.

Storey: Oh really.

Jonez: Yes, he was good at that. But I think he supported us. In fact, he must have supported us, because he hired us. He went through the effort of hiring us, Woody Seaman ahead of us and then, of course, Woody could see that there was more work than one person could handle, so he asked Armstrong to allow him to hire another person, and that's when I joined.

I was out in Boulder City at the time as a wildlife biologist, and I didn't know what I was getting into, but twelve years of it was an interesting part of my life.

Storey: Tell me how Gil Stamm left.

Jonez: Change of administration. In fact, that seemed to be it. If the administration was the same, most of those types of people stayed. If the administration was different, most of those kinds of people went. It's just the way it works.

Storey: Did you meet Floyd [E.] Dominy while you were at Reclamation?

Jonez: Yeah, a couple of meetings, as I remember, but that was all. I heard him talk. But, see, he was gone when Ellis Armstrong took over, and I wasn't there when Dominy was there. I was out in the region.

Storey: He liked to go to Lower Colorado.

Jonez: Oh yes. Yes, he got treated well down in that country. He liked the dams and the big lakes and all those things he thought were pretty important.

Storey: Who came after Gil Stamm?

Jonez: He was the water director. Was it Utah?

Storey: Maybe Idaho. [R.] Keith Higginson.

Jonez: Yeah.

Storey: What was Keith Higginson like?

Jonez: Keith was a good fellow. I got along with Keith very well. He had a good mind. He understood NEPA. I had to give him the normal briefings, but he seemed to understand what NEPA was all about. Of course, that was our office's concern.

Keith always had time to listen to you. When you got yourself into a situation where you needed some guidance, he would sit down and listen and give you whatever guidance you needed. I think other than Gil, I think Keith was always one of my favorites as well.

Storey: After Higginson came the [Ronald] Reagan administration.

Jonez: Right.

Storey: And Bob [Robert N.] Broadbent, I believe.

Bob Broadbent

Jonez: Bob Broadbent, yeah.

Storey: What was he like to work with?

". . . I always figured Ellis Armstrong and Bob Broadbent had big egos. . . ."

Jonez: He was a little bit like Ellis Armstrong. When I say that, people are driven by ego, and I always figured Ellis Armstrong and Bob Broadbent had big egos. Nothing wrong with it; it's just their personality. But you're not listened to as much by people that have a big ego. So you have to keep at it, making sure they understand what's going on.

Bob Broadbent was, as I remember it, a druggist in Boulder City.

Storey: Um-hmm, at one point he was.

Jonez: At one point he was, yes. So he knew a lot about that area, and he was proud of Hoover Dam as well, you could tell.

That was about the end of my reign back there, and I moved out to Denver about that time.

Washington, D.C., Office's Role in Processing of Environmental Statements

Storey: What was the role of the Washington office as far as environmental statements were concerned? Did it review all of them? Did it approve them? Did it send them back to be redone?

Jonez: Yes to all three. We attempted to review with our staff the finished product, whether it be a draft or a final, and that was part of the process. It came in to us and we looked it over. The division, whoever was responsible for it, for that action, looked it over. We would usually put together a comment letter back to the region, pointing out any deficiencies or anything we'd like to see looked at a little more, give them as much guidance as we can as to what they've prepared, and then, of course, send the comments back.

Once in a while they would take exception to what we would say and we'd end up with a meeting to go through it, and the meeting usually was at the project-level office that was preparing the document. Those were always interesting meetings, but they did their intended purpose. Usually you could argue them into understanding what you're saying, what your comments reflect, and they then would go ahead and back up, if it took backing up, and getting some more information and rewriting those sections.

This saved them a lot of work in the long run, because most of our comments were of a kind

that we could see there was just a glaring deficiency there that we knew would never get very far. So that happened two or three times, and each time we ended up agreeing to disagree, or we ended up agreeing that it was going to be fixed.

"Most of the time they didn't want to tackle a commissioner, because actually if we couldn't get our thought process across, we'd go right up the chain of command with it, and they knew that. We'd go to the regional director and then we'd go to the commissioner with it. . . ."

Most of the time they didn't want to tackle a commissioner, because actually if we couldn't get our thought process across, we'd go right up the chain of command with it, and they knew that. We'd go to the regional director and then we'd go to the commissioner with it. If we were wrong, we'd swallow hard and said, "Okay. Just be sure you know what's going to happen." And if they agreed that that was a deficiency, word would go back down and it would get corrected.

Storey: When you became director, you must have had an assistant director. Who would that have been?

Staffing in the Office of Environmental Affairs

Jonez: Well, I had two staff people, Steve Speck [phonetic]–there was no assistant in the office.

Steve Speck and–how soon you forget. I'll think. Anyway, I ended up with two people and two secretaries.

Storey: Where did they come from?

Jonez: Neither one of them from Reclamation, strangely enough. As I remember, they were in other NEPA kind of offices there in the Washington, D.C., area. Some of our people objected to that concept of not picking up somebody from the West, but the type of task they were doing didn't make any difference where they came from. It's the knowledge they had up here. They both worked out quite well. I was pleased with both of them. Roberts is the other one. But anyway, they were not directors; they were staff people, and actually the work that we needed to get done we got done already. They worked on the book a lot, on the instruction book. They were good writers and they had enough moxie to know how to put the document together.

Storey: How did the Service Center get involved in NEPA back in those days? The E&R Center,[5] I guess, then.

The E&R Center in Denver Didn't Do Many Environmental Statements, Though Project Skywater Was an Exception.

5. Engineering and Research Center.

Jonez: Yeah, that's what it was at that time. Well, they had an environmental office here in the E&R Center, and they would *also* be in the review process for the documents, both from the standpoint of the draft or the final, and they provided us comments to the Washington office on all documents that they reviewed. They also reviewed other agencies' environmental statements and sent them around to the various offices within the E&R Center that had some expertise on that given subject. Then the comments would come back into that office. They would consolidate them, go through their process of winnowing and weeding out and making sure they could support the statements.

Then they would send them in to us, we would take a look at them, and decide whether the region or the project office needed to deal with those along with written or oral comments from anybody else. So they didn't have to write environmental statements in most of the offices here in the E&R Center; they were mostly in the review process, or in the case of Project Skywater or whatever you want to call it, the project where they were looking at making rain out of snow–

Storey: Cloud seeding.

Jonez: Cloud seeding, yeah. They had to write their environmental statement for that project. The project never totally got off the ground, and the environmental statement pretty much left a couple of holes that they couldn't solve. While it was part of the process, it did leave some concerns program-wise and the program really never got fully implemented.

Part of it was the environmental concern about down-wind effects. Oh, there's other things. People were concerned about additional snowpack, shoveling the streets and the sidewalks. You can't imagine the things that came out of the woodwork on that one. Floods became a concern. And as you can see, some of these you can't solve. You might be able to understand the impacts of them, but you can't solve them because it was a project that was new. I mean, they were just learning how to do it. So that's one environmental statement that did come out of the E&R Center and it's one of the few offices that had to deal with that kind of issues, but they did.

Storey: How about the wind-power project? Was that about this time?

Jonez: That came along after I left. They were just gearing up for it when I was about ready to leave. I just drove up to Wyoming here the other day and

drove by that ridge full of them out there, looked like about a hundred of them. Made me realize that we were on to something as a bureau that we didn't have to follow through on; somebody else did. The power people, it dawned on them that this may have some merit, and looks like they've done what ultimately *we* would have done.

Like I say, I was flabbergasted when I first saw that wind farm. I didn't realize it was there. And about two years ago I came down that way and saw it and couldn't believe it. [Laughter]

Storey: Yeah, I guess public service companies are putting up some stuff, aren't they.

Jonez: Yes, they've got about a hundred, looks like a hundred, at least a hundred there. I don't know whether they're anyplace else.

Storey: Were there any big controversies while you were the director there?

Jonez: Oh, yes, I'm sure there was. [Laughter]

Storey: Do you remember any of them in particular?

Jonez: Oh golly.

END SIDE 2, TAPE 1. July 6, 2000.
BEGIN SIDE 1, TAPE 2. July 6, 2000.

Storey: This is an interview with Al R. Jonez on July 6, 2000.

Jonez: Controversies. Golly. Usually the controversies you forget. [Laughter]

Storey: Why did you decide to leave? You'd been there, what, about twelve years or so.

". . . looking back at my careers, ten-, twelve years was about it [in one job], and then I was looking for something else to do. . . ."

Jonez: Yeah. Well, I was ready for a change. Looked like, just looking back at my careers, ten-, twelve years was about it, and then I was looking for something else to do. The only time that I really didn't spend that many years was in the region, and that job coming up in Washington kind of made me want to try my hand at that level, so I went ahead and took that. But all my other jobs, I was eight-, ten years into them, and I was ready for a change. Not that I had *solved* all the problems that was there before me, but I was looking for a different challenge, and that's kind of where I ended up.

Coming out here was a new challenge, it was a different type of project activity. You kind of got your hands dirty on it. So there was some physical things that you could become involved

in. Again, I had a staff to help me out on the project and a good reports-writer, so it was an interesting new challenge, as far as I was concerned.

Storey: You went to the Colorado River Water Quality Program. What was that all about?

Colorado River Water Quality Program

Jonez: That was a program that was set up primarily by the states in the Colorado River Basin.

". . . projects that would reduce the . . . total salinity on the Colorado River. . . ."

They had several laws passed that allowed the Bureau of Reclamation to look at different kinds of salinity projects that would reduce the salinity, total salinity on the Colorado River.

"There was always concern by the states that the Colorado River would get so salty that the water couldn't be used for culinary purposes. . . ."

There was always concern by the states that the Colorado River would get so salty that the water couldn't be used for culinary purposes. Well, that may be true, but we felt that there were things that we could do to cut down on the salinity, and these are the kinds of projects that

we looked at. They were, in essence, in the planning stage, really, is what it boiled down to.

"The regions handled the projects, including the planning of the project. The office in here was directly under the assistant commissioner and did the political reports, analysis of the projects as they were being studied out in the region. . . ."

The regions handled the projects, including the planning of the project. The office in here was directly under the assistant commissioner and did the political reports, analysis of the projects as they were being studied out in the region.

Lining Canals and Sprinkler Irrigation in the Grand Junction Area

There was one project that was under way when I got here, and it had gone through all of its processes, and that's the lining of canals over in Grand Junction area. Grand Junction had a bad soil condition from the standpoint of salt, and the farming up there had been irrigation since they put in all the diversion dams and the structures up there. So they were flooding the fields, is what they were doing–the farmers. They had enough water to do it, but the trouble was, it also flushed out a tremendous amount of salt. So the project was to line the canals, cut down on that level of salt coming in, and the other part was to

encourage the farmers to use sprinkler irrigation. You wouldn't think that you'd have to encourage a farmer to use sprinkler irrigation, but you do. Some of them just don't like it. But most of the time it worked out quite well. The level of salinity arriving downstream was considerably less under the lined canals and the sprinkler irrigation.

Deep Well Injection at Paradox Valley, Colorado

The project over at Paradox [Valley] was a deep well injection to take water out of the river, the Dolores River, in shallow wells, and pump that water down injection to deep injection wells. They hadn't quite got to the stage of finishing up the EIS [environmental impact statement][6] or doing the analysis when I left, but I understand it's been in operation now for pretty near ten years. I saw in the paper the other day where there's some concern about earthquakes from lubricating the deep strata.

Storey: Over at Paradox?

Jonez: Yeah. But that was one of the projects.

Storey: Why would they need to inject the–

6. The terms"environmental statement" and "environmental impact statement" have, over time, come to be used interchangeably.

Jonez: Just to get rid of it.

Storey: But where did it come from?

Jonez: Out of the bottom of the Dolores River. We had sunk shallow wells in the areas where the salinity was coming up. This very saline water was coming up into the bottom of the Dolores River, and so what they did is they put down a series of shallow wells. When I say shallow, thirty-five or forty feet, maybe sixty-, seventy feet.

Storey: So it was intercepting this same flow of water.

Jonez: It was intercepting the same flow that was welling up into the bottom of the Dolores River and going on downstream. Then from these wells they put them together, piped them together, and then put it into a system that got it into the deep well injection, and then they would pump it down into the ground to get rid of it.

One of the concerns, of course, is that you could get earthquakes associated with deep well injection. They had some over here in this area from some deep well injections.

Storey: Yeah, in the Denver area.

Jonez: But I assume there was knowledge of this. I haven't looked at the environmental statement to

see how they handled it, but I assume that they did handle it.

Storey: When you say "saline," is that what I call alkali?

Jonez: Probably.

Storey: That stuff that's up on the surface.

Jonez: Yeah.

Storey: Who else was on that staff?

Jonez: The deep well testing?

Storey: No, the Colorado River Water Quality Program.

Jonez: Oh, who else was in this office?

Storey: Yes.

Mike Bessler

Jonez: Mike Bessler was one of our staff people. He's dead now, had cancer, lung cancer.

Storey: Bessler?

Patty Gillespie

Jonez: No, the other fellow. His wife also worked here. I'll think about it. Anyway, there was about three staff people. Patty Gillespie [phonetic] was our reports-writer. She's a peach of a writer, really does a good job. Had a couple of secretaries.[7]

Storey: So you were still in the environmental review stages, or how did that work?

Jonez: No, actually, occasionally we would get an environmental statement from the environmental office here in the E&R Center, and they'd send it to our office for review because of the expertise of the office, not because I was with the environmental aspects. It was dealing with the review process and our expertise in that particular field. So I would get the document out to one of the staff people and they would go through it and talk over their comments and send them down.

John Peters was the environmental specialist at that time. George Wallen took over after there was a reorganization.

"Our main task in the Colorado River Water Quality Office was, if new projects came up, try to analyze them in a general way, and then decide whether we wanted to expend some of our funds

7. Additional staff listed in the Colorado River Water Quality Office in the February 1884 *Engineering and Research Center Telephone Directory* included Fred Krauss and David Merritt

on that kind of a project, and if we did, then a region would pick up that project and they would do the work on it. . . ."

Our main task in the [Colorado River Water Quality Office] ~~Environmental Quality Office~~ was, if new projects came up, try to analyze them in a general way, and then decide whether we wanted to expend some of our funds on that kind of a project, and if we did, then a region would pick up that project and they would do the work on it.

Reclamation ". . . did look at other salinity sources, but really most of them were so small that really we couldn't do much with them. You really had to have a fairly good project before you took any significant amount of salt out of the river. . . ."

They did look at other salinity sources, but really most of them were so small that really we couldn't do much with them. You really had to have a fairly good project before you took any significant amount of salt out of the river. That was one reason that Paradox [Valley] was so good. It did remove a lot of salt.

Storey: Do you remember who succeeded you as director of the Office of Environmental Affairs?

Wayne Deason Took over as Director of the Office of Environmental Affairs

Jonez: I can see his face just as clear as a bell. Having trouble with names now.

Storey: Welcome to the club. [Laughter] It's awful.

Now, Wayne Deason went to Washington, didn't he?

Jonez: That was the man. He's the one that ultimately ended up.

Storey: I guess I didn't realize that. I thought he went to another office.

Jonez: No, he's the one that took over that.

Storey: Did you have a lot of interaction with that office from the Colorado River Quality Office?

Jonez: Not a lot, just what I would call a normal amount.

Storey: Did you implement any other hands-on things besides Paradox Valley?

Jonez: Well, like I said, Grand Junction. There was activity there, and that actually worked out quite well. We were quite pleased with Grand Junction.

Storey: When you say you worked for the assistant commissioner, which assistant commissioner was that?

Jonez: Well, I don't know anymore. All the changes that have happened. Name a few.

Storey: Well, there's Darrell Webber, Bill McDonald. He was Engineering and Research. Bill McDonald later became the resource management assistant commissioner. Who?

Jonez: Bill McDonald. He would have come in about '88 or so.

Storey: I did spend some time with Webber. Was this assistant commissioner here in Denver? Was this person in Washington?

Jonez: The person was in Washington, actually.

Storey: Okay. So there's Bill Klostermeyer, perhaps, and there's–oh, what was his name? The man who subsequently became regional director in Salt Lake City. Cliff Barrett?

Jonez: Cliff.

Storey: And there was Terry Lynott in Washington. I don't think I know any others. Did you have any

big, interesting incidents while you were at the Colorado River Water Quality Office?

Decided to Retire in 1987 When a Reorganization Was in the Offing

Jonez: Well, probably the biggest concern that I ultimately had was they wanted to reorganize and do it differently, manage the program differently, and that was a good reason for retiring. I was concerned that it might not work, what they were talking about, although that wasn't the reason I retired, but it certainly helped.

Storey: That was in '87.

Jonez: Yeah.

Storey: What was the reason you retired?

Jonez: I was ready for it. I'd spent twenty-five years with the Bureau, or twenty-four-plus, and sixteen years with Nevada Fish and Game, and I was *burned out*. So I was ready.

Storey: What did you do when you retired then? That's been thirteen years ago, more or less.

Since Retirement, Has Been to Alaska Digging up Family History and Worked with NARFE

Jonez: Yes. I went to Alaska three times. I was trying to dig up my history of my parents. I've still got more to do there, but that kind of got it a *little* out of my system. And been working with the NARFE, National Association of Retired Federal Employees, and I do a lot of work with them, and I'm their public relations officer for the Colorado Federation. My wife is secretary for the Federation. So we spend a lot of our time with NARFE. There's a chapter close by here, so I joined it. Barbara and I have been in it now ever since.

Storey: What kind of things do you do as public relations officer for them?

Jonez: Write up articles about what's going on. I take a lot of pictures. I enjoy photography. We have conventions once a year. I take 150 pictures at the convention. This isn't just one or two pictures; it's a lot of them. Then I put a book together on the convention, of pictures and what goes on. I use a camcorder as well, and some of the talks I tape them and then distribute them around to the various project offices, chapter offices, in my case. I'm so used to projects. Chapter offices. And we have twenty-eight chapters in the state.

It's actually the only organization or association that takes care of Federal employees'

concerns, and you don't have to be retired to join. While you're still working, it still fights your battles for you, even though you can't fight a lot of them yourself because of the Hatch Act. The people that are retired and are in our offices, our main office is in Alexandria, Virginia, and they do a lot of work for us, make sure that Congress doesn't take too many things away from us. We all have earned benefits, and we use NARFE as a sounding board to make sure that those benefits don't get taken away. They do a lot of lobbying on The Hill, Congress, trying to make sure that everybody has somebody looking out for them. That's the big thing at NARFE. Locally, too, as well. We have a certain number of people that keep their eyes open on what's happening on the state level in legislation. So that's, in a nutshell, what it's all about.

Storey: Do you go to national conventions? Is there any such thing as that?

Jonez: Yeah. In fact, last year it was in Orlando, Florida, and Barbara was the chairman of the Credentials Committee, the national Credentials Committee, so I ended up helping her through the trials and tribulations of that. The year before that, we went back and I took pictures of the total convention and put a book together on it, gave that to the national office. That was over 200 pictures. It keeps me busy.

Storey: I'll bet it does. Anything else you're doing?

Jonez: That's about it. That's the big activity. We do go fishing and camping once in a while, but other than that–

Storey: You go to this bighorn conference every once in a while.

Jonez: Once every two or three years.

Storey: Is it an annual meeting?

Desert Bighorn Council Annual Conference

Jonez: Yeah. I'm amazed at the progress they've made by working together. This is a group of people from all walks of life that are interested in bighorn sheep, and, of course, we're getting some expertise in there that have the capability to do some of the latest techniques, DNA techniques, trying to determine whether the Desert Bighorn and the Rocky Mountain Bighorn are the same bighorn.

Storey: And what are they finding?

Jonez: They're finding that they're the same animal.

Storey: Really?

Jonez: Just environmental changes have brought about environmental differences.

Storey: Adaptations.

Jonez: Yes.

Storey: Interesting.

Jonez: Kind of like what they're finding out about humans. [Laughter]

Storey: What else should we have talked about that I didn't know to ask you?

Jonez: You've done pretty good. Can't complain. It's amazing how you don't think of all these things until somebody asks a question, and then you don't have the answer. [Laughter]

Storey: U h-huh. Well, that's fairly typical, actually.

Jonez: I would imagine.

Storey: Well, if there isn't anything further, let me ask you again if you're willing for the information on these tapes and the resulting transcripts to be used by researchers.

Jonez: Yes.

Storey: Good. Thank you.

END SIDE 1, TAPE 2. JULY 6, 2000.
END OF INTERVIEWS.