

CAP Oral History

Pam Stevenson (Q):

It's Tuesday, July 20, 2004 and I'm Pam Stevenson and I'm here at Sundance Farms near Coolidge and if you could tell us who you are.

Howard Wuertz (A):

I'm Howard Wuertz, owner of Sundance Farms and my wife and I and four kids have lived here for some forty-two years and Sundance Farms is just a name we picked out because we do live in the land of the sun.

Q: Alright. Let's get a little biographical information here. Can you tell me when and where you were born?

A: I was born in Reville, South Dakota in September 15, 1925 and the Wuertz family moved to Arizona in 1929 and we arrived here I guess on Columbus Day which would be October 14 or something like that and we've been here ever since.

Q: What brought you to Arizona?

A: Well, I guess the, the cold winters and droughty summers in South Dakota and my grandparents had purchased land here in Arizona. And my mother and dad where able to make a trade with them from the farm we lived on in South Dakota, for the farm here in Arizona, and that happens to be right across the county road here and we, my mother and dad, had to build a 16 by 16 little cabin. If you will that we later converted into the chicken house and we lived in it in the fall, winter, and spring of '29 and '30.

Q: So how old were you then?

A: I was four years old at the time.

Q: Do you remember any of that?

A: No, I don't except my oldest brother Wayne said that when we came through Texas he said, "Howard you saw your first black man and you said, "Hey, there's a man back there who's got a dirty face," other than that I don't remember anything. No I don't.

Q: You were a little bit young.

A: A little too young.

Q: How many kids where there in your family?

A: At that time, I was the youngest of four.

Q: Well, they must have liked Arizona. Did you grow up then on the farm here?

A: Yes, the farm we grew up on is right across the county road from this farm and we had hard times, of course, as you know. In 1929, that was the year the crash, the Great Depression if you will, and things where tough no matter where you were in the United States, and particularly in a part of the country where you were unfamiliar and you had to get started. So it was pretty tough for mom and dad and those four boys to try to make their place under the sun and build a home, build a barn, build a granary, get a bunch of cows, a bunch of chickens, and a bunch of hogs. If we hadn't had the livestock and stuff, along with the cotton crops and grain crops and alfalfa, we'd have starved to death because it was so tough during those, the years of the thirties.

Q: How large a farm was it?

A: We started out with a hundred acre farm, but before long dad had purchased the balance of the quarter section which made it 160 acres.

Q: Why Coolidge, I mean that seems like it was in the middle of nowhere?

A: We, we came here because Grandfather Hanson, had...was a Danish immigrant by the way, my grandpa, lived in Claremont, California, but he made investments in stocks and bonds and securities but also in land and he purchased a little piece of land out here in the desert of Arizona. And the water, the Coolidge Dam was built and completed in 1929 and it looked like this would be a good place to buy land and develop it. So he and his banker put up some money and bought some land here and when my mother and dad heard about it they said, "Hey Grandpa, we want to trade you our acreage here in South Dakota for that thing in, in Arizona." So it was that kind of a thing a family thing that caused us to be here. Wilbur has an entirely different story about that and you might want to ask him because it's much, much more interesting than that.

Q: Well I will have to do that. What do you remember as a boy about growing up in this area?

A: Well, that it was a challenge. It was hot and we didn't even have electricity in the house I think until about 1935. No running water and mother cooked on a, on a wood stove and I had the honor a lot of times since I was the youngest, and didn't have any real farm chores associated with it, that I would be basically the one to, "Go get some wood son." And bring it in, put it in the wood box, and then from the wood box into the stove and help mother with the washing the dishes. And those days the clothing thing was something that you had to wash in an old hand operated washing machine. Heat the water in a copper boiler and so as the youngest of four, I had to help mother with a lot of the chores and that the other three older brothers had farm chores and things. They had their cows to milk and hogs to slop, the milk to separate and so forth.

Q: How did you survive the summers out here without electricity and air conditioning?

A: It, we...would go jump in the weir ever once and awhile where the pump was running, nice cool water about 75 degrees, and that cool you off pretty good and, you know we didn't know any better. It was tolerable, you know, when we really got up town we finally were able to buy an evaporative cooler and you know you could survive that so but anyway there are other tricks to managing during the heat. You can you know wet a sack cloth and hang it up and let the little breeze blow through it and it will cool the air pretty good and so forth. We survived.

Q: Well and without electricity too that's a big issue here.

A: Yes um hmm.

Q: What was that like?

A: Well, the, they read by a kerosene lamp and you'd huddle around it so you'd get close enough so you could see. And but we had kerosene lamps and kerosene lanterns and if you really don't know any better, it's not all that tough. And when you're young you know, four by 1935, I would be 10 years old but we managed and we didn't, we didn't, we're not short of water. We knew to drink plenty of water and wear loose fitted clothing and sweat as dad used to say when you get a little sweat on you and a little breeze comes along it will save your life and so it did.

Q: Do you remember getting electricity? What is the first thing you remember about it?

A: The fact that we could dispense with the kerosene lamp and that we could even afford an electric toaster so that you could toast your bread and things like that. Other than that it was a great step forward to have electricity in the house, and...

Q: What about like keeping the food cool? Did you have?

A: We had a refrigerator, an ice mach, icebox. The icebox would, and the ice man would come by and put a chunk of ice in the icebox every once and awhile so you could keep things cool. It usually took about a hundred pounds of a block of ice. Mr. Biggle, Wilbur was the ice man's name? To coin a phrase they say you know he had his tongs and put the ice over his back and a leather pad there. They say that every man has his wife but only the ice man had his pick. The ice kept the food cool, not last very long but...

Q: Not in the summer.

A: But it would keep things from spoiling and an icebox was a welcome thing, so.

Q: What sort of crops did your family grow?

A: The first crops that we grew where cotton and small grains like barley and wheat, but we also had a few fields of alfalfa because we needed that to feed the livestock. Because when we first came, we didn't have any tractors. We used horses so we were a horse drawn farming operation so you had to have alfalfa hay to feed the horses and the cattle and so the three crops then were cotton, grain, and alfalfa.

Q: Do you remember when you started actually helping out on the farm?

A: Yeah, I started before I was ten I had my cow or two to milk. There were usually about four or five for each of the members of the family to milk every morning. And every evening and of course, at nine or ten, if I was able to milk one I was doing well. My mother died when I was at 10 years old, 1935. So shortly thereafter, I had my two or three cows to milk along with everybody else and sometimes I'd to have a little help to finish my last one. But and then we'd take the milk into the milk room where we had a separator to separate the cream from the milk. And it would be even at my tender age of 10, 11, 12, Dad would tell me, "Son you got to pick it up a little bit or slow it down a little bit." And we finally got a little electric

motor that would after you got it going you'd plug it in and it would keep the constant speed. After the, the milk and cream where separated, we fed the skim milk to the pigs. And Dad would always go up to Capital Feed and Seed and buy what he called shorts. What's left from wheat after you I guess score it and get the goody out of the wheat and make the bread, what's left is called shorts. And you'd mix it in with the skim milk and feed the pigs and they would almost tear each other up getting to that because it was so good. Because it was still warm mixed in the grain with it and then have the trough stick through the fence just a little bit and then extend in to the pig pen 20 feet and you want to watch those pigs fight over that milk. So we, it, from that point on I had a fairly bunch of regular chores even though I was still the youngest of the mob.

Q: It must have been difficult after your mother died.

A: It was. The years of '35, '36, '37, '38, and '39, Dad finally remarried but that really didn't solve any problems, it kind of made things worse but the, as you know the Second World War started in '41 and Wilbur went off to the service in '42, Wayne in '41, you in '42 (talking to his brother Wilbur who is present at the interview) and I didn't go until '44, so you know we were put out to pasture and we got along just fine.

Q: What did your mother die of?

A: She contacted I guess blood poisoning. She was cleaning a chicken and she got a bone stuck in her finger and it became infected and not any penicillin or anything like that. Just a little prescription of penicillin would have saved her life, but that didn't happen until after the Second World War. We developed all the miracle drugs and so forth but, just a little infection killed her.

Q: That must have been pretty sudden, wasn't like she was sick for a long time or anything?

A: That's right; it was pretty tough for us.

Q: And how many kids were there by then?

A: There were five of us. My sister Helen was born in 1930, the only Arizonan in the family and of course she was five at the time and so she went to live with my aunt back in South Dakota for, until dad remarried.

Q: How has farming changed from when you were a boy to today?

A: It has changed in such a way that you wouldn't even recognize it. If we talked about the farms in Arizona in the in the thirties, we're talking about many of the farms used horses, a lot of alfalfa, grain and that kind a thing. And some of the land that I currently own, had a rather large cotton operation and they used mules to pull the cultivators and pull the plows and so forth. And our friend Herman Myers, Wilbur, was the mule skinner foreman (again talking to his brother), and it was his job to see that they were all harnessed properly, hooked to the single row cultivators, and assigned to a specific field so that they could cultivate the things. Nowadays, we have progressed here at Sundance Farms to a point where we don't do any pre-plant tilling to the fields before we plant it. And we don't cultivate it a single time after planting so that we're a conservation tilling operations front to back. We're, we have arrived at the point where we respect the soil, the soil microbes, and all we do to run over the ground with our old tractors and stuff is to plant the crop and harvest the crop.

Q: What about the crops that are grown?

A: We're still growing basically the same crops that we did back then. We, you know the cotton is our principle crop, that's what we have the most acreage of. And we're, we have converted most of our acreage in the grain area to wheat but we do grow some barley, some wheat and some milo maize which is substitute for corn. But in the later years now, and we do grow alfalfa but not much. The crops

that we have added are seedless and seeded watermelons and harvesting this very day for that matter and then we will harvest again starting in mid-August and carry into mid- October for what we call the fall crop. So we'll have probably up to 600 acres of watermelons spring and fall. And the crop that I've really been trying to grow and I've done it off and on is winter vegetables. And we worked quite hard at the winter vegetable thing in the mid-80's to the mid- 90's for a ten-year period and really never could make any money. We would grow fantastic crops, incredible yields, but we didn't have the marketing worked out and we'd virtually give it away and lose money. So that portion of our farming operation never really matured. The last several years we've ended up with cold storage, we have ice making capability of 24 tons a day. We have a hydro line to cool the vegetables so we're in what we call the winter vegetables and we'd like to activate the land that we're leaving idle during the fall winter spring and utilize our resource. We're paying taxes on it, we got equipment, we got men and so forth so we're growing winter vegetables. The ones we will grow in '04 will be broccoli and cabbage and spinach.

Q: How did you get into growing watermelons? When did that start?

A: We started growing watermelons 19 years ago because Sunworld International came over and said, "Howard, I need watermelons to market during the month of September and October and you're in sub-surface drip irrigation and I want you to grow watermelons for me because we want to sell them." And I picked him up at his corporate jet over at Casa Grande Municipal Airport. And we toured the farm for several hours and I did agree and that's when we started was 19 years ago and we've been growing seedless and seeded watermelons ever since.

Q: Where are they sold?

A: The watermelons are sold throughout the United States but most of them have gone to the west coast, but I can talk to truck drivers in our, in our shipping bay and say, "Where's that load of watermelons going?" He'd says, "Well I'm going to

Connecticut, I'm going to Cleveland, Ohio," or, "This load's going to Chicago," or so that they, it goes everywhere. We've shipped some of the smaller melons, we would ship into Canada. They like a little bit smaller melon so we ship into Canada, and this would be an odd thing but we have also shipped melons into Mexico City of all places. Normally, the Mexicans bury us with watermelons and they do it in the months of December, January, February, March, April. And then we start in May and their pretty well through because their climate is getting hot enough that they they've satisfied the market all that time. And then they'll let us have a piece of it so the month of June and July here we are mid- July normally. We're done and we're thinking today and tomorrow or the next day will be the last harvest that we'll have until the 15th of August.

Q: How many, how much watermelon do you grow?

A: We have about 600 acres and we've currently at about 9300 tons that we've put in the market this year so far and will probably have about 6 or 7 thousand tons in the fall crop for about 15 thousand tons for the year.

Q: And what about where do you get the water to grow these?

A: We are Central Arizona Project water users. We belong to Hohokam Irrigation and Drainage and they're purchasers of water from the Central Arizona Water Conservation District. They have a specified allotment and they then allocate that out to the growers in this area. But we, this year we're probably using oh maybe 20 percent of the water we use comes from the Central Arizona Project. The balance of it is deep well turbine pumps. That's where most of our water comes from.

Q: How do you do you irrigate on the ground, do you have sprinklers or what?

A: This is a very unusual farm and we've pioneered sub-surface drip irrigation so all but a couple hundred acres of this 3000 acre farm is in sub-surface drip with the

drip lines below the ground and we can water the fields, for the daily requirement every day, every field every day.

Q: Explain to me a little more how that works.

A: The sub-surface drip is a funny looking piece of polyethylene tubing and it has selected holes in it anywhere from one foot to two foot apart. And so we would then filter the water just like we would at a swimming pool so we won't plug the orifices, deliver the water then out to these tubes through header pipes and then pressurize the pipes to about 10 to 12 degrees pounds per square inch. And then the water will emit out of the tube into the soil at about 8 to 10 inches below the ground and the plants love it. So in cotton, we've been able from what we were able to do before we went into drip, we were producing about two and three quarter bales to the acre. We'd have to work hard to do that and we'd use 89 acre inches of water. Then in 1981, when we put in our first large trials of drip, we were able to make as high as 4.7 bales per acre and only use 32 acre inches of water. So we started converting the farm several hundred acres a year, so by 1985 we had 15, 18 hundred acres actually about 2,000 acres into drip and we've continued to expand that so that we can grow watermelon, so we can grow wheat, cotton, winter vegetables and all on the drip tube and use just a fraction of the water. But we also use the drip irrigation system to deliver chemicals. So we could call it fertigation and chemigation and even put products like herbicides which is a weed killer and also various treatments to correct problems in the soil. Like we have a nematode and we'd put Telone in there to kill the pathogens in the soil before you'd plant the watermelons.

Q: So you have all these pipes or tubing underground?

A: Um hmm.

Q: How does that work when you want to plow the field?

A: That's my whole point as I mentioned earlier, Pam. We don't plow anymore. We don't need to plow anymore. The soil gets softer because of the, the subbing of the water from 10 inches down to the surface and it tends to expand the soil and it makes it softer, much, much softer than it would if you plowed it.

Q: Pretty amazing. That's a whole story in itself. Well, tell me about how you first got involved with the Central Arizona Project and the whole idea of bringing Colorado River water here to Coolidge. That must have seemed like a crazy idea.

A: Well, I guess if you want to you know, stick with the truth, I got into the Central Arizona Project because I helped Jack Williams get elected Governor of the State. And since I was his finance chairman in Pinal County, he appointed me to the Board in 1971, so I became a member of the first Board of Directors of the Central Arizona Water Conservation District. And of course we were, we had to put together an organization. Roger Ernst was our first chairman, other were Tom Chauncey, the whole spectrum of people – 15 of us we but we had to organize the thing. We had to assume the responsibility of repaying the debt if we could create a debt by begging money from the US government of which made our annual treat to Washington DC. And during the time, I was president from '77 to '82, we were asking for about \$250 million a year to construct the Central Arizona Project because it took us from '71 before we actually turned a spade of dirt, it was about 1974, and the project wasn't what they call materially finished until about 1989. My last year on the board was 1990 so we were basically done with it, but instead of costing about three-quarters of a billion, it cost \$4.6 billion to complete because we had to do all kinds of things. As you know, the Environmental Protection Act was put on the books, I think in 1974, and so you couldn't do anything without an environmental impact statement. So if you're going to build an aqueduct from Havasu to Tucson, 330 miles, you're going to traverse a lot of this beautiful, beautiful desert. And my dear friend Marc Reisner his Cadillac desert, we built, we put an aqueduct all the way across Cadillac desert and it cost money and it took time and so it was.

Q: What did you think in 1971 when you got appointed to this Board, did you think that they were actually going to be able to build this canal?

A: Yes, I surely did and there's an awful lot of people that felt the same. You know there's a lot of things that, there's a certain inertia about certain things. The Central Arizona Project had been talked about way back in the, in the forties, and the war took up all that time. But shortly thereafter, in the fifties and sixties, there was a twenty-year period that nobody hardly ever drew a breath that didn't say something about getting the Colorado River water into the central part of the state of Arizona.

Q: That must have sounded like a kind of a crazy idea back then in the fifties and sixties.

A: Yes, but a necessary one because the Wuertz's have been here long enough that we found that when we turned on those pumps to irrigate our fields, that the water table tended to decline. And by the, by the 1950, '51, the state of Arizona through the water department said, "You can't drill any more wells, you're tapping all the water there is." And so there was not any other wells drilled on any additional land after 1951. The only wells that could be drilled would be ones on land that had already been brought into production. If you had a well that failed, you could get a permit from the water department and drill a replacement well for the land you'd been farming because you had a history of it. But because water was continuing to decline all the time it was obvious that we had to get water from somewhere, surface water to supplement that. And by 19, the mid-seventies and particularly when Jimmy Carter was elected President of the United States he said, and the Central Arizona Project was already started, he said, "You will not get another dime to continue building the Central Arizona Project until you pass a meaningful Groundwater Management Act otherwise. You won't get a dime we're not going to fund you because we're not going to be, provide you supplemental water from where you wasted your water by pumping it up and

running down the bar pits and just wasting it something awful. We're not going to build you a project to take care of a wasteful thing."

So in 1977 that was about the time I became president of the Central Arizona Project, we then had to put together in the state an organization that says we will draft a ground water law to protect the water we have there and we'll only allow so much water to users. And basically, where people were taking ten acre-feet per acre per year the grandfathered rights came back somewhere around five acre-feet. So Bruce Babbitt finally was the Governor at that time and the group that he put together to study this issue was the presidents of various organizations and one of them would be the president of Central Arizona Project, Central Arizona Water Conservation, it was me. I was also president of the Cotton Growers, so I was representing the Arizona Cotton Growers along with the Water District, but I'm getting my snoot full of water issues because every time you turn around, the pumps pump less water, the state is on your back, the federal government is on your back, and then I had several outside jobs that took me through all the western states of Arizona, Utah, Nevada, California, and Hawaii. And I see these crazy people putting in drip irrigation and doing all these crazy things and that they were using a fraction of the water and they were able to increase their yields and in 1976 then I put in my first drip experiments. So you see, water is my middle name, so water this or the lack of it you might say. So that's how I happened to get involved. I was up to it in the political side of it, the organizations that I headed and then the exposure that I had entering farms in the five Southwestern states.

Q: You're a busy man how'd you find the time to do all those things?

A: Well ah, you, there's time for everything, there's no, you know, if you want something done, ask a busy man to do it.

Q: I guess so.

A: Yes.

Q: So when you got involved you were on the first Board in 1971. What was the Board like then? What was the Central Arizona Project about at that point?

A: The idea, the first discussions Roger Ernst of course was our chairman. And when you have people like Tom Chauncey on the Board and other prominent Arizonans, Walt Armer was out of Tucson, we had gosh I'd have to have my book to almost remember what all those names were but there were 15 of us: ten out of Maricopa County, four out of Pima County and one out of Pinal. I'm here in the middle of all of this and it was based on population so we don't have 5 or 6 thousand people down here but what little we had we got a representative and it had to be me. And but the Board I thought realistically looked at the political landscape, they looked at the critical problem what the state had relative to water, how the state could possibly continue to grow and develop if it just had water. Like Senator Ashurst said, and Wilbur mentioned this earlier, that Arizona would be a great, great place if it had you know a lot of water and some good people and I guess hell would be too for that matter. What we talked about, the need of the state, it's potential if it had water, we had an allocation that was made to the state back in the 1922 compact, it was ours. Why shouldn't we get our portion of the river and allow this state to continue to grow and prosper and that's what the conversations were about in that first Board.

Q: That first Board, the Project had been authorized at that point.

A: Yes, it had. In fact, it was authorized during Lyndon Johnson's term and but it took quite a while before there was any discussion about appropriations. And they, they were taking root and you know with the likes of people like Barry Goldwater and John Rhodes, of course, from the house side, and Mo Udall from down at the Tucson area. He happened to be the student body president when I was going to school down there, so I happened to know Mo Udall and John Rhodes and others.

Q: As a Board, were you actually making the plans for construction going on, or were you more busy involved with lobbying Congress or what did the Board actually do?

A: The construction plans were the furthest thing from our mind because Bookman-Edmonston was the engineering company that was retained to do the engineering work and almost every engineering plan has alternatives, you have this plan and that one. Now as you might know, when you think in terms of getting water out of Lake Havasu with California bringing it west and us bringing it southeast, that you're taking water out of the same pond. And then you say well, you know, if I'm going to get the water out of this damn lake first thing I have to do is raise it about 800 feet and bore a seven-mile tunnel. Buckskin Tunnel is seven miles long through that mountain because we need the elevation to deliver the water then toward Phoenix. And so by getting it that high and then staying on the toe of the slope of the mountains and the hills and so forth, we only had to lift the water three times to get it to Granite Reef and then that would take care of Maricopa County. When you then cross the Salt River and into a lift station it would be the first lift station to pump water into Pinal County. These engineering things were, you know rather elementary but they, they have to be drawn out to get the actual elevation and the sizes of the pumps and then when you cross every single river. You've got to decide how you're going to do that and in this case they were great big concrete tiles that were you know 15, 20 feet in diameter and you could put a two-story house in the doggone things. And they put them together in joints and they have to find companies that'll build a quality product and put the reinforcing steel in them and wrap them with this and that because what you don't want to do is to put these things in, get half way through the summer and have one of them break because you're going to have a lot of people that aren't going to be able to flush their damn toilet. So anyway, the engineering company, this is not something that we really dealt with because you can get all the detail you wanted from the engineering company the distance it was going to go, who it was going to serve, it was Maricopa, Pima and Pinal Counties and they were entitled to it. And so our job then was to see to it, that the political side was taken

care of, that the state would back it up. They wanted it the governors would support it, the congressmen, the senators, and so forth so that was not uncommon for us to have two or three meetings with our senators and our congressmen every single year so we could track with them. Part of it was here but most of those meetings were back in Washington where the officers of the CAWCD then would meet with them and discuss where we were going, how we would get there, how much money we needed, and so forth.

Q: Being on that Board then as an officer involved a lot of travel?

A: It surely did.

Q: So, what was your relationship like with the Bureau of Reclamation, they were actually making the plans for construction?

A: The Bureau of Reclamation was involved in it of course and they, the Corps of Engineers along with them were, you might say in a consultative fashion. The Bureau of Reclamation provided the expertise, the personnel, and that sort of thing that put the plans together and give you estimates of costs of various features as you went. They called them reaches, so you'd have the Buckskin Tunnel thing was one project, the pumping station, how many pumps you had, how big they were and the pipes leading up the side of the mountain and all, and then the Osborn Wash, after you got on the other side of the Buckskin Tunnel, they said, "Let's make that reach bigger cause it'll serve as a kind of a miniature reservoir to hold water in case the pumps fail." We can pump quite a bit; we can deliver quite a bit of water out of that particular reach. These are the kind of things that the Bureau of Reclamation provided us so that we'd ask questions, why don't you do this, why don't you do that and so forth. So we had a bunch of professionals that had built projects everywhere and so that's the role that they performed then, was the actual designing and you might say awarding the contracts to private contractors.

Q: So they sort of reported to the Board?

A: They would report to the Board on a regular basis.

Q: How often did the Board meet?

A: Once a month.

Q: Where were the meetings held?

A: We met in downtown Phoenix for most of the time at one of the hotels. I think some of them were in the old Adams Hotel and then a little later, I think we met in the Valley National Bank's building and we never did meet at Channel 10. Though in Tom Chauncey's quarters but, and then as soon as we could and the project was progressing, we built offices where we could manage and control the aqueduct so it was adjacent to it and that would be out at 7th Avenue and Deer Valley Road.

Q: Were you involved with the issues that came up over Orme Dam? Can you tell us what you got involved with?

A: Orme Dam? I damn sure was. The, that's an interesting question and an interesting subject and Orme Dam was at the confluence of the Salt and Verde River and is the Fort McDowell Indian Reservation was in that area. And they had 25,000, 30,000 acres of beautiful, one of the most beautiful places in the state of Arizona is the confluence of those two rivers and here comes along the Central Arizona Project and wants to build Orme Dam that would hold 1,300,000 acre-feet of water. But guess what? One million of that is for flood control and only 300,000 of that is for conservation, catch water and use it because once you get that in a flood stage and that you have to catch the water and then release it as quickly as you can in an orderly fashion to keep from flooding the folks out in Phoenix Arizona. That old Salt River, you know you can only hold so much water, so you

catch it in Orme and then you release it. So Jimmy Carter says, "No, no, you guys are not going to build and mess up the Indian's reservation cause you'll flood two-thirds of it and when you fill it full of water and then drain it, you'll kill all the vegetation. Instead of the prettiest place in the state, it will be the ugliest. You're going to have to do something better than that to get approval." And I was on that committee as well with Margie Hance, John Norton, Keith Turley, to mention some of the big wheels that were on it. I wasn't but I carried my weight, believe me and, but...they said you have to come up with an alternative to that because you just ain't going to have that in your project.

So the so-called Alternative to Orme Committee was put together and they studied it for three years, from '77 to '79, a whole bunch of things together in 1980, the Groundwater Management Act, the recommendation of the alternative to Orme, Plan 6 that happened to be. But let me describe the features in Plan 6 that made it so incredibly much better than Orme is that you raise New Waddell and back the water up in Carl Pleasant so that you have waters that the conservation water in that facility would be 600,000 acre-feet instead of the 300,000 in Orme. One of the biggest benefits from Plan 6 was that we control the water in Salt River as close to its source which means that we're going to raise Roosevelt Dam by 70 feet and, as a result of that, Roosevelt Dam, the most productive watershed in the State happens to be the Sierra Anchas that deliver the water into Roose...Wilbur, ask that guy to stop that.

Q: We'll talk a little more about the Orme Dam and Plan 6?

Videotographer:

Yes...the...and Pam, where we were was the Orme Dam alternative, you had just described Pleasant. That's a great story so if we could pick up right in there.

Q: Talk about some of the benefits of Plan 6.

A: Plan 6 had several features. One of them, the main one, it would eliminate Orme Dam and the conservation tillage that would occur there would be moved over to Lake Carl Pleasant behind New Waddell Dam. Instead of having say 300,000 acre-feet of water behind it, New Waddell would have over 600,000. And this actually becomes what we call the cash register for the project because you can pump the water during the winter time when you have electricity available, free power, freer, cheaper power and utilize the winter months to pump the water out of Havasu up the Buckskin Tunnel into the state and deliver it into Carl Pleasant for deliveries during the summer when you need the water. So that this is an incredibly strong benefit that occurred in the study of the Plan 6 issue, the other one was water is best controlled from by going to its source. Any person that's ever managed water knows if you want to control it, go as close to its source as you possibly can. The Salt River was put into place to benefit the Salt River Project by building Roosevelt Dam and this was done and completed in '08. That's the reason for Teddy Roosevelt, its name, and his dedication of that project. But the Roosevelt Dam had overflowed several times since '08 and the water came down the Salt and it has three more dams on it and it would threaten almost all three of them because it was just too much water. So they said let's correct the problem and not worry about flooding the Fort McDowell's Indian beautiful reservation. Let's catch it before it does that and go and catch the waters from the Sierra Ancha watersheds into Roosevelt Dam and then hold more by raising it 70 feet. It's a hell of a dam, and controls the water, release it down the Salt River and goes through Apache, and Mormon, Canyon Lake and Saguaro, the other three dams, in a, in an orderly, controlled manner, and so that the real benefit then of Plan 6 was to control water like it should be rather than to put a dam downstream and try to catch it and say we'll catch it and then we'll manage it. And they said you ought to catch it where it comes from and do it in an orderly manner and then you can release the water through the City of Phoenix and then you'll also have the conservation feature and in New Waddell and Lake Carl Pleasant. So those are the major features that happened as a result of Plan 6, much better features than the original plan.

Q: It was a pretty big controversy at the time. There were a lot of real vocal opponents to that.

A: And Margie Hance, and Keith Turley and John Norton and myself and some of the other members of the Board met in Keith Turley's office one day just before one of these plan, the final meeting of Plan 6 and Keith Turley tried his best to convince me to vote against that and I said, "Keith, you've got to be out of your cotton pickin' mind. You don't understand water, you may understand power," (you know APS guy) "but you don't, you, you haven't attended enough of those meetings and you don't have your act together." This man's dead now so I can talk about him. And I said, "You're not going to get my vote and I'm, I'm here to solicit every one of your votes to support this. And so when we had the first vote, why I think there was Johnny Norton and Keith Turley and one or two of the others voted against it, and so a bunch of us and a guy by the name of Bob Weitzman was the anesthesiologist on the Board, on the committee, and he voted against it because he didn't want us to mess up the eagle thing in Verde. And that was another concession that was made is don't do anything to the two dams on the Verde River so we said, "well, we won't." So just leave that alone and...so anyway we got over there and did the voting after about the third vote, we got everybody to vote in favor of Plan 6 except Dr. Weitzman so at 19 to 1 that was close enough. That's the way that issue, three and a half years later we settled that.

Q: Dr. Weitzman is with the Audubon Society also.

A: That's correct. He's still with the birds. Videographer. I don't see how that would of hurt the birds. I'm still, I'm still confused.

A: I don't either.

Q: Do you remember some of the other opponents, Frank Welsh?

A: Yes, but he didn't have the...he wasn't a member of the committee so he didn't have the leverage that that Dr. Weitzman did.

Q: You were talking a little bit about when you became president of the Board. Tell us about how that happened. You joined the Board in 1971 when it was formed.

A: And Roger Ernst served for the first six years of the organization's existence. And he was very effective in bringing the 15 of us together and putting together what we called the Master Contract so that we could receive the entitlement of water from the Colorado River and have a legitimate organization that would manage that water. And would also repay any debts that might occur as a result of borrowing money to build it, so that the first six years, then under Roger Ernst, was pretty well put together to figure out exactly how that Master Contract should be drafted and how it should be worded and, and so forth. The features that US Congress provided was that, in most Reclamation projects, the waters delivered to farmers that they were charged very low rates of interest at 3.342 interest rate and they, the principal that would be charged then would be \$2 an acre foot. Well it made it affordable for farms then to buy water from the project, and those are the kind of things that went into that Master Contract, so that we figured out that the municipalities would pay one rate, farmers would another. We would also provide water for recreation and environmental things so that we could keep the birdies and the fishes alive and so forth. And those were the kind of things that were drafted and put in the Master Contract. When I became president six years later, Roger Ernst says, "Look, I've served six years. We need to get this thing around, we need to go to a different county, well let's pick old Howard Wuertz over there." And so they unanimously elected me president and as Jack Williams said, "Howard, you take care of the water issues and we'll take care of the political side of this thing and we can make this work."

And so the attempt then for, for the next several years would be to draft the subcontracts that we would deal with each of the water districts that we had to deal with and municipalities. So if we're going to have to have a subcontract with

the City of Phoenix and Glendale and Mesa and Chandler and so forth we then had to get those, the wordage correct so that it would dovetail into the Master Contract and that we would then figure out how much water we had and we would divide it up amongst these subcontractors. And the problem there, is to figure out how much water does the river produce during times of drought. And Wes Steiner said, "Well, when we really get down to brass tacks, the river will flow about 600,000 acre-feet even though your allocation is 1.5 million, everything, all things being equal. But when the drought comes, and so forth, and since this is a people's project, we're going to take the 600,000 acre-feet and we're going to allocate that to the cities and so forth and anything that's left will go to agricultural districts. So that the first 600,000 then goes to the city folks cause it's a people's project, as they used to say. When you go back to talk to the politicians, say "We're not building this for farmers, we're building this for people." So that was the job that we had. My major contribution was to see to it that we had public meetings, had the input from all the attorneys from every water district and so forth. And we would spend sometimes up to five and six hours at our Board meetings in order to complete certain phases of that. So that after about five, four years, we finally drafted a form format for the subcontract and it, that's how we did it.

Q: So these weren't just little board meetings that you came and sat for an hour and socialized, and, it was working.

A: That's correct. Have coffee and visit and so forth. The strategy that we would use, would be to say in the order of completion of this project because it's ongoing, is that we have to figure out how much money we need so we go back to the Bureau of Reclamation. And they say it would be appropriate if we would let the contract ex contractor, and that will require this much money for this year. So you have to figure out which projects you're gonna ongoing, how much money do you need, how much you think you can get out of the U.S. government. And then the plan of going back there and testifying and the strategy that you would use to convince the committees which we always had to meet with Mo Udall cause he

was Interior and Insular Affairs Chairman. And you go over to the senate and meet with their counterparts and plead your case and most of the time it worked.

Q: Okay this is Tape 2 with Howard Wuertz. You were talking about, you know, being president of the Board. That was a big job. What does the, what does the president do?

A: Well, in the case of the Central Arizona Water Conservation District, to be president of that district, one of the primary responsibilities was to conduct the Board of Directors meetings that we had at least once a month. We had to, I as president had to appoint certain committees. You have to have an Audit Committee, you have to have an Engineering Committee, you have, you know, Legislative Committees, I've forgotten all of the ones. The idea would be...

Q: You were talking about your job as president, conducting those Board meetings, and maybe this would be a good time to tell us about your book here.

A: One of the things that I thought was a good thing for us to do was to come up with goals and objectives and we also thought it would be important to arrive at a mission statement. And since we had the who's who of Arizona on the Board of Directors, it wasn't difficult for us to come up with those kind of things. And Jack Williams was a member of the Board, Sam Goddard, Howard Pyle, Stuart Udall, Secretary of the Interior under the Kennedys, John Rhodes was a consultant. And we said here we are, been organized now for six or seven years, and we really don't have a specified direction to go in. I think we ought to do that. I have never served on a Board of Directors that didn't have a mission statement, goals, and objectives and so forth. So we said ok, let's do that. So we started drafting various ideas and so forth. And we came up with a, with a mission statement that I thought was, that took a little while. I thought, Wilbur, we could do this in maybe a few minutes, but that didn't happen. We bantered it back and forth and we finally arrived. The date of this says 2/8/90, so this was the last year, February, the last year that I served on the Board, but at least we were able to adopt a mission

statement. Let me just read it. To provide an alternative water supply of reasonable price and quality and services related to that supply for the benefit of our customers. So that, took us quite a while to do that. And we have an institutional philosophy and I'm not going to read that, but it is quite important to recognize the CAWCD's role in the governmental undertakings of the state of Arizona. So that this is what we're going to do and this is where we're going to do it and we're going to rely on the United States government to provide the money. And that's what the institutional philosophy says, even though it takes up a whole page to do that. And a strategic consideration: the district will strive to secure for the community optimum returns for the physical, financial, and water resources under its control, create and maintain high professional standards associated with the discharge of its responsibilities and finally to provide the leadership and assistance in addressing the broad-based and changing water resource problems of the community. We put together goals and objectives for 1990 and there are ten of them. We wanted to increase utilization of the Colorado River water entitlement to at least 900,000 acre-feet. We wanted to get that going, we have 1.5 million, but we wanted to get it up, we only used half a million. So we thought we ought to strive for setting higher goals than what we had and we wanted to prepare the first annual report and conduct annual public meetings, two to five year goals, initiate project repayment under the most favorable conditions obtainable, you know small payments, low interest rates, that kind of thing. Assume full operating responsibility for all completed features of the project. In other words, the Bureau of Reclamation built these, most of the time they ran them. And we said, no we don't want to do that here. When you complete a portion of it, we want to take it over. So that first portion of it, so that from Havasu to Granite Reef, that first portion, when that's completed, we want to take it over and so forth and we did. Create and implement a plan and programs resulting in the overall enhancement of the water supply management. In other words, we want to, we're not going to play games; we're going to manage this water and have it utilized in the best possible way to benefit the most people in Maricopa, Pima and Pinal counties. Issues and techniques and things, we want to talk about the physical water supply and how we managed it, we want to increase the

efficiency of supply and the utilization of the water, the physical plant and operational management, we want to see to it that the place don't fall apart while we're running the darn thing, and so forth. And customer service, we wanted a, a responsive customer service department so that we listened to the people who were using it and try to do it in such a way that it would make sense for them.

Q: When you say customers, are those the water districts?

A: That would be the water districts, but in Phoenix right now, we would really be thinking too in terms of the ultimate user. So if the City of Phoenix bought the water, got the allocation, filtered it, purified it, treated it, we were concerned about that as well as the person that used it to either drink or flush the toilet. So we, we were concerned with the customers clear down to the ultimate user of it.

Q: You mentioned in the early years, you were dealing with all these individual water districts.

A: That's correct, and we...

Q: How many water districts did you have?

A: As I recall there were about 19 water districts and I think each one of those 19 have an allocation of that 600,000 acre-feet. The community position and resource manager, so you'd have somebody to help with the various aspects of the leadership that you ought to take if you got a real valuable resource, how are you managing it, and who's going to do it and so forth and that was the last part of our mission.

Q: We certainly have seen, those are talking about the water's already here in 1990, but in the '70's when you took over as president, you were still building. What were the major issues and challenges that you had as president?

A: Well, as I say the major one was to try to put together the subcontracts that people would agree to take a certain portion of that water, use it properly and productively, efficiently and also repay, pay for the water. So, those issues, they may sound simple, but they're not. One of the most pressing issues that we had to deal with is what we call the scrub method of accounting. Separable cost remaining benefits, so that you're building a project now, it's going to deliver water to cities, you're going to deliver water to farmers, you're going to have some for flood control, got to take care of the environmental, the fishes and all of these. The cost of repaying that to the U.S. Government had to be a portion after you took out the flood control features and the other features that don't have to do with actually delivering the water, so the separable cost remaining benefit accounting procedure had to be reviewed and it hadn't been looked at for 20-some odd years. And there are volumes of these and HW said I'm not going to live with that jumbled up mess. We are going to look at the scrub method of accounting because we don't want to pay one red cent more than we have to, but we want to pay our rightful share of the cost of this project, and we won't know that until we review how those accounts are kept because the project has, is a multi-purpose project that doesn't just serve one purpose so we have to divide out the cost for the beneficiaries to that. So, the office was in Denver, Colorado and we told them to get their backside down here, we wanted to chat with them. And we reviewed that, get our attorneys out there and talk about it and the controversy that you probably know about that surfaced four or five years ago is a \$500 million discrepancy between what the federal government wanted and what we were, as a state, willing to pay. And it has to do with separable cost remaining benefit thing that HW worked on. Just make sure that we had our backside covered, that we didn't have to pick up the cost of things that were extraneous that we didn't feel like was our burden.

Q: And you were saying that you put this book together for the first time with missions and goals and strategic plans, and bylaws. What is this book called?

A: This book, Jack Williams calls this Howard's Bible. In addition to a mission statement goals and objectives, it has the copy of the original Board of Directors; it has some of the most meaningful motions that were passed in the beginning of the project, and when the Board was first organized, where did you meet, how did you do it, who's the chairman. So we tried to put together a document that would kind of set the groundwork of keeping track of what we did, and when we did it, who is responsible and that's what this book is all about.

Q: So you've got a whole history there.

A: That's right.

Q: As you were going through you know some of these things, talk about some of the people that were involved. You mentioned Bruce Babbitt a couple times. How did you work with him and how was he involved? We're going to interview him later.

A: Bruce Babbitt was the governor during the time that President Jimmy Carter curtailed the funding of the Central Arizona Project and said the state will come up with a meaningful groundwater management act before any additional funding will be forthcoming. As you know, Bruce Babbitt was a very-well educated person, a person that understood a tremendous amount of the great state of Arizona, and I think he was, and a good attorney, that he was extremely qualified to do what he had to do, and he did it in such a way that it crossed party lines. He didn't do it just because he was a democrat or, he did it in a bi-partisan way. The person that he named as chairman of that committee was Bart Cardon, the Dean of the College of Agriculture at the University of Arizona. And Bart Cardon chaired the meetings if the governor was out of pocket. So that he saw to it that all parties were heard and that they had input in it, because when you're passing laws and regulating people, you don't want to regulate them any more than you have to. And if thinking people are involved, they're going to complain until they get it right. Bart Cardon was a brilliant man, a good conciliator, a good negotiator, and extremely fair. And when, when Bruce Babbitt was out of pocket, Bart Cardon ran

the show, but we hardly ever met that Bruce Babbitt didn't come, make a comment, and kind of set the stage for us, and then Bart Cardon would carry it out.

Q: So he was directly involved in a lot of the...

A: He was there and he made his wishes known. Things that he thought ought to be done and was. He didn't lord it over us, I think he stressed the importance of trying to get it right, and so we did. As you know, he finally became the Secretary of Interior and I think he cut his eye teeth on water and land and issues and the Groundwater Management Act in 1980.

Q: So how long were you president of the Board?

A: For six years, so that I was elected for two years and then re-elected for the second set of two years and then elected a second third time for three two-year terms.

Q: That was sort of a tradition then.

A: Yes.

Q: That's a long time to serve though as president.

A: Yes, for an outfit like that it was. For me even to be re-elected once, from having a Board of Directors like that, I considered it quite an achievement on my part.

Q: So did you kind of feel like you were the guy coming from little Pinal County, the actual farmer out here?

A: Yes, yes, and one of the things, Pam, that I did to liven up the group because I was right slap dab in the middle of this doggone drip thing, is that in, in '81, '82, I'd

get them out here and show them how we were putting in the drip and how it saved water and how we could make that water go a lot further than we did under the old methods. And you know, I'd even have Bruce Babbitt in the van, and Wes Steiner was there and he was one of the, (talking to his brother) would he be the Speaker of the House, Wilbur at the time. Anyway West Steiner was...

Q: With the Department of Water Resources.

A: Yeah, yeah he was. And I was thinking of some other people that were in the House of Representatives or the Senate.

Q: Burton Barr?

A: Burton Barr, I don't believe he was there though I know Burton. But we'd have Bruce Babbitt in the van and a Republic staff reporter sitting right behind him, and several of the other Board members. We were touring Sundance Farms, and we were looking at this, August beautiful, beautiful cotton. And even in the furrow water, we'd have water running in each furrow, just a little dinky dab, and the cotton looked good but it wasn't anywhere near as good as the drip, the drip irrigation was a little bit bigger, a little bit lusher and so forth. And Bruce, he had his old feet up on the table, you know dashboard like that and so forth. And he said, "Howard, I'm impressed." And we'd go along and look at another spot or two. "Howard, I'm impressed." And I got some pictures of him looking at our filter station and all that stuff. But anyway, we did get the Board out here; we did get them in the trenches. Even Eldon Rudd and others were out here. And not only the Board of Directors, but we'd have anybody else who was interested. And we'd bring a whole busload at one time, and get them out here and show them the crops we were growing, how we dealt with water, in other words, we Arizona agriculturists were dead serious about using that water efficiently and correctly and trying to grow stuff here in the State of Arizona with abundant sunshine and weather. We could grow twice as much cotton as anybody else, more wheat

than anybody else, and alfalfa, you know, the best of the best, so this is how we were doing it, with water.

Q: Do you remember when the water actually started to come through the CAP canal?

A: I want to say that the first water came; I believe the year was 1987 or 1988. By 1989, we were running a pretty good batch of water and as I said in here, our goal was to get up to 900,000 acre-feet very shortly and we couldn't do that if we didn't have the project pretty well completed. So we could deliver water here in Maricopa and Pinal counties. We're still working on the reaches down in Tucson but I think the year was 1987 or '88 along in there, one of those.

Q: It got here to your farm or . . . ?

A: This farm I think was 1989.

Q: You mentioned making use of the water. That sounds like a strange thing. But was there a problem that you weren't using enough water when you first started, were you looking at that?

A: Yes, because see the idea was to say, look, if you've got water under your land, and you can leave it there, it's a reservoir of stored water and you ought to use all the surface water you possibly can. In the State of Arizona you had 1.5 million acre-feet and you're using you know maybe up to a million acre-feet of that but the balance of it's going to California. See there, every other district under the sun is taking it and they're not even paying you for it. Now come on, let's get it in here, turn the damn pumps off, and let's use the surface water and, and leave that underground when it's droughty and you can't get the surface water.

Q: And I know they're also pumping some of the water underground now. Taking the CAP water and pumping it.

A: Groundwater recharge, yes.

Q: How did that come about, that idea?

A: The idea was if you're not going to need the water, the surface water when it's coming, you probably ought to store it underground, put it in your tank if you will. So a sense of that was to store it underground. But most of that was not actually physically delivered and put in the aquifer because you really need to purify it, or you might contaminate the underground. So they did what they call in lieu storage, is to leave the water there and then use the surface water so that it had the same effect as pouring it in the hole.

Q: Did you ever think when you, when you got started on this in the '70's, or even before that, this was a project bring water to the farmers, primarily, but now the water seems to be going to the to the cities.

A: It never was intended to go to the farmer. They, as Jack Williams said many times, he said, "You know we may have started with the Central Arizona Project as an Arizona agricultural rescue program project, but," he said, "as it turns out, it is a people's project. The water of the State of Arizona will be brought in here and utilized by people and utilized by farmers until they need it and whenever it's needed by the cities and industry it will be there and they will be the third priority." But as it turns out, it's municipal, industrial, Indian agriculture and then agriculture, in that order and then finally environmental and purposes, recreation's the word I was struggling for. Carl Pleasant is a beautiful place too, for recreation. And, so that there is features provided for recreation, environmental and that kind of thing, so the water gets utilized by the farmers number four.

Q: You mentioned the Indians.

A: Yes, they're ahead of us.

Q: How did that happen?

A: Well, if you want to get something through the Congress and you say you've been a bad boy, you've been a bad state and all, and you want to do something good for a while, say you're going to take care of the Indians and settle those issues with them, that you've been taking their land, taking their water, and kind of mistreating them. At least that was the premise and the Indian Water Rights Settlement has not been affected yet, but it's very close they say. And in order to get that done, you had to use a lot of the Central Arizona Project water in order to satisfy that.

Q: I know that one of the tribes getting a lot of that water are the Gila Indians, neighbors of yours. We drove through their reservation to get here today.

A: That's correct. That's right, yes.

Q: Do you know those people, did you work with them?

A: We haven't worked with them; I think we've worked for them.

Q: Explain that one to me.

A: Because they own it and you're kind of hired hands relative to water, I mean you had it but you don't have it now and it's theirs. Anyway, it's just an expression.

Q: I know that they're planning for big farming operations.

A: We, University of Arizona put on a water seminar over at Mar, over at Francisco Grande about three, four months ago, and Mary Thomas when she made her presentation that particular day, she stated that they're currently farming about 14,000 acres there but they want to expand that to 140,000 acres and she outlined the detail of the various projects that they want to complete to get them to go

from increase their utilization of agricultural water by tenfold, and she said this, she outlined that and gave us a graphic presentation of how they would do it and how much money it would take to get that done.

Q: As a farmer yourself, what do you think of this?

A: I don't have any problem with it. I know we have to deal with the Indians and we have to be fair and it, the presumption is that we have not been and we have utilized their land and their water and their heritage and that it's payback time. And I think that the settlement is way beyond what they're entitled to but I don't think that there's any way to settle it other than to agree with them and the benefits of getting that settled I think are helpful. One of the things that we've struggled with: the Reclamation Reform Act that the Congress passed are extremely restrictive when you use water from a Bureau of Reclamation project that's funded by the U.S. Government. They're so restrictive that you can hardly have time to farm, it's so, and it's so burdensome. In the Indian Water Rights Settlement, they say they will remove those and allow you to have a little freer hand. That alone would be worth it.

Q: You're not worried about them being in competition with you?

A: Not at all, no.

Q: Do you know if they will be using drip systems to utilize water?

A: Mary Thomas has talked to me a couple of times, not several, two times, about putting in sub-surface drip in order to be more efficient in water use. But they have not contacted us lately, and so I don't know of any plans for us to put in drip irrigation for them at this time.

Q: Do you need to get a drink of water or anything? I noticed you're clearing your throat there. You've been doing a lot of talking. So they're looking into the possibility of using drip then?

A: Yes.

Q: Since you're so successful at it you can be their consultant.

Q: Talking about the CAP again, what, what accomplishment are you proudest of that you've been part of with CAP?

A: Well, I think the proudest thing that I might be not the answer you're looking for. That I, Howard Wuertz, was not an encumbrance to prevent the project from happening, and that I was a supporter of it, and a contributor and a member of the company that was successful in putting that project together and it's a beautiful project that anybody could be proud of, that you've worked at it. I've got nineteen years of, of dedicated service and that's my proudest achievement. The details, of course are important. The settlement of Plan 6 was a real contribution. But, but every day when you meet with people, they're a challenge and, but the major one is what I feel good about. That we did finish it and it's a beautiful project.

Q: It gets water all the way to Tucson.

A: Yes.

Q: Anything that you look back over that you think might have been done differently?

A: No, the only comment I would make about it, it would be, it would've been interesting and nice had we been able to do it twenty years sooner. Other than that though, I think it was done exceptionally well. The best engineering, the best

plans, the best construction companies, and the Bureau of Reclamation had managed so many projects that just one more would not be a burden to them, that they're good at what they do. And that they saw to it that the various features were built well, and we, as a Board of Directors, we supported that. We, we were good partners with the Corps of Engineers and the Bureau of Reclamation, the State legislatures, the governor, the U.S. Congress. We made sure that all the component parts were there and that nobody was overlooked.

Q: We interviewed Ed Hallenbeck recently and he mentioned that at the dedication ceremonies and things that all the politicians were there, and that it kind of looked like they went out there and built that themselves and Bureau of Rec and the engineers got forgotten.

A: And that is partly true. The Bureau of Reclamation and people like Ed Hallenbeck were not people to get up on the stump and brag. They were professionals, they did their job, and they did it exceptionally well. And you would expect the politicians to brag about it, and so they should.

Q: It took a lot of the politicians to make it happen too.

A: It did. It took us all.

Q: What about other farmers? Are the other farmers as happy with it as you are?

A: By and large, I would say that I'm a man apart relative to that. You'll have to ask brother Wilbur how he feels about that. But I personally feel that the project is the best it can be. I'm very satisfied with it. I know a lot of people that whine and carry on and complain, but I've never been into any organization that we didn't have that, and they, and a lot of times, the whining and carrying on of people that object to something have good, salient points that need to be considered, and they damn sure provided that.

Q: Any particular ones that you want to...?

A: No.

Q: Did you ever think when you started this that Arizona would look like it does today with the big cities?

A: No, I didn't think it would be this fast. I thought that we'd be well into the, the 21st century before what we see now is happening. I didn't think the State of Arizona would have six million people in it but I think next year and all there will be about six million people, and if we continue to grow at about 200,000 a year, every five to six years we will add another million so four more seasons like that, four times 6, 24 years from now, 25 years, we'll be at 10 million, and I don't think there's any way that we could slow that down. Let me say why. The State of Arizona is a land of the sun and people get old like me and they will not live in Buffalo, New York with snow up to their second story six months out of the year, they're retired, they want to get out of that house, get out of the snow, come out to Arizona, put on a pair of shorts and a nice sports shirt and wander around out here with the rattlesnakes and horny toads because it's warm, you know, and it's almost decent place to live ten months out of the year. And the other time it's just hot enough that, you know, we can cool off. But it's a beautiful place to live, so whether you're in the northern tier of states and you want to go south, whether it's into San Diego, southern Arizona, New Mexico, Texas, Alabama, Florida, Georgia, even up into the Carolinas, it's just exploding. But we're losing population in the Midwest. One article in the Arizona Republic said that in the last four years there was about a hundred and, almost 190,000 people that came out of the 12 Midwestern states to Arizona. They said about the same number of people came from, went over to California and came back. So that it's just a beautiful place to live yet. And so people like it, and they're going to be here, and the weather is conducive to that. They like it warm, not cold.

Q: We see housing growing out at Hunt Highway. Do you ever expect, do you think you're going to be having housing developments on your land?

A: The guy I'm going to meet with this afternoon, we're going to talk about that. This is a master planned operation here in these 3,000 acres and they want to build 9,000 houses on this property and they want to do it in the next few years. And they like it because they say this is the other side of the Gila Indian Reservation. The open space of 25 miles between here and Hunt Highway, that this is an ideal place to do a master plan. And they've already shown us the detail about forty acres of city parks, seven acre lakes, recreational facilities and so forth, a retirement community on the one side and a single home on the other side, twenty-seven hole golf course so that we thought that we might survive a little bit longer, but my family will probably still be farming on this twenty-five years from now because we have a participatory plan with the master planners and we're in with it, on it, so that we'll participate in the sales and benefits of it and we'll have lease back privileges by just paying taxes on the part that we farm. So, we'll be here awhile.

Q: That's pretty amazing.

A: We'll be in on the scheme of the development as well. I'm going meet with the guy 2:30 this afternoon about.

Q: Were there any surprises for you about how the CAP has turned out?

A: Not really. I wouldn't say that I'm surprised about the Central Arizona Project. I think that growing up with the idea of bringing the Colorado River water into the central part of the state was a sound plan, and it was constructed properly, utilized properly, and I think it's just exactly what it should be.

Q: How do you see Arizona's position today with water and the challenges facing the State?

A: I think it will probably be a leader of the field of say how you conserve water and use it in the best possible manner. I think that we can be pioneers and pace setters relative to the way water is used. Xeriscapes, for example, you don't have to have a lush lawn like I have out here to, and use water. You can do it with beautiful plants, very water efficient, put the desert plants that are absolutely beautiful and so forth. We'll be the leaders in the area of water conservation and water use efficiency.

Q: What about the future of farming and agriculture in Arizona?

A: The State of Arizona will be in agriculture for I suppose in perpetuity, but it won't be the way it is now, we won't grow cotton for example because you need three acre-feet of water to do it. And there are places in the United States, the traditional south, where they grow cotton that they don't have to water it, they won't cultivate it, they don't have the boll weevil anymore and they can beat the pants off of us relative to costs of production. And that's where the cotton's going. Wheat, we produce about as high quality durum wheat any place in the world. But you can get good durum wheat other places, too. And so houses and places for people to live take priority over that and so that we will have specialty crops, greenhouses, so we can raise, instead of a few tons of product per acre, you do, in tomatoes for example. They raise 75 tons in an acre of greenhouse. You know it's incredible the production you can get, you don't use little dinky dabs of water, produce a very perfect quality product, and you don't have to have an open field to do it the way we've been doing it for the last hundred years.

Q: Do you have any advice for people today that are running the Central Arizona Project?

A: My advice to people using the Central Arizona Project?

Q: People running it.

A: No. I like them. I think they're doing a perfect job. They're very qualified, very dedicated people. And they're doing it the way I think the project should be run. They're people oriented, they're conservation-oriented and they want to make the product go as far as they can and do it the best they can, and they're doing that.

Q: You really saw the project grow from 1971; it wasn't so big of a staff.

A: Yes, I did. Yeah. Well, I can't, I don't know the numbers, but, you know, from when we started we had, we hired a general manager, and a secretary and an attorney. So we had about three people working for us. And I don't know how many people are actually working for them, but I'm sure there are several hundred, but they have a lot of things to do, and they have to meet all these environmental factors, the so called you can't do anything without how do you affect the environment when you do that. It takes people to say this is what we did with that and this is the cause and effect and so forth. So, but we do have, instead of one attorney, we have a whole fleet of attorneys, and we have a good manager, assistant managers, and public relations people, we have zanjeros that watch the system work. They have it connected to the office so that they know all the reaches and the control gates and everything can be managed from the office, so that they have it automated as much as they can, they have it protected for the environment, deer crosses, about everything you can think of. I don't know how you'd do it better than what is being done right now. And yes, it's bigger, and there's a lot more people so...

Q: You mentioned zanjeros, do they still call them that?

A: Yeah, we do for lack of a better term, because people understand that. They know what that means. Manny would understand that. And so forth, yeah.

Q: For future generations, why don't you explain what that is.

A: A zanjero is a man that manages the water works, turns the water on and turns it off for various users particularly water districts. And in agriculture the term probably has more meaning than it does, city outlet, because it's hard to call a guy that comes to read your water meter a zanjero. But so...

Q: Is that an Arizona term?

A: It's a term that comes from either the Spanish or the Mexican because the guy that always managed the water was called a zanjero, that's what the word means in Spanish is he manages the water.

Q: So you still use that term even though they're sitting in a control room somewhere?

A: Yes, we do.

Q: I think that pretty much covers the questions that I have. Is there anything that you thought I was going ask you that I should've asked you and I didn't?

A: No, you went way beyond.

Q: The term, well, zanja is the ditch, so when you have a zanjero, he's the guy who takes care of the ditch. I'm talking literal, literally. And guys like my dad.

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