Oral History

Pam Stevenson (Q):

Today is Monday, July the 9th of 2007. We're at the Central Arizona Project Headquarters in North Phoenix. I'm Pam Stevenson doing the interview and Manny Garcia is our videographer. And I'll let you give us your full name.

Larry Dozier (A):

I'm Larry Raymond Dozier.

Q: Tell me when and where you were born.

A: I was born in Southern Illinois in a country home with a midwife in White County, Illinois. The county seat is Carmi, Illinois

Q: What did your family do while they were there?

A: I was raised in that country and my dad started as a blacksmith, welder, and equipment repair thing very early on. Probably before I was four or five, he had his own business, a farm equipment repair shop. Then we expanded into farm sales and service. By the time I was ten or eleven, we bought a farm out in the country and began to farm on the side. We grew up farming and working in a family business that ended up being a pretty good size farm implement business, selling and maintaining farm equipment.

Q: Did you tell me what year you were born?

A: I didn't. I was born October 11, 1947.

Q: Where there other children in your family?

A: There were seven of us children. So I have three brothers and three sisters. I am the second child and slightly less than a year younger than my older brother. We're not quite a year a part. We grew up very close, but went considerably different directions. He ended up being an attorney and a judge, recently retired as a judge in central Illinois.

Q: So it was a farming community where you grew up?

A: Farming community, mill shoals, 250/300 people, county seats were around 5,500, 6,000 people. South of Chicago about 300 miles. Helping out a traveler stopped there one night with car troubles. I happened to be working on my own car at my place of business. Repaired his generator or something and he wanted to know where the next big town was. I asked him where he was going. Down old US Highway 45 headed down into Louisiana. I thought about it for a while and said, "I don't know. There aren't any big towns south of here until you get to Louisiana as far as I know." We didn't live in dog patch, but I knew where it was if you were a Lil' Abner fan.

Q: Growing up in a family business and farming, I'm assuming you were working from the time you could work?

A: That's true. We both started working in the fields and the farm implement business. I've ran farm crews, worked as a mechanic, a machinery set up person, a parts man, a salesman, a truck driver, all of those things.

Q: What kind of farming did you do?

A: That country is mostly row crop corn and soy beans. We grew some other exotic things once in a while like sunflower seeds or popcorn or white corn for corn meal purposes. Sometimes we had some grain or some milo but basically corn and soy beans and some livestock, cattle and hogs.

Q: What kind of a school did you go to?

A: Small little small town school. We had four rooms through the eighth grade; two grades to a room with no more than about a hundred students. Then I went to a country high school that took from three or four different grade schools around and at its largest class had about a hundred kids, if that. So I had one of the bigger graduating classes of 27.

Q: And where did you fall in that class?

A: One or two.

Q: So you were a good student?

A: Yeah. I skipped a grade coming up through grade school. So I graduated and started college when I was 16.

Q: Did your parents go to college?

A: No. As a matter of fact, my dad didn't finish high school.

Q: How did you happen to go to college?

A: It seemed like the thing you ought to do. I went to college to become an agricultural engineer then at the University of Illinois. I didn't really know what an engineer did or what an agricultural engineer did but it seemed like something that would be good to get a job in. I enjoyed it; got a good education. I decided to come west instead of staying in the Midwest and began to interview for jobs and at the tail end there was an organization called the Bureau of Reclamation that was interviewing there. I never heard of them and I couldn't find anybody else who had either. But for whatever reason, in the fall of '68 they were doing interviews, and I ended up taking a job for the Bureau of Reclamation in Grey

Falls, Montana in February of 1969. I've been out West ever since and in the water business ever since.

Q: When you were going to school, you really didn't know what you were going to do with that education?

A: I really thought I would be involved in the design and manufacture of farm equipment. Having used a lot of farm equipment, worked on a lot of farm equipment, and had a little interest in specialty harvesting equipment and such as that, that I thought I would take that ag engineer education, the part of it that was heavy on mechanical engineering, and do design on farm equipment. But after doing tours to Minneapolis, Moline, International Harvester, Caterpillar, and John Deere, I realized that there is no way I could sit in a room and be a designer or engineer. I didn't have the interest or the personality to do that. It was too sedentary and too detailed for me.

Q: You said that you've never heard of the Bureau of Reclamation?

A: Never heard of them. Had no idea what they did, except for I began to read their literature that they did water projects, dams, irrigation, and hydroelectric. I knew irrigation and drainage. I knew about drainage from my personal experience and work back there. I had learned just a little bit about designing irrigation systems for some of the sandier soils that they had back in that country that raises high dollar crops; strawberries, melons, and such.

I thought that looked interesting number one and number two they're all out west. They're in 17 western states so that will keep me in the west and number three January of '68 or February of '69 I was needing to make that decision. We were very, very draft eligible for the Vietnam War and the Federal Government was pretty much committed that if you gone to work for them and then got drafted, they'd give you your job back when you got done. Some of the other companies would try or they would make commitments. But also those companies that I

interviewed with Swift and Shell Oil, all those wanted you to stay in the Midwest because they were concerned that if they sent you someplace else and you went to Vietnam, you'd come back and want to go back to your home country and you wouldn't go back to the job they had you in. It worked out for me to go west.

Q: Why did you want to go west?

A: I had always enjoyed the west, the stories about the west. I visited there a couple of times. Some of my dad's family lived in Boulder, Colorado, some more in southern Idaho, and some more in southeast Washington State. I went up there and worked a wheat harvest one summer. I like the Rocky Mountain states in particular. It appealed to me.

Q: What was your first job when you got hired by the Bureau of Reclamation?

A: I went to work for the Bureau of Reclamation in Grey Falls, Montana. It was a smaller field office. We had oversight and development relationships in Helena, Montana and Dillon, Montana with new projects that were just coming online. Had some oversight with some old projects; the Sun River Project and up along the Canadian border some dams up there that had some safety of dams working some repairs on them after floods in the mid-60's. I was in the operation and maintenance side and a field engineer. I did investigations for drainage. I did investigations for canal lining. Those often went together. If you had a leak in the canal, you had a drainage problem down there. So did you want to line the canal or build sub-surface tiled drains? Did work on farm irrigation efficiencies because again sometime when you had a drainage problem and it wasn't caused by leaky canals, it was caused by over irrigation. I did a lot of work on system efficiencies and system improvements; as well as with my background as a mechanic and other stuff a lot of work with operations and maintenance with the dams. It kept me in the field traveling, sometimes the year more than half the time. I enjoyed that working on the different projects. I didn't realize that it was probably

a bigger burden on my wife later on to leave her home with the small children. I didn't think about that so much then.

Q: Were you already married when you took that job?

A: No I wasn't. I did get my draft notice and through some various efforts, I ended up in the Montana Air National Guard instead of getting drafted into the Army. I went for seven or eight month's active duty mostly in Texas and the Denver area and met my wife while I was there.

Q: So you were married in the West?

A: Yeah. She's from southern Colorado

Q: So you didn't end up in Vietnam?

A: Didn't end up in Vietnam. She didn't mind moving and we both got far enough away from home that it didn't seem to be a big issue to move every couple of three years, so we did that for 16 years or so that I was with Reclamation.

Q: Where were some of the other places that you worked?

A: We went from Gray Falls, Montana to Burley, Idaho. I happened to have an uncle and some cousins there. I mostly worked on farm irrigation programs and computerized water scheduling sort of thing. I was there a couple of years and went to Denver in the Regional Office for Reclamation then. I worked the regional area. I covered Kansas, Nebraska, and eastern Colorado and a little bit across on the West Slope and parts of eastern and southeastern Wyoming. I worked in the plains states of Kansas and Nebraska, as well as up and down the Continental Divide and the Front Range in Colorado. Again, a lot of field engineering but associated with operating projects, irrigation districts, provided assistance on oversight and field reviews, put in systems that you could operate from remote

control or centralized locations. Not realizing it, but I was beginning to get overlaps with the CAP then.

CAP was a big project for Reclamation. It was authorized in '68 shortly before I came to work for Reclamation. When I was in Denver, we had an irrigation seminar for our local four-state water users up there. We had the Project Manager from the Central Arizona Project come up and talk about it in its very early days of construction because it was a hot topic. It was a big Bureau of Reclamation project that was going on in the West.

Q: Who was the Project Manager at that time?

A: I believe it was Dick Shunick at that time. Cliff Pugh had been there before and then Dick Shunick I believe was the one that came up. Dick is still around. You may have talked to him. I talk to him every once in a while. It's been almost a year since I last visited with him.

I went from Denver to Washington, DC for about a year on a special departmental management program. It was a competitive program that they took about 20 or 25 people per year throughout the Interior and run them through about a year-long program in Washington, DC where you took a lot of different job assignments and some special classes. It was an interesting time to be in Washington because I was in the Carter administration and Carter had come in with a goal to put the end to a lot of water projects. He almost shut down the Central Arizona Project. But it passed some tests and met the needs that he wanted to have met. It was able to get back under construction in about 1980. It was pretty slow in its construction through the 70's, there was some going on. It really picked back up after the deal was struck and Arizona Groundwater Management Act was passed. I didn't realize that some of that was going on out here at the time. I did get involved in being able to work in the Commissioner's office and worked at different places in the Secretary's office. I was involved in

some of those things that I learned about that I didn't know I was going to use it later on.

Q: Who was the Commissioner at that time?

A: Keith Higginson and Cecil Andrus was the Secretary. They were both in from Idaho. The Carter administration was very, very tough on water projects in the West. Keith Higginson was Commissioner during a time of some change and some declining of Reclamation's role. He probably got a bad rap. He was a good Western water person from Idaho. He believed in Western water and Reclamation projects. Had he not been there, it probably would've been worse.

Q: Did you work on that at all or was it something you just knew was going on?

A: Just things that I knew were going on because it was around back there. I went from there after a year back there and went back to Denver for a very, very brief period. The job I thought I was going to come back in Nebraska had gotten delayed, construction got delayed. So I went to South Dakota and helped finish writing, I guess you would call them close out reports or such for some project up there that had gotten killed in the Carter administration. Tried to get some new programs going but we didn't make. In about two years, that office had to close due to lack of budget. Consolidated parts of those functions and parts of the North Dakota function back into the regional office in Billings. I moved up there for a few months to get those projects. They were still going on kind of reorganized so they can be managed by some study teams out of the Regional office instead of the local office. That really wasn't going to suit me. I didn't want to be in planning role where you managed a bunch of studies. In the Bureau of Reclamation at that time, planning had gotten to be a long-term thing. You might plan for 25 or 30 years and never build anything. I was looking for the opportunity to get back into the operation and maintenance side. I ended up down in Boulder City by November of 1981 I guess.

Q: What was Boulder City like at that time?

A: Boulder City is the Regional office. Hoover Dam is there. It was the Regional office that had the Central Arizona Project going on out of here. It was a going place. It had salinity control features; the Yuma Desalting Plant was under construction in Yuma. So it had big construction budgets. It had lots of things going on. Bill Plummer was the Regional Director and he and I worked together in Denver. We had a good working relationship.

We had a lot to do. We were finishing up water allocations for CAP. We finished up the contracts for CAP. We concluded then at that time then we needed to find some way to get CAP operated and maintained by the local entity. The federal budget always has FTE limits; limits on full-time employees. We weren't dollar limited, we were people limited. As the facilities were getting built here, we were going to need somebody to operate and maintain those facilities during a ten-year-long construction period. The Bureau couldn't come up with a number of bodies needed to do both. They had about 30 some people working in field operations and maintenance at the time. As Bill and I were learning these things, because he came down as Regional Director the same month I did. He looks across at me and said, "Larry, didn't we have a plan for an early turnover of that project that you were going to work on in Nebraska?" He was Assistant Regional Director and I said, "Yes I did. I wrote a plan that we would give it to the District." Every time we built something, we'd have the District build up staff to operate and maintain it. We would pay them to do that as you always do with O&M during construction and capitalize it, but it will allow them to grow their expertise so when the project was finished, they could take it right over. That was a much smaller project, but the concept would work. So he says, "Write it up!"

So I think in December of '82, I developed a concept and presented it to the Board of the Central Arizona Water Conservation District in January or February of '83. They said they'd have to get their state legislation changed because we were set up to be the repayment entity not to be the operations and maintenance

entity but it sounds like a good idea. They proceeded to go in the spring of '82 and went right on in and got legislation passed that year to allow them to do it. By July 1, 1983, we had a contract in place and started early on in by the District. I wrote most of that contract. I did it over protest of the Purchasing Department and the legal folks who thought that it was way too loose of contract and gave way too much discretion to the District. My argument was the District is going to have to pay the bills and they are going to have to take over this project. There's no incentive for them to do a bad job or bill you for unnecessary costs. There's mutual benefit for them to learn how to do this in a good and efficient manner. So we wrote a fairly loose contract and it stayed in place for four or five years and then we replaced it with another version in about '88.

The other exciting time with Reclamation, let me step away from CAP for a minute and back to Colorado River stuff. There were two other things that were pretty significant. The Colorado River has its wettest period on record in 1983 and 1984 as you may recall if you were down here. We put water over the spillways at Hoover Dam; the first time ever except for some testing done in the 40's. We spilled water through the spill ways at Glen Canyon Dam and did considerable damage and had a major repair and modification that we had to do up there. We had to modify the spillways some at Hoover afterwards also. The repair down there was quite minor. We kept the Colorado River out of its channels and inside the levees for six months or so that year. It changed the whole way people thought about living and using along the Colorado River.

So my job in that period was I was Chief of Water Operations at the regional level it had oversight and management of all of the Colorado River releases from Lake Mead down and of course, coordinated the releases from Lake Powell. We had lots of media coverage, lot going on everywhere from the Sacramento Deed to the Wall Street Journal, St. Louis Post Patch. You name it. We had lots of excitement and lots of busy times. Some of that year is often a blur in which you were there at seven and didn't leave until midnight. We had several visits in front of congressional oversight committees later that winter and fall and next spring. All

of those we come out very good on. GAO did a report on us and again, we came out quite good on that. It was an exciting time.

Q: Was it just unusual weather?

A: Very unusual weather. The '76/'77 period had been about the lowest period on record and had very low reservoirs and started to fill just a little bit in the early '80s. Two great big years of runoff and it started to ease the reservoirs back up in the top 80%. We were happy to see them that way and then whamo, you got hit with two great years that passed enough water through the US/Mexican border, enough water in those two years to have filled Lake Powell and Lake Mead and the reservoirs below if they were completely empty when you started to fill them.

Q: That's a lot of water.

A: We'd like to see that again.

Q: It just shows how the Colorado River can really vary.

A: It sure can. I had the opportunity to see the Rocky Mountains in a very, very dry period in '76/'77 when I worked out of Denver. As a matter of fact some of the structures that we looked at in those days, the water level got very low in '76. I was also on a scuba diving team then and we did some diving to look at intake structures that would've normally been very deep and too deep to go with scuba outfits at high altitudes in the fall of '76 and in the fall of '77, we walked out there and looked at the same ones. It turned around six years later to be on the other end of the system, instead of the headwaters up in the Rockies but to be down watching the damage being done to the river as if it went into Mexico was quite a turn around. I got to see both ends of that.

Q: And now we're back to the drought.

A: Now we're back getting to see it in its now driest period ever. We'll probably get to stay around long enough to see a shortage declared. Although I've said many times that there will not be a shortage declared for releases out of Lake Mead on my watch. My watch probably ends in 2009, but if something dramatic doesn't happen, we'll have a shortage in 2011. I've also said the public statement that I'll bet $10,000 of my own money that we won't have a declared shortage before 2011. I can't get anybody to take me up on that either.

There's a lot of water in that system and a lot of water in storage. Even if it's really dry, we've got enough for two or three more years before we have to start rationing. Frankly, CAP will be in great shape. We're not yet using all of our water for direct everyday use. We're storing a lot of it underground. So the first round for several years will just cut out our recharge, our underground storage. It won't cut into our uses by our cities or our ag folks for a while.

Q: So you've really seen the Colorado River from almost to head waters all the way down. You've seen the whole system.

A: I have not worked specifically in the Upper Colorado Region. We worked in Denver, worked the West Slope a lot and we had a lot of collaboration when I was in Boulder City with the Upper Colorado Region. The opportunity to see the Colorado River Basin from one end to the other, to work in, as I said when we were in Boulder City, on finishing up the water allocation, the contracts, and writing the O&M plan.

Tom Clark, the first General Manager here, I was working with him on those early plans, operation and maintenance plans, and he started to do a little staffing and I was doing most of the collaboration and moving people from Reclamation over to the District. I was helping him recruit in other parts of the country for people. Some of the irrigation districts trying to get started by giving them some contacts in Montana and Wyoming and places for people.

Tom stopped in my office in Boulder City in the late fall of 1984 and said, "We're going to start making our first deliveries next year, we'll be testing Havasu." I said, "I know." He said, "Will be getting some water going down." I said, "Yeah." "Yeah will probably have a few deliveries to make in the early spring, but by mid-summer we'll be able to deliver into almost into the Phoenix area." I said, "Yep." He said, "It's time for me to get an Operations Chief because I don't know anything about operations." I said, "Okay let me think about this. There's this guy in Loveland that's about ready to retire Bob Burling. He's going to be retiring. There's another guy up in Montana. So let me know when you're ready to start recruiting and I'll start calling them." He said, "I'm recruiting right now." I said, "It's pretty early but I'll call them." He said, "I'm recruiting you." "Oh gee, I haven't really thought about that, I've been busy. Didn't know I was looking for a job." "Go think about it," he said. So I did.

I went home and talked to my wife. There were things about Boulder City that really none of us really liked. It's a little suburb town with no agricultural field to it. It's a company town and it's always been my practice to have friends throughout the organization and across all walks of life. Some people thought that I shouldn't play softball on a team with electricians from down at the dam. Bob Broadbent was the Commissioner and he was from there. You did have to be careful about people that would ask you how Bob is doing or I saw you were with him or I saw you in the paper with him on this deal or that deal. You didn't know if they were trying to get you to say something that they could take back to him or what. I thought this job down here getting the project started would be great. I knew the contracts. I knew the water allocation. I knew the O&M plan. After I thought about it for a few days, I called him back and said, "Okay when do you want me?" He says, "I don't need you here until May or June next year. I haven't even told my Board I was going to do this yet," he said, "Don't go telling your bosses about it yet." We kept it quiet until about March and then he announced he was going to start looking. I had to put a resume together and go through the interview process. The outcome was fairly certain for both of us. His Board could've said no or they could've found somebody they liked better, but it was a good deal for us.

Q: It would be hard to find somebody with more direct experience.

A: At that particular moment, this was a new project. Yes, I had a lot of relevant experience.

Q: When did you actually come on board here?

A: June 10, 1985.

Q: The first water deliveries were made to Harquahala?

A: We made some to Harquahala May 21st, May 23rd something like that. We made a few to Maricopa Water District in about that same timeframe. By fall, we were making some minor deliveries into Phoenix and to others that were just trying to get started and do a little shake down of their systems. If there is anything wrong with our water delivery policies, I got to share a chunk of it because we started from scratch and we had guidance from contracts of course. Tried to start my guys out from the standpoint, if this is what the contract says but we'll do better when we can. It says two changes a day and 24 hour notices, monthly schedules, and changes to the monthly schedule have to be done by the 15th of this month for next month in writing. You could be limited on your peak deliveries by some percentage of the total water supply you had delivered for the year. Since we didn't have near everybody on, we had a lot more capability and we were starting up with a lots of people who were new to the systems. We just didn't do that. We tried hard to give the best service possible. We started in a period where we were doing shakedowns. I think fairly on in there one of the performance goals that I have had in my troops plans, and they keep it today, is the simple phrase no surprises. It's meant to say: plan your work; plan your schedules as much as you can with your customers in mind; tell them about it; get their input; if something comes up as soon as you know what you're going to do call and let them know. A couple of times we've had outages that perhaps put us in a point where we had to curtail customer deliveries in an overnight period. Again, we tried to let them

know three or four hours early. Talk to ones and asked can you curtail easily? How much can you do without causing you a problem? Maybe I can find somebody else that could do more. We had a plant that we would do it pro-atty if we had to. We'd do it better if we could.

Q: Working with all the irrigation districts?

A: Irrigation districts and cities and towns. Our big customers now include folks like Phoenix, Glendale, Scottsdale, Mesa, and Tucson as well as some big irrigation districts.

Q: Do you ever deal with individual big ranches?

A: We don't do very much with individual customers. I would say no we don't by contract except in a few instances we've let a few ranchers put in canal side pumps or something. Or we've had a smaller farmer put in a canal side pump. Usually in the scheme of things, they're small enough that they just put a pump in and operate it themselves and send in meter readings. We've done that when we've had extra water and they've needed it. So we're basically a wholesaler. We sell raw water in large quantities to people that either treat it and deliver it to homes or deliver it as-is to farms.

Q: What about deliveries for the Indians?

A: We do have a couple of Indian communities that take quite a bit of water and some more that are coming on. Ak-Chin Community had their farms developed pretty early and they have taken most of their allocation for 15 years or so now. We deliver water to what's called the Santa Rosa Canal, a very, very large turnout in Pinal County that takes water across to Maricopa-Stanfield Irrigation and Drainage District, delivers to some of the Central Arizona Irrigation and Drainage District, delivers all the way down to the tail end to the Ak-Chin. The Gila River Indian Community has two or three places that they take water from us. The Schuk

Toaks and the San Xavier's in the Tohono O'odam Nation are starting to take some water for us. To us, they are a lot like an irrigation district. They have people that operate their systems, do their water plans, and put their orders in. In the correct contractual relationship, they have a contract with the United States for water and we carry out the United States obligations for them. But on a day to day relationship, they're just like a city or a town or an irrigation district.

Q: Are there any particular areas of water history or milestones in Western Water or CAP that you were personally involved in?

A: Let me take a half of a step back to the high water on the Colorado River too before I come back to a couple of major things in CAP. That was a historic time in that it did not happen before. It caused a lot of trauma up and down the river. It helped me learn a lot about how to deal with people on issues. If somebody has water in their living room, why there is not much you can say to make them happy, but you also learned in that that no surprises was a better thing. If you could tell them look this is going to be this way for at least two months and there's nothing we can do about it that is just the way it is. There is a whole bunch of water up in Lake Powell that's got to come down here and we've got to get ready for next year. So you tell them it's going to be that way through July, August, and September. Then you come back in September and say okay we're going to back off a little bit but you come back in January, the snow pack is building like crazy we're going to back up. We're going to stay that way until this June. You can't make them like it but you can help them understand it and at least know what's going on.

It taught us some things on the river about our levees and our abilities to manage and control that river that we're not as bright as we thought we were. There were areas where water went that we didn't expect to. There was damage to levees that we didn't expect to happen. We also learned that you might be a government bureaucracy but when times get like that, you can get a lot done. If you got people willing to make decisions, it's where I learned when the engineers

in Denver, Colorado called and said we need you to do this, this, and this. You can tell them no, you're not going to do that because it's not useful and we're too busy doing things that are.

When FEMA calls and said well now after we've had water running at this level for three or four weeks and everybody that ever needed to evacuate is gone, we're going to set up a major office down here. And you'll be down in my office every Monday morning for this briefing. You say, "no, I won't," but the cleanup won't be started for several months and the evacuation is done. I will call you every morning and tell you if we anticipate any changes, but I'll tell you right now we don't. I will talk to you every Monday morning, but I'm not going to drive to Lake Havasu City and spend three hours at an inner-agency briefing at your office every Monday morning. It's not helpful. It's not productive. We won't do that. When you're down along the border, everybody says that's the border and your compatriots say yes and that's our highway and railroad bridge that are about to be washed out. Sunday morning you can take the fence down, put a quarter mile of rock along the river into Mexico, and put the fence back up. Then everybody will pretend it didn't happen.

There are some things that we really learned about what you could get done in times of crisis. If you had people that were willing to make decisions and task risk, and when we come back for the congressional oversight hearings and the GAO and they say, "You quit following the core flood repopulations at this point?" And we said, "Yes, we did." And they said, "Why?" We said, "Because they weren't working. We had more information than those did. We knew more about what was upstream and what was happening. If we used the equations they had, you had to build in potential for error. You would've released 40% more than we were currently releasing. We didn't think it was prudent to do that." Here was the analysis we had and why we had better information then what was created at the time they wrote those flood control criteria in the middle of a drought. We made better decisions. Sure enough they came back and said "Yes you did make

better decisions. As a matter of fact since you made those decisions, the damage is less than what it would have been otherwise."

By having people like Bill Plummer as Regional Director and people like Bob Broadbent as the Commissioner and even the Secretary, he got in there and they were willing to come sit there and talk to you a little bit and say, "You go do what you need to do and we'll take care of the media." It made me glad to see that you can do things like that in the government if you got people that let you do it.

Q: You say that was a high water mark?

A: Yes.

Q: High water mark in relation to 100 years, 500 years?

A: We've got 100 years of records and it's the most in that hundred years and certainly the most it's been released down the river since it's been controlled by big dams like Hoover and such. The early 1900's had some very big floods down there too, the ones that created Salton Sea and such. I don't really know how that stacks up. They didn't have quite as good of data on the upper water shed at that time. They weren't measuring snow pack. That's the way we do today.

Coming back here in CAP in terms of Reclamation milestones, putting early turnover to the District was something that they had not done before and have done it at a couple places since then in Central Utah, in Animas LaPlata, in the Dolores Project. Some of those up in Colorado has a way to give early turnover to the District. They have not built many projects since then. Most of them that were under construction for the local folks who were running the construction at that time or have been done since then have followed that pattern and turned that over. We were kind of the pioneer here at CAP setting that up and doing it.

We had a major effort to renegotiate the repayment contract. The one that was signed in '72 here and in 1988 contract costs were going to be greater than were anticipated, had to deal with those issues. Got that done and few years later had a major lawsuit with Reclamation over what the contract really meant and had our big repayment stipulation. That was a challenging time for both Reclamation and CAWCD in those days. We thought we had negotiated settlements through the early 90's. We recognized that as CAP water became available, the ag users couldn't afford to use it all. It perhaps was going to put us in difficult times financially, but other vultures in Nevada and California at that time could see that if CAP can't afford to pay for its whole system, maybe they won't ever use their entire water supply. Those of us in California and Nevada who is seeing tremendous growth can get some of that Arizona water and may even have their congressional folks help make sure CAP didn't quite make it. I think that did something a little unique for Arizona. You've got the Indians, the cities, and the ag folks, which had been fighting prior to that time, together and realized that if we don't come up with a plan to re-approach how we use and pay for the water and pay for this project, Nevada is going to manage to get some of it.

Congressman George Miller out of California was having a hearing on CAP and GAO had been here auditing for a year and a half. He was having a big hearing in December of '92 or '93. It must have been '93. He was making big pronouncements how CAP wasn't going to make it the way it was, water was going to go away from agricultural. He had a big speech at the Colorado River Water Users Association on you can be an architect of change or you can be tentative change, but you're going to change and we're going to get some of your water. We were down at the Civic Plaza having those hearings and what really frustrated some of those folks was that while they were having the hearing, we were going in and doing our testimony there and we were all on the same page. Sam Goddard had a wonderful way about him. He had some issues on state's rights various other things, but state's rights in particular, at that time. Give him an opening and he would get on that soapbox. He had his prepared testimony and every time Congressman Miller would try to ask him some particular

question to try to lead him astray or dive into some areas, Sam put in a few deft phrases and picked some key phrases and be on one of his soapboxes and talk another ten minutes. It finally frustrated that panel so bad, they gave up. Sam got to say everything he wanted to say. He said very little that they wanted him to say.

In the meantime, we had come up with some different arrangements for the agricultural folks to subsidize water and keep them as part of the team and keep them using CAP water instead of groundwater. We were using a side room at the convention center down there as a meeting room which we were meeting with the ag districts and signing these agreements. And then Reclamation tried to claim they were illegal and in appropriate but they honored them and we went on ahead and kept the ag guys.

Q: Why did they think they were illegal?

A: They were two-party agreements that purported to set aside the contractual arrangements under the three party subcontracts that set forth the terms and conditions that the agricultural users were supposed to use CAP water and the ag users couldn't afford it under those terms and conditions. So we signed a two-party agreement that says you don't hold us to your rights to claim that water and ordered as a long-term right; and we won't hold you to the payment conditions of full price for a ten-year period while we try to work out something. So they ordered less water and let the other water go to other uses, eventually recharge, and paid an incremental delivery cost.

Our issue with Reclamation was this doesn't change any of your parts of the contract nor any of the financial obligations that would go to you. So you deliver water to CAP for our subsequent delivery to the ag users and there no violation of any of those parts of the subcontract that affect you. I think the local Reclamation folks liked it. Those at the very high level that were sympatric were trying to run the farmers out and make that water available for something else couldn't find any good basis to object, so they continued to honor it.

Q: Considering CAP was started for the idea of water for farmers.

A: Yep. It was a very significant change as we begin to realize by the early 90's that agricultural was going to be at the very least and interim use. It would be fair to say that was the long-term plan for CAP. Even from the very beginning, the ag users got a contract for a percent of remaining available supply that was the first to be shorted. Whereas the cities and Indian users got a specific acre-foot allocation and were the highest priority of water to be used. So we knew going in to it that ag would eventually transition away their water to cities. The same way with the groundwater code here, it was set up so the groundwater would eventually be transitioned away from agricultural to the cities. We had the advantage of having thoughts about doing it that way but those were things to be done in the 2020 or 2030 timeframe, not the 1995 timeframe in which we made a fairly dramatic shift in philosophy.

Q: Was it in 1995 where your role changed?

A: Yes. Tom Clark had been our first General Manager. He left and retired and Sid Wilson came in December of '95. I was a candidate for the job, but I was the number two guy. I think it would come down to if you wanted somebody from the outside to bring in some new blood and you wanted that person to know something about water management, Sid Wilson was the only candidate that was acceptable from that standpoint. There was some that thought we ought to have a political figure head and such as that but most of them wanted a water manager. There was some that thought we ought to bring in new blood and some thought we ought to build from within. We had a good honest discussion about that.

Our Board was changing at that time to some degree too. We were beginning to get more Grady Gammages, and George Renners and later on Karl Polens, and people who were up and coming community leaders and not so much political figures. Those years we had our Sam Goddards, Governor Pyle, Governor

Goddard, Governor Williams, and Senator Fannin. Those guys were already somebody. They were still well-recognized political leaders, although they were not active in high level politics. They were very much interested in getting the CAP built and getting it to be financially sound and on its way. They had no claim or expertise in setting up the operation and maintenance. That's what you hired staff for.

They were starting to step out. By that time, we had repayment started. They were stepping out as they weren't running again. Sam did for a while longer. You had new community leaders coming in. That had been community leaders and wanted to be community leaders. They weren't really looking for a political stepping stone. For some of them, it might have been in the back of their minds but most of them were just seeing CAP get up and running. It was a significant change in our Board at that time so when Sid came in from the outside, I have known him for several years and we had a good working relationship, and two or three major leaders on the Board were very good to me and were very concerned that I not be discouraged and go leave someplace. Sid very quickly was the kind of guy to set up a partnership, not just with me, but to create an entire Senior Management Team concept. Our Assistant General Manager for Maintenance, Darrell Summers, had a few health problems and he came in about that time too and said I need to take a half a step back. So we did some reorganization here; made me the Deputy, put all of Operation and Maintenance under one hat, mine. We started kind of a new era of trying to be independent, run the place ourselves. We started the lawsuit with Reclamation over the repayment activities that year.

You probably heard about this from a lot of people but we had an agreement on how we were going to go forward with repayment and how we were going to deal with the cost over funds that Reclamation had. Sid came in right at that transition. He came in January of '95. Tom Clark stayed on a little as our consultant. Grady was still in there and at the end of February 1995, we had an eighteen party points of agreement signed by Grady and Governor Babbitt or

Secretary Babbitt at that time. By mid-March, three or four of those eighteen points were off the table. Sorry, we just can't deliver on them. We had tuned up another multi-page agreement. I remember working here one night until two in the morning in late May trying to get the final amount document done. I kept Secretary Joyce Murphy here. She was typing drafts as we made changes. She finished up around 2:30 a.m. and I followed her home. She had her car here. I followed her home that night. We got that off to Washington.

That was to be the agreement and we had a signing ceremony set for I think like the first Thursday or something in June down at the Pueblo Grande. Our public relations guy, Jim McIntyre, came in on Wednesday afternoon about two. He was a very cautious person but he came in and said, "I know that it's really none of my business Larry, but can you tell me why we're canceling the signing ceremony on Friday morning?" I said, "Jim, we're not canceling the signing ceremony. Babbitt's on an airplane coming out here. He's got a couple things to do tomorrow; he's got to go to Flagstaff." Well he said, "Babbitt's staff just called and said just a head's up if you got tents and caterers and all that coming, if you don't give them 24-hours' notice you have to pay for the whole thing you'd probably have to leave your deposit but Babbitt is not going to be there to say that until the very least after close of business today. So call your caterer." He said, "You're kidding." They said, "No, no." He called the caterer and cancelled everything and then came over to me and asked why and that's how I learned of it. So I went in to Sid and we called Tom Clark at home and called Grady. Nobody said a word to us. There's a big meeting that night with on other Basin State issues interim surplus guidelines that are going on, on the Colorado River at that time. Not a word said. Not a word on Thursday and nobody shows up on Friday as we were prepared for because the rumors were out then. After a few days, Grady sent Babbitt a letter that said so were you going to call me and talk to me or not. In July, we did get that call back and decided to go into the lawsuit and move very quickly to do that.

That was a pretty exciting time. I had scheduled a ten day vacation to take my parents to Montana. They had never been up there. My grandfather had homesteaded up there in the 20's; we were going to take a driving trip up there. I was supposed to leave Saturday after this signing ceremony on Friday. I couldn't hardly bear to go out of town without knowing what was going on. That was back before the day where everyone had cell phones. I'm making my way to Montana with scheduled appointments that I'll be in this town and this time and I call in and find out what's going on about every other day. Nothing went on. So we just sat here and waited. I was back before Secretary Babbitt was ready to talk about it.

Q: What did you find out?

A: Very little. My early acquaintance with Babbitt that caused me to be a little surprised too about his tenor and then his behavior as Secretary as far as Arizona and CAP. When I first met him, it was as Governor. CAP took some state land, right-a-ways going across the country. There was an old canal act and the legislation that created the statehood that said if Interior needed land for water projects, they would just tell the state and if they used State Land the State would sign over the title back to the Federal Government. The Federal Government would allow the State to select lands of similar values elsewhere.

Periodically, Bill Plummer and I would go to Babbitt's office and he would be a little bit ceremonial about it. He wouldn't have a lot of people there but some pictures and stuff. And he would sign title to certain State Lands to be used to CAP and kind of make a little splash about it. George Britton was his Chief of Staff. So I got to know him just a little bit from that stuff and then when we had high flows on the Colorado River. He was very interested and involved on what the effects might be on that. I had more than one meeting with him and Wes Steiner.

Then the issues of Indian settlements, the Ak-Chin Indian Settlement went through in that time period. Frankly, the Federal Government wasn't entirely fair about the way they did the water rights. They paid the Yuma-Mesa's to give up some water

to be used in the Ak-Chin settlement. The water they paid them to give up was water they had a right to but had never used it and never planned to be used. So the water really came out of the CAP supply. Governor Babbitt and Wes Steiner went back and had some words to say about that back in Washington. I happened to be a staff person working on that situation so I knew Bruce there and when I first got here, it was 1985. It was the first year we did the groundwater. We put laws into effect or developed laws the next year I should say for underground storage, for recharge. Part of that time within the Active Management Area any water underground was groundwater and groundwater was pursuant to the Groundwater Management Act. Babbitt had been very, very instrumental in getting that in place. If you wanted to store water underground or recharge and keep ownership of that water then we're going to need a whole new body of law in the state. The day I showed up for work, Tom Clark says oh yeah you're going to be my groundwater recharge guy. We've been involved with this study with Butler Valley. Sam Steiger is working on that out there and he wants to talk to you. I was having an orientation over in the corner office then, and about where this place is, is where the reception area was. I came out of my orientation and there sat Sam Steiger in his work garb, which is worn our dress shoes and worn out dress pants and a holey t-shirt. He said, "You're Larry Dozier?" I said, "Yeah." He said, "Good. You're the guy I need to talk to about recharge."

I ended up on a committee. Governor Babbitt and Stan Turley, who was President of the Senate then, co-chaired with Jack Pfister, Betsy Reike was the attorney, Kathy Ferris was the Director of DWR, and folks like Roger Manning from AMWUA, and Priscilla Robinson from Tucson to come up with a law for groundwater recharge. We met once a week sometimes on Saturday mornings in the 9th Floor conference room. When the legislature got started, Babbitt and Stan Turley said, "Wish we had consensus by now, but we have to start doing legislative stuff." The rest of us said, "Let us keep working." And we did get a consensus law to introduce in 1986 for recharge. It's been amended several times since then but we got the basis law and got it passed.

By working on that and several other things I got to know Bruce Babbitt very well. So when he was in private practice and ran for Governor, I'd get called from him every once in a while. In those days, it was, "Larry, this is Bruce. I'm trying to do this water deal with Nevada. I know I could look it up but you could tell me a whole lot quicker. What's the contract say? " I would tell him and this would happen every three of four months. Then it was, "Larry, this is Bruce can you help me?" That relationship changed over the years. I thought when he became Secretary; he would keep a real close eye on things that were trying to be undone by Congressman Miller and the new regime that was sort of anti-Western agricultural that was in effect then. He said, "I can't do that because it would be showing favoritism. So I'm not going to do that." He brought back Betsy Rieke to be his Assistant Secretary. So it was, "Betsy, I'm going to keep my hands off it and my eyes on. You keep your eyes much closer on it and don't tinker with it much. We can't (I'm going to paraphrase) give too much attention to Arizona but we can't ignore it either." I think that is the way he treated it. But I will say there was, at the same time the George Miller hearing was going on out there, Guy Martin had been the Assistant Secretary in the Carter Administration and Dan Beard had been Deputy Assistant Secretary. Dan was Commissioner of Reclamation and he had a fellow by the name of Ed Osland who had come out of Defenders of Wildlife as his policy advisor.

They were set to come out here and announce that CAP was going to fall apart and these deals we were trying to do with the ag guys were not going to work and set to make some big announcements just before congressman Miller had his hearings. The story I heard was that Babbitt did go down the hall to where Reclamation was and said, "You know I said I will keep my hands off and I will but, you are not going to go out there and pull a sneak attack on Arizona over these issues." "I am not going to tell you what you are going to do but I am going to tell you what you aren't going to do and you aren't going to do that." So Osland had press conferences scheduled and he didn't have anything to say at them because he didn't have anything to attack on. So, while Babbitt did try and take a hands off position, he did try and not let Arizona get taken advantage of. When

we got into the repayment settlement, he was still kind of the same way. He tried to hold it at arm's length as much as he could. There were some times when it would have been nice to have his help in some of those negotiations, but he just assigned it to other people and stayed away. He did not at all appreciate getting called in and deposed on that. Probably one of the few times he was almost down right rude to the people from Arizona that he knew that had worked with him before that deposed him. He didn't much appreciate that. He had said and done some things that were significant relating to CAP that was important that he got deposed on that. He did it but he didn't like it much.

Q: Did he eventually return Grady Gammage's call?

A: Eventually he did. It was something about there's no point crying over spilt milk; let's just get on with it. Pretty quick after that, we choose to go into the lawsuit. Even during those years on the Colorado River that ended up with Interim Surplus Guidelines and the Quantification Settlement Agreement in California to help bring California back to its basic use, the Babbitt Administration had a very strong role in that. It got finished up after he got out under some of the Republican stuff but a large part of the ground work was done by David Hayes, the Deputy Secretary. The change in parties, the change in Secretary's change the people. Secretary Norton didn't involve herself in any great details so it finished up stuff that the Babbitt Administration started. I think where we are now about to get shortage criteria, about to get some new operating criteria, giving the Quantification Settlement Agreement in California, the things we're doing with what people don't like to call top water banking but it is. And the ability to do extraordinary conservation and save some of your own water each year into Lake Mead for carry over use. In future years, the ability to introduce non-Colorado River water in Lake Mead or into the river system and be able to use it and keep its identity so it doesn't get its priorities mixed up with Colorado River water's history making and precedence setting.

Some of that was started under the Babbitt Administration but it's been through at least two Secretaries and two Assistant Secretaries to get it where it is today. I think it will get done on the Bush Administration, watch eight years later and they'll take a lot of credit but it was twelve, fifteen years in the making.

Q: Let's talk about some of the issues related to Arizona's water resources. The Arizona Water Bank, where you involved in that?

A: From the beginning, we were talking about underground storage. By the early 90's and after we got all the laws in place, we were talking about doing it for inter-state purposes. To take water that we weren't putting to use and weren't sure if we had the money to put it to use, and having it stored over here but have California and Nevada pay for that and pay them water back at some later date by recovering it and using it here and use water off the river. That was a way to help get all of the water used in Arizona and get somebody else to help pay for use of the project to do that.

Larry Linser, he has been dead now for a few years, was the Deputy down at the Department of Water Resources. We had technical team meeting with all of the states. We met monthly. We met in Arizona. We met in Nevada and came up with all kinds of good engineering solutions. None of them quite complied with policy and law so we struggled with those issues on how to get it done. Larry and I were talking one day and thought, "You know, we keep hearing some of our folks say why don't we store for ourselves if we're willing to store for Arizona and Nevada. We just got this ground swell of support for CAP going, we just cut these deals with the ag users here in '94, we've got this deal going with CAP's lawsuit, corners turned, and people are willing to think about using that water in Arizona.

So in '95, we changed our strategy and said let's make it an interstate water bank. We'll be storing water for Arizona's future. Focus the water bank on that leaving the possibility to do interstate banking. That was a better idea and if we were so damn smart, why we didn't think of that earlier. So we began to have some

meetings with folks around to get some good support and get a consensus built and introduced some legislation in early '96. We had some difficult times with people not being sure they wanted to extend or add a new tax with people not sure that CAP ought to be the one doing it, not sure that the department should not be. We didn't really have an interstate role, the department did. We came together on a consensus and tough times with some very difficult negotiating sessions with all of the stakeholders at the table; the cities, the towns, AMWUA folks, certain legislation leaders. We had some things we disagreed in with the Department of Water Resources. They were down lobbying for their view point and we were down lobbing for ours. We got some pretty strong threats in the House that said you have to quit lobbying over there. So went to the Senate and accomplished it on that end. We got some good consensus legislation through. It's been improved on a lot since then.

Then we moved into the interstate basis after we got things going well on our own. That was quite controversial within the state and among the Basin states. Again, it's a matter of consensus building with all the folks involved and tried to have no surprises. Let people know what you're doing and why. Be prepared to listen to them and make changes if they had better ideas. So that's sort of how the Water Bank ended up as a separate state entity, separate Governing Board, not part of Department of Water Resources, not part of CAWCD, and why we're specially named as being the operating arm. We don't run it. I like it that way. I think it's been a good deal. It's not been overly controlled by the Department of Water Resources or overly controlled by us. There were a few times in the operation and maintenance and the financing aspects make it a little bit awkward; but even for the most part, we've worked that out well with the Water Bank's staff. We do a lot of their reporting for them. We do a lot on helping keep the financial records. Primarily because we need to track them ourselves anyway, so why not help them.

Q: The Central Arizona Groundwater Replenishment District is a whole different one?

A: A whole different story. Another one of those I guess I would say groundbreakers for this state. It almost got into by accident as we begin to do underground storage and we begin to deal with the real need and visibility of the assured water supply by the cities. There was areas outside the cities that didn't have groundwater rights because they didn't have them under the old Groundwater Management Act stuff. They didn't have a CAP contract and couldn't get one. They might have plenty of groundwater but they didn't have long term rights to it. There were replenishment district of the sorts in California but the idea was if I've got water here, let me take it and you just replenish it. I may not have a right to this water but I'll be responsible for buying water to replenish it. There was actually a Phoenix area groundwater replenishment district created the year before and a similar kind of district created in Tucson, neither one of which ever got off the ground.

I say the developers, but I don't want to say that with too much of a negative connotation, wanted a way to get an assured water supply in areas that didn't have a CAP contract, didn't have long-term rights and they saw replenishment district as to accomplish that. The city saw that as some level of competition for growth, but realized it was inevitable, so between the development community and the cities, they decided the least threatening entity to run a groundwater replenish district was CAWCD. We could do that without creating too much of an additional new agency and the cities had pretty strong influence on our Board. The Central Arizona Water Conservation District had replenishment duties added to our basic duties. No Central Arizona Groundwater Replenishment District was ever created, it was just a separate groundwater replenishment district was recreated. Those duties were just added to our Board. We just took that, this is what the law intended and began to grow it into a pretty busy thriving agency today.

Q: In the future is it going to be a competition or complication for CAP with both of those?

A: The cities worry that there might at times be competition for new water supplies or new uses on the canal that the Board would give preference to the CAGRD, instead of to a city that wanted to do something because we do have statutory responsibilities under the Groundwater Replenishment District. Responsibilities to make sure that we do give out water supplies to do replenishment. What we've tried to do and believe that we've been successful is to be able to change hats to some degree and create the Groundwater Replenishment District as another water entity when they're looking for CAP district-wide services. We acknowledge that if there ever was a competition, the Board would have a statutory responsibility to take care of the CAGRD. That may be an issue someday. We're going to try not to make it one for a lot of years. It's an issue that doesn't ever go away. Somebody's always bringing it up, just like somebody's always bringing up how come we have postage stamp rates for water deliveries to Tucson. They should pay more because they're farther away and they're at a higher elevation. That won't completely die; it comes up every once in a while.

Q: Another thing that has come up recently is the Yuma Desalting Plant.

A: Take a step back. When I spent a little time in Washington D.C. in '78 and '79, I worked on Senator Pete Domenici's staff for about six weeks. One of the things that happened in that time period was a hearing on the Yuma Desalting Plant to increase the authorization and to have more money to build it because it was going to cost more than they thought it would have. I was working on Domenici's water staff, so I did quite a bit of research and helped put questions together. I was even kidded a little bit by my employer, the Bureau of Reclamation, up on the hill. There were some pretty tough questions. You had our Commissioner grilled pretty hard on that stuff with those questions. I was working for the Senator that day and he asked me to write good questions.

A few years later, I'm down working for the organization that is building the thing and then a decade or so later, we're over saying if we'd operate that thing we could be saving water in Lake Mead. There would be a million acre feet more in

Lake Mead today if you'd been operating that since it was completed. We feel like two things. If you'd operate it the way it was intended, you'd be recapturing water supply that is currently not being put to beneficial use in the United States and we'd be saving water in Lake Mead. The other part of it is it's just a shame when everybody is looking for new water supplies and desalinization is the technology they're all looking at and here sits a fully capable desalinization plant. The largest in the United States if not the largest of its type in the world with brackish water all over the place, and we're not operating it. It just seems like a shame. It's a waste of a resource in a time when we're all looking for new water that it's not cranking out water.

It's got one minor draw back and that is it's in the wrong place. Yuma doesn't need water. It's got lots of water. It's sitting on mounds of "brakish water. If the discharge from the Yuma Desalting Plant was in Las Vegas or San Diego, you bet it would be run or even in Tucson. Sitting where it is, you have plumbing capability to treat that water, out it in the river, exchange upstream and take it out any place you want to. It has complications from the Law of the River, taking water from state to state, it has expense issues. You hate to spend $300 an acre foot to put drinking water quality back into the river so you can take it out of the river someplace else and treat it all over again. But we're not far from needing to do that. I'd say within three years, it'll be operating at a third capacity with the majority of the benefits and the majority of the costs being paid by Southern California and Las Vegas; and almost none of the cost and maybe 10% cut of the benefits going to Arizona.

Q: Why was it put there?

A: It was put there to treat the drainage water for the Wellton-Mohawk Irrigation and Drainage District, which when added to the other drainage return flows in the river and all the upstream return flows in the river made a supply to go to Mexico that was just too salty to be a good use. The only way to clean up the supply to Mexico was to either take some salty water out of the river or clean up some of that salty

water. The easiest salty water to take out of the river was not to let it get in the river. So you can't really blame Wellton-Mohawk, they're just one of many districts that puts their irrigation return flow back into the river. But they were the ones who were bringing it in from a canal and discharging it at one common point right into the river. It was sufficient enough that if you took that water out, that in its self would clean up the river but you had to put some other water back. The other water we were putting back then was water from Lake Mead. But the idea was to take that water, quit putting it in the river until you would run it through a desalinization plant and then put it back in the river. It would then blend back, it would be usable, and you wouldn't have to release the additional water from Lake Mead. It was in the right place to do the job it was set out to do. It's expensive. It didn't worry us too much because the United States was going to do that as part of their commitment to Mexico. They were going to build and operate that plant at no cost in water and money to the Basin states as was testified in many hearings. There will be no cost to the Basin states in either water or money. Well, it cost us water all along and when it runs it'll cost us money. I have no confidence that there will ever be any federal money going to that as long as we long as we got war going in Iraa. There is too much competition for federal dollars.

Kind of the same way with augmentation on the river, they promised at the same in the Basin Project Act to study augmentation if and when it was implemented. There was if in there. The cost of augmenting the river by the first million and a half acre feet that is the amount to Mexico would be paid for by the United States. They have not done that either. They did the studies. They won't even take credit for those these days and won't. I don't expect to see any money for weather modification or for edified management or water imports from the federal government again, until we recover from the war in Iraq and the budget deficits. With the drought going on, we can't wait that long. The states will do it ourselves.

Q: What challenges or issues relating to Arizona water resources do you think are the most critical today?

A: We've done a good job of developing, particularly in Central Arizona, a portfolio of water supplies; groundwater, CAP water, water stored underground. Here in the valley, the Salt River Project, the Gila River not so much of that in Tucson. We've put together ourselves a good water portfolio. We have built in to that portfolio, the expectation that there will be some movement from agricultural and municipal use.

I think the big challenges are thinking of water along with growth planning that they're not just two separate issues. You can't plan growth without planning the water to go along with it. We're just getting ready to get there with things like the GRD and these later rural water planning bills and such as that. We're probably ahead of some of the other states but water has got to be a significant factor in planning for growth in the future. They've sort been on two separate tracks. The future planning and zoning guys do this and the water guys to that. Growth gets done over here as the economic engineering with the planning and zoning guys and the water gets done over here in the water department. We're just starting to mill those two together. That is one of the big challenges we have.

The other I think is maintaining some quality of life as it relates to growth and water; growth and the use of water for growth. If you ask people would they believe in water conservation, the answer would be yes. Would you like to see more water in our rivers and streams and well water to maintain the environment and they'll say yes. Then you'd ask them are you willing to sacrifice for the environment and they'll say yes. But if you tell them are you willing to sacrifice for conservation if the water that is conserved is going to bring more people and not be used for the environment, most of us will say no. That's what we're doing with conservation these days. We're trying to conserve our water supplies so we can make the supplies we have serve more people. That's eventually going to hit us bad on quality of life. So I think managing to keep that balance. Guys like Grady have that pretty clear in mind.

Q: In what way?

A: Grady is well aware all xeriscape creates heat islands. You need to plan for some open space and you need to allow for some water to be used for irrigation. You need to keep some water for irrigation for agricultural and that needs to be a part of your economy and your society. If you have some long-term agricultural going on and you get in a really, really bad drought, you can lean on them to borrow some or all of their water supply in those years to keep people going and give it back to them when it's over. If you've taken it all away from them and you're conserving everything you can conserve and then you have something worse than your worst case like the drought that is going on now, you don't have any cushion. You don't have any choice but to go to rationing and having economic issues and such as that. Marrying water and growth and planning together is going to be a big one.

Secondly, new water supply. I don't have any belief that we're going to keep people from coming to the Southwest or parts of the country, so we need new water supplies. We're going to have to look at big picture deals like an ocean desalting plant. My favorite one is an ocean desalting plant between Rocky Point and El Gulfo somewhere on the East side of the Sea of Cortez in Sonora instead of Baja. A big plant, one that produces as much water as the Central Arizona Project does; a million and a half acre-feet per year and use as much as you want to or need in the Sonora area, Hermosa, San Carlos, Nogales, San Luis, Port of Mexicali. Run some by pipe if you need to over to the Western side of the Sea of Cortez or the Eastern shore of Baja. Take it over to Ensenada if you can get it over the hill and bring it up in to Yuma. Any of that that you want to put in pipes then you take it to Nogales and bring it down to Tucson. So you take part of that and you take it as potable water and you put it in pipes and take it that way. Take the rest of yet, a million acre feet up in an open canal, a cheap as pipe as you can get, and bring it up and dump it in the Colorado River just above Imperial Dam. You say you're dumping desalinated ocean water that you just paid $800 an acre foot for right back into the river where most of it is going to go to irrigation uses in Mexico and that. Yeah, you will but the water you were going to release from Lake Havasu to go to Imperial Valley. A chunk of it you can take out of Lake Havasu

and take to the coastal regions by Metropolitan Water District. You can take some out of Las Vegas and water that they would have otherwise been releasing to go to the Yuma area for distribution; you take it out upstream and put this water back in there. In 25 or 30 years, it'll look like affordable water and a good deal. If we start now and work hard, we might have it done in 25 or 30 years. But if we wait 15 years to start a project that mass, and oh by the way, it takes a lot of power to do that so you're going to have to build a big power plant down there. And since we're worried about carbon footprints these days, we'll build a big nuclear power plant down there.

Q: Why not solar?

A: Solar takes too much damn space and it's too darned expensive to get it brought to high voltages that are necessary to transform it up to high voltages to take it where you need it. Southern California needs a bunch of power, northern New Mexico, southern Arizona. If you'd go down there with a partnership with Mexico and build a big power plant, I don't care if you want to burn Mexico's oil. But some people don't think we ought to burn fossil fuels anymore. So nuke will work. Build a big power plant, build a desalting plant, export water and power to the United States, and use all you can use down there. The one thing you'll quit exporting to the United States is immigrant labor because they'll all have jobs down there. We do want to get the border fence done before then so we can keep all the skilled labor in the United States that are welders and mechanics from going down there to work or we won't have anybody to do our work up here. We'll not only lose our labor supply but we'll lose our skilled labor down there to build those things. You'll have to put in roads, infrastructure, and houses. For the construction period, you'll have to restore the Seaport at Guaymas; you'll have to restore the railroads to ship stuff up and down. It'll be an economic boom to Northern Mexico that will make them a good partner for the United States. That is my big picture issues for the next 20 years.

Q: I noticed that they are already building power plants just inside the border.

A: Smaller power plants down along the ocean, they're different smaller seawater desalinization plants on the books for Ensenada, for the Guymas/San Carlos area. They're thinking about them. They got them on the books. They're looking at them. They've got lots brackish water in the Mexicali area and in the San Luis area that they can pump up and run through brackish water desalinization. You can also do that in Yuma and pipe it down there.

Q: One of the things that I've heard people talking about the whole Appropriations Doctrine, first in time, first in right. That might not survive the new demands brought on by drought and population growth, the people particularly in Colorado.

A: The Western Appropriation Doctrine first in time, first in right is awfully ingrained. If replaced, it will be done so rather slowly. I think it will more likely be supplemented by more and more water markets. The ability to buy those rights and transfer place and type of use appropriately addressing the damage that might be done to others with third party impacts along the way.

Colorado has an excellent system of doing that. It was started more than 30 years ago with district water courts and district engineers as they moved water within the same drainage basin from old agricultural use to new city use. Retirements are rights in the Arkansas River Basin to give water to Pueblo and City of Fountain and Colorado Springs and places like that. They have a very active system that if I want to go way up here and take an old mountain irrigation right that's old and sell it to the City of Aurora way down in Denver out there. You'll have to go back and look at how that will affect the stream flow by not using it up here and getting return flows and wheeling through down there spreading it out over the years and through the summer. You're going to have to do a big water/engineering report and turn that in to the water court to be looked at by the district engineer and do it. What Colorado has been afraid of for years and the reason the Compact was entered into in 1922 was that the Appropriation Doctrine applies within each state. Some Supreme Court decisions in the early 1920's said absent to anything else, it will apply between or amongst the states. Colorado is a head water state. Water

rises and feeds six or seven drainage basins up there; the Platt, the Arkansas, the Rio Grande, the San Juan, the Amp, the White, and the Gunnison. So if they begin to see the downstream folks develop faster than us and they get a first in time, first in right appropriation; we won't be able to get it back later, we'll have to let it go to them. That is why they were willing to sign the compact in '22 which said this is how we're going to split it up. So it was an allocation process, an apportionment process as opposed to an appropriations process. It's in their best interest to see that stay in place.

Q: There are some people that are saying we should reopen that 1922 Compact and renegotiate it.

A: People that say that want more water. They want it open so they have access to water. There is nobody that wants to give up water. If I want more water and think I can get it by opening the Compact, who am I going to get it from? They might think if they can cross state lines, unfettered, money talks. If I can go to Wellton-Mohawk Irrigation District with enough money, I could buy a good old right there or if I could go to the Yuma-Mesa Irrigation District. If I'm from Las Vegas, I could go through Palo Verde Irrigation District and buy and have unfettered rights or I if I could just go up to the Grand Valley in Colorado and retire farm land and move that from Grand Valley in Colorado to the Las Vegas Valley.

Those who that want it open are those who want more water. Las Vegas has tried that battle for a long time. They finally decided that wasn't going to work and they've tried better things. People and usually big developers or people who think they've got lots of money, if they could get water and could have a big development are the ones that come along. And then yeah there are environmental interests that would like to see some water freed up and committed to specific environmental interests. But in Arizona and Arizona has got 2.8 million acre feet allocated to the state, more than half of that is allocated to Indian tribes. Tribes along the river and over here Arizona, not exactly federal purposes but it falls in the federal category. There is a substantial amount of that

2.8 million acre feet allocated to the Havasu Wildlife National Refuge, the Imperial National Wildlife Refuge, the Cibola National Wildlife Refuge, and to the Bill Williams down at the tail end of that National Wildlife Refuge. Over a hundred thousand acre feet of Arizona's...over 5% or more is committed to environmental uses on lands in Arizona. I'd like to see Mexico commit some to keep the Cienega de Santa Clara alive or develop the lands in the Delta area along the lower river but I'd like to see them do it with some of their water not some of Arizona's water. Even California has a little bit committed to wildlife refuges but almost all of it sits in California. The refuge is along the river. The great and vast majority of the acreages are in Arizona. I guess you can also say we've got water committed from our share, Nevada has a little committed from theirs to the Grand Canyon National Park and into the Lake Mead National Recreation area. We give a lot at home. I don't need to give in Mexico just yet.

Q: You're talking about desalinization plants and some of the bigger things. Years ago they were saying the era of big water projects is dead. There's not going to be anymore. Do you think there will if the drought continues and growth continues?

A: I think there will be some new types of big water importation projects. In a seven basin states group we are putting out an augmentation report. We talk a little bit about ocean desalinization but the first report written about a big nuclear power plant and a big one in a half or two million acre foot desalinization plant down by Rocky Point was put out by the Federal Government in 1968 that was co-authored by the International Atomic Energy Commission, the Department of Interior, and the counterpart in Mexico and recommended that it was feasible and we do that. The Bureau followed up with a similar with a much shorter report with a couple projects of that nature in '69 also. That '68 report is out of print although we printed another 25 copies and passed them around. It's getting legs shall we say.

The other one that we were forbidden from looking at was importation of the water into the Colorado River Basin from the Columbia Basin. The Columbia, I

can't remember if it's a week or a month, discharges about as much water to the ocean, let's say, each month as the Colorado has all year. I say discharges to the ocean after they've done their upstream uses and to go out there and take 10% of that would be more than 10,000,000 acre feet. Ten percent would be about what the Colorado River puts out each year, it would not seem to hurt a whole lot.

Scoop Jackson was the Senator from Washington at the time did language in the CAP Act that prohibited the Federal Government from using any money to study that, private interests and the states can. We've seen all kinds of schemes like towing icebergs. There is a whole fleet of single hauled oil tankers lying around out there that they grounded after rupturing, the Valdez or something. So they all have to be double hauled that will hold 500, 600, 700 barrels of oil, a few million gallons which is maybe a few acre feet; more like five or six if you get one of those big tankers. Terribly expensive, I don't think we'll do it. Folks in the Hudson Bay don't want us going after their water and the folks in Great Lakes don't either but there were some folks in the Lower Mississippi that were glad to give us some water a few years ago right out of the streets of New Orleans. We actually did a quick little study in this. What if you took water out of the Mississippi River below the Confluence with the Ohio down around the Missouri boot hill area? That river discharges at that point 450,000,000 acre feet a year. The Colorado has 15,000,000. You could go over there and take a million or two acre-feet out and you couldn't even measure it. You just don't have that good of measuring. You can measure what you put in your pipe and a twelve foot pipeline to the front range of the Rockies, along the Arkansas, Oklahoma, and Kansas and the border right along there would move 650,000 acre feet a year and three of them would move almost 2,000,000 acre feet a year. You could dump water in the Upper Rio Grande. It was a thought of pushing it through the mountains and dumping it in the San Juan. But you would have to bring it all the way over to Lake Powell because the San Juan can't carry that much water. It's too much to mess up its base flow but you can get it over there and then you could head up the Front Range; dumping water off at Pueblo and Colorado Springs and Denver and all of that. All of those cities take water off the Colorado River by trans-basin diversions.

You can give them Mississippi River water and have them leave the Colorado River water in the Colorado and let it come down. That's probably not more expensive or a lot more environmentally challenging then the power plants and Desalter in Mexico and probably engineeringly simpler. It's just pipes in pumping plants, you know, across the old flat prairie out there for much of it.

Interstate 30 and Interstate 70 are so full of truck traffic these days, now that I got that good flat spot going across here, just put a high speed rail on it and move cargo from the Front Range to the Mississippi Valley. The airplanes are getting too crowded since you're going to stick high speed trains on there, throw a passenger car or two on them. Get them across that thousands of miles of not very interesting country to drive across anyway. When I used to drive it a lot, I use to wish that I could leave the edge of Denver and drive into the edge of Kansas City and skip that whole drive across the Eastern Plains of Colorado and all across Kansas.

Q: Looking back over your career, is there anything related to the CAP that you're proudest of?

A: The fact that I got to come along after all of our old leaders who did such a fantastic job of getting it authorized and built and I got to step in at the tail end of the building process, the front of the operating process, and implement it. Put it to use. Making it capable of delivering water reliably and cost effectively. And having developed a good sense of trust with our customers such that when we started doing the strategic plan a couple of years ago, we finished it up last year I guess.

We spent eight or nine months in 2006 putting together a big strategic plan with our Board, the public, what was important, and what we needed to work on. Some things that didn't even get anywhere close to the top ten list were reliable, cost effective water deliveries. It didn't even show up on the list for CAP's long term strategies. The reason is we already got that. That doesn't need to be on our future strategies. That's table stakes. That's a given. You got that. You go from

there and build up on it. And those that did, think gosh we ought to want reliable, cost effective water deliveries shouldn't we? Yeah, we want but we already got it. It doesn't need to be part of our long term strategy. We need to work on stuff that are problems or issues, not something that's not there.

I guess having spent twenty something years doing that kind of development, then getting into the strategic planning process, and then being able to come back and explain to the staff about something that is very important to us and that we talk to our staff all the time about is we have no competition. We are our own competition. We set our own standards to be reliable and cost effective. To explain to them why that isn't important enough to make the strategic plan was to say because I've already got that. Just like working here, a good retirement plan is not one of our issues. We're in the ASRS, we've got one. If you're putting it on the top ten things you want, that wouldn't make the list because you've already got it. You want something new.

That really hit home with me in that process. It pops out of everybody's mouth once in a while. It'll get thrown up there on the Board during the brainstorming when you start moving things into issues. It sort of falls out and we pull it back in to that section of project reliability in words and in places so we wouldn't lose sight of it, but most of the project reliability has to go forth looking at new supplies, making the canal get bigger, and doing more to have reliable water supplies in the future.

Q: Is there anything looking back that you would've done differently?

A: I think there are personal growths in my life. I learned how to work with elected Boards better and deal with them as they transition from one style to another. I think I'm fairly good at and I think I've learned a lot. But when I look back, you usually gain wisdom from making a mistake. So some of the wisdom I've gained is because I didn't do it right the first time and had to figure out a way to do it the second time. Some of that was leaning how to be effective with an elected Board and there is a very important role that an elected Board plays and there is a very

important role that staff plays. At my level, we're at that transition between the two of them and you need to be effective to make that work.

I think we've done things pretty well right in dealing, in our dealing with the Federal Government and our getting this project up and its ability to run. And some things we've started that John Newman has taken over here recently on coming up with a phrase we call Maintenance Excellence. We realized we really had to make a significant transition to a construction mentality to we're in it for the long haul and do good maintenance mentality. The construction mentality when it goes over into maintenance is sitting around waiting for something to break and then run out and fix it. That is also a little bit more exciting than taking care and planning ahead and doing all this stuff. Very little of it breaks without you having to plan for it. You fix if just before it breaks or you know it's going to break but you're waiting until it does, then you know you'll fix it. It's a long-term maintenance approach. It's kind of gone on behind the scenes. We started that when maintenance reported to me. Thankfully the Senior Management Team had the good sense to see here that I had too much on my plate with water policy and that too and did some reorganization. I've been allowed to focus mostly on operations, long-term resource planning, and water policy the last three or four years now I guess. John Newman is really focused on getting our Maintenance Excellence program and that is something we did right.

Q: That covers most of the questions I had for you. Is there anything you want to talk about that I didn't ask?

A: It seems like I've talked a lot. I filled up some tapes. There are stories of dealing with those old Governors and such that I didn't focus on. But I have two particular stories on that.

We were, I think we were using the AMUWA offices down 44th and McDowell and then the one down there on Central looking out over the Veteran's area and such in there. Jack Williams and Paul Fannin were talking about their early days with

Barry Goldwater. And if I understood them correctly, they even went to grammar school with him. They were talking about somebody writing a four letter word about the teacher on the board in 7th grade. They were really trying to remember in their minds who really did it. They were both pretty sure that Barry did it. They were real sure that it wasn't them that did it. It wasn't me and you say it wasn't you so it must have been Barry. It was just fascinating to sit there and listen to them tell old stories. They were also talking about, I think Goldwater was retired, and had taken a position contrary to the Republican Party on something to do with taxes. I can't remember what it was. They were saying somebody has to turn Barry around on it. Paul you still talk to him a lot, why don't you go talk to him? I'm not telling him Jack. You go tell him. No, I'm not taking him up on that one. Sam Goddard was like don't look at me. I wasn't around in those days. Finally, they were having some more of those discussions. We were in the property at Casa Grande. We were having a Board Meeting down there and they were all talking about their stories over lunch and we had to get up and move back to the meeting room then. We had the meeting room back over there and there sat Rod McMullin, Marshall Humphrey, Paul Fannin, Jack Williams, I'm thinking maybe Sam wasn't sitting right beside them. I can't remember if Governor Pyle was still on the Board then. When we went to many of those places like that, it was hard to get good audio visual equipment there. After a little while, why Rod piped up to whoever was speaking and he said, "You're going to have to speak up a little bit. All of us over here in deaf row don't have the faintest idea what you're saying." They all agreed heartedly that that was certainly deaf row.

Q: We saw a lot of history with that Board.

A: That was a good bunch. Governor Pyle we flew to Tucson for a meeting one day. We gathered up a bunch of the Board. That was probably the first or second year I was here. One of my jobs then was to...some of the Board members drove and some of them came from down there and we had some flying. So I was escorting a small group, including Jack Williams and Governor Pyle, through the airports. Governor Pyle, people just stop all over the place to see him. He treated everyone

so graciously when they visited him. They would remind him that my dad did this with him once. He'd visit with them about it and then we got on the airplane finally and I'm sitting right beside him. I asked him, "You might remember some of those times and places, but don't convince me that you remember all of them. He said, "I can't hardly remember any of them but they do." So he would visit with them if they wanted to talk about it.

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