ORAL HISTORY INTERVIEWS

WILLIAM GRAY

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STATUS OF INTERVIEWS:
OPEN FOR RESEARCH

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STATEMENT OF DONATION
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WILLIAM GRAY

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INTERVIEWER: _____
Brit Allan Storey

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Editorial Convention

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

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

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

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

Introduction

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

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

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

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

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Oral History Interviews
William Gray

Storey: This is Brit Allan Storey, senior historian of the Bureau of Reclamation, interviewing William "Bill" Gray, in his offices in Ephrata, Washington on April 5, 2004, a little after nine o'clock in the morning. This is tape one.

Well, Mr. Gray, let ask you where you were born, and raised, and educated, and how you ended up at the Bureau of Reclamation?

Early Years

Gray: There we go. Well, I was actually born in Wilmington, Delaware. My mother was back there visiting her folks. My mom and dad were both in the military during World War II. My mom was actually one of eleven children, and only one boy. And so she felt it was her duty to go in the Army Air Corp. And, after she was discharged at Mountain Home, Idaho, she was up visiting a cousin in Coulee Dam, who was in the C-C-Cs [Civilian Conservation Corps].[1] And, while she was there in Coulee Dam she met my dad, and the rest is history. (Storey: Uhm-hmm.) And they married and she settled in Coulee Dam, and the rest of her family is still on the East Coast. So, we would head back there every three years for vacation, but on one trip back I was born. So, I was born in Wilmington, Delaware, raised in Coulee Dam.

My father worked for the Bureau of Reclamation. In fact, retired at Coulee from the Bureau of Reclamation. And the story is that my grandfather also worked at the Bureau of Reclamation. I've always been going to get hold of H-R [Human Resources] to try to find out a little more about that. And, he was quite old according to the family story when he went to work for Reclamation. And, in fact, might not have been real truthful on his application regarding age, in order to get hired. (Laugh) But, he worked in the warehouse, stores. And so, actually, I'm a third generation Bureau of Reclamation.

Storey: Uhm-hmm. And, what were their names?

Gray: Believe it or not, William Gray, Sr., William Gray, Jr., and William Gray III.

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1. The Civilian Conservation Corps was one of President Franklin D. Roosevelt's New Deal programs designed particularly to put young people to work on conservation projects. The Bureau of Reclamation was one of the many federal agencies for which CCC enrollees provided services to on public lands. For more information, see Christine E. Pfaff, *The Bureau of Reclamation's Civilian Conservation Corps Legacy: 1933-1942* (Denver, U.S. Department of the Interior, Bureau of Reclamation, 2010).

Storey: Oh. Okay.

Gray: Yeah. So. Tough name. (Laugh)

Storey: A persistent one anyway.

Gray: That's right. And, graduated from high school in Coulee Dam. (cleared throat) Excuse me. And, went off to W-S-U [Washington State University]. Spent four years down at Washington State University, and came out of there with a degree in recreation, with some land management. And, went looking for jobs, park technicians. My idea was to be a ranger with the National Park Service, and didn't get there but got on with the Bureau of Reclamation as a temporary during the Third Powerplant construction at Coulee, and worked as an electrical technician.[2] And from there got career status and applied for a natural resource position in Pueblo, Colorado on the Fryingpan-Arkansas Project.[3] And so Joanne and I, we loaded up the little U-Haul, and the smallest one we could rent, and headed off to Pueblo, Colorado and spent several years in Colorado. And, then transferred up to Casper, Wyoming, on the North Platte River projects.[4] Spent a few years there. And, our first child was born there, Kelly. No, she was born in Pueblo, Pueblo, Colorado. Bill was born in Casper. And then moved up here and took the natural resource specialist position up here in the Land Resource Shop.

Storey: Uhm-hmm. When were you born?

Gray: April 1, 1952.

Storey: Fifty-two?

Gray: Yeah. In fact we've been going through this SCADA [Supervisory Control and Data Acquisitions] security, and we had a meeting in this room the 29th of March, and there were six

2. Construction of the Third Powerplant at Grand Coulee Dam began in 1967, dramatically increasing the dam's power production. For more information, see Wm. Joe Simonds, "The Columbia Basin Project," 1998, 48-55, www.usbr.gov/history/projhist.html.

3. The Fryingpan-Arkansas Project is a transmountian diversion in Colorado that delivers water from the Fryingpan River on the western slope of the Rocky Mountains to the Arkansas River basin on the eastern slope. The project supplies both municipal and industrial to Front Range communities and supplemental irrigation water to farmers in the Arkansas River valley. For more information, see Jedediah S. Rogers, "Fryingpan-Arkansas Project," 2006, www.usbr.gov/history/projhist.html.

4. The North Platte Project supplies irrigation water to 226,000 acres of farmland 110 mile along the North Platte River from Guernsey, Wyoming to Bridgeport, Nebraska. One of Reclamation's first projects, the project was authorized in 1903. Major project features are Guernsey (1927), Kortes (1951), Seminoe (1939), and Pathfinder (1909) dams. For more information, see Robert Autobee, "North Platte Project," 1996, www.usbr.gov/history/projhist.html.

people around this table, and the contractor was in the chair I'm in here and we got to talking about a conference call on April 1. And he says, "That's my birthday." So, I turned to him and said, "Well, that's my birthday," and we shook hands. Turns out, we get up to leave and there's a real quiet gentleman, Brian. We get up to leave and he shows his passport, and his birthdate's April 1st also. So, out of six people we had three people in the room whose birthday was April 1st. (Storey: Hmm.) I just should have bought a Lotto ticket that day, I guess.

Storey: Well, somewhere I think I heard that if there's a line of thirteen people at a movie, one of them will share your birthday.

Gray: Is that right?

Storey: The odds are pretty good.

Gray: Odds are pretty good.

Storey: I don't see how the odds are pretty good, but . . . (Laugh)

Gray: I don't either. Three hundred sixty-five days, you know,

Storey: Yeah.

Gray: Yeah. Yeah. So.

Storey: Tell me about your father's career, and your grandfather's career, what you know about them.

Family Moved Our West

Gray: Well, my grandfather was a hardware salesman, and was born in Canada. When I, what I can recollect back to is Travis City, Michigan, and that they lived there and he worked for a hardware firm out of Chicago. Moved out West, and basically traveled around. My dad moved West with the rest of the family on a settler's train. My grandfather came out and got things situated, and they actually got off the train in Cashmere, Washington in 1911. He was three years old. And, so my grandmother had all six kids, and traveled across the country in a settler's train. He met them in Cashmere, and he continued in the hardware wholesale business for years. And, they traveled. They moved all around the Northwest. My dad, I think, lived, in his growing up, K through 12, I think they lived in either twenty-two or twenty-six locations.

Just on the move all the time. Settled in Omak, and had his own hardware store in Omak, Washington, and did quite well. And then the Depression came along and they lost the store. And, kind of pulled things together and they moved to Belvidere, which is just north of Coulee Dam about seven miles. A little tiny town on the Colville Reservation. And, set up a little general store and gas pumps, and a few dry good items. And then the construction of the dam started, in '33, and that was kind of the boom to Belvidere, and things just kind of moved on in. And they, my aunt, in fact, my dad's sister, she was a professional photographer, and she worked for the Bureau of Reclamation. And I'm guessing way back then that she was probably one of very few female photographers for the Bureau of Reclamation, would be my hunch. But. . .

Storey: And her name?

Gray: Olive. Olive Gray.

Aunt was a Reclamation Photographer at Grand Coulee Dam

Storey: Okay.

Gray: Olive, Olive M, M. Gray. Olive Marion.

Storey: So it would be O-M-G on the photographs?

Gray: O-M-Gs. Uh huh.

Storey: Okay.

Gray: So, if you ever run across that.

Storey: Yeah, we, you know, we get all these initials on the photographs, and we don't know what names go with a lot of them.

Gray: Yeah. Yeah. A real tiny little lady. She probably had to be ninety-eight pounds wringing wet, (Laugh) if she was that. And, probably about five foot high, and just very slight, small.

Storey: So, she was working at Coulee?

Gray: She was working at Coulee. And, she had a studio in Wenatchee, a photography studio. And,

I think about the same time, with the Depression and all, she ended up coming back to help the folks in the store in Belvidere. And, at that time then got on with Reclamation after the dam got started. She retired in, my goodness, 1960, early '60s. (Storey: Uhm-hmm.) And so, a very early career. But, I was always, always been impressed with that. That, here's this scrapping little lady out there and (Storey: Uhm-hmm.) a Reclamation photographer.

Storey: So, she had given up her photography studio in Wenatchee by the time she came to Reclamation?

Gray: Yes. Uhm-hmm.

Storey: And then did she retire from Reclamation?

Gray: She retired from Reclamation in the early '60s.

Storey: And, is she still alive?

Gray: No, she passed away in '94. She was, in fact she was ninety-four. She was born in 1899. (Storey: Uh huh.) I guess she was ninety-five. Yeah. So.

Storey: And did she have a big photo collection?

Gray: She did. In fact, she just kind of passed them around the family. I have some of her, some of her photos. And, but yes, she did. And she had some old photography equipment that we no longer have. You know, the glass plates, the various machines to enlarge and develop, and all that. She had all the equipment.

Storey: Did that by chance go to a museum?

Gray: I don't know. I don't recall. That was, oh probably, twenty years ago, twenty-five years ago or better.

Storey: Uhm-hmm. Hmm. So, your grandad then went to work for Reclamation somehow.

Father and Grandfather Worked for Reclamation

Gray: That's the family story, that he went to work for Reclamation working in the warehouse. And then my dad went to work also. He graduated from high school in 1928, and ended up at

Washington Water Power. And, I'm not sure if with the Depression and all he basically, that didn't last long, (Storey: Uhm-hmm.) and ended up back at the family store. And, somewhere in there got on with Reclamation.

Storey: And, what was he doing?

Gray: Well, early years, I think he was a laborer. He ended up getting into the budget side of the organization, and was the, one of the Third Powerplant budget officers when he retired.

Storey: And he retired when?

Gray: Boy, I've got to think about that Brit, a little bit. Seventy, '72, '72, '73?

Storey: Something like that?

Gray: Something like that, yeah.

Storey: So, he would have retired maybe about the time you started working, a little before?

Gray: Just a, yeah, that's right. Just about, and I started, what? Fall of '74 is when I actually started and we moved to Pueblo in February of '75.

Storey: Tell me about living in Coulee Dam.

Growing Up in Coulee Dam

Gray: It was a great town, you know. Its, the town now is nothing like it was back then. It was almost more of a Norman Rockwell-type town. You had, Coulee Dam, of course, is the town below the dam, and you have Grand Coulee above the dam. And we actually lived on the Mason City side, which is the east side. And, had its own high school. Grand Coulee had their high school. But, you know, you had your typical town rivalries. Growing up in Coulee Dam was you knew everybody. And so, if little Billy Gray was five blocks away doing something he shouldn't do, mom would know about it by the time he got home, because the friend over there would call Mrs. Gray and say, (Storey: Uhm-hmm.) "Your son's throwing rocks at the dog," or whatever he might be doing. But, it was a good community. Lots of fun. Lots of bike riding, and things like that, the hills around. And, an awful lot of kids. There were probably, I don't know, just a phenomenal amount of children, and just always lots to do. And, it was a good place to grow up. Its kind of sad to see it now, because its, economically its gone downhill so

much, and its very much a retired population. And its just, small tax base. Third Powerplant really kind of did the town of Coulee Dam in. Swallowed so much of the town up there's, its probably on the edge of being economically viable as a community tax base and all that, would be my hunch.

Storey: So does Coulee, when you say Coulee Dam, do you mean both sides of the river?

Gray: Yeah. Coulee Dam would be both sides of the river.

Storey: Below, below the dam?

Gray: Below the dam. Engineer's town, which would be on the west bank, (Storey: Uhm-hmm.) the left bank of the river, and then Mason City which would be on the right side, or east side.

Storey: But it was all one incorporated entity?

Gray: All one community. Yeah.

Storey: Yeah, the, that was the construction worker's side, the Mason City side, right?

Gray: The Mason City side was the construction worker's side. Yeah. That's right.

Storey: Is that where your grandad lived also?

Gray: No. He lived in Belvidere, which was a small community about seven miles north, towards Nespelem.

Storey: And commuted?

Gray: And commuted. Yeah. That's where they had their little country store. And, they operated their store all the way up to about 1960, and then sold the store in about 1960 when they, just because of age, just couldn't handle the store any longer.

Storey: Did they have any stories about being on the reservation there?

Gray: Well, I don't remember any in particular. Had a lot of friends up there, and lots of folks in and out of the store all the time. Lots of stories about kind of a helping hand, doing things to help folks out. And, they'd kind of run the tab on groceries. They'd allow a tab on groceries, but

nothing else. But, yeah, it was just, we used to, after school, the big trip on the weekend would be to ride the school bus out and get off in Belvidere and spend the weekend with the grandparents, and then get on the school bus Monday morning and go back to school, and go back home.

Storey: Uhm-hmm. Huh. So, did you have any other aunts and uncles around?

Gray: Not in the local area. They were all off, Seattle, Spokane, places like that. My mom's side of the family is, in fact they still are, all on the east side of the country. They're probably within a hundred miles of Wilmington, Delaware. (Storey: Yeah.) And so my dad's family is the only one out on the west side. And, he was the youngest in the family, and all the other sisters, their kids were much older than his, and so our cousins were, oh, twenty years older than us. So, from a family standpoint we didn't have a lot of siblings, and children our age in the family. Lots of grandmothers though.

Storey: Uh huh. Nobody else who worked for Reclamation?

Gray: No. No.

Storey: Anybody who did irrigated farming?

Gray: No. No farmers in the family.

Storey: Interesting. What kind of presence did Reclamation have in Coulee Dam in those days?

Reclamation was *the* Presence in Town

Gray: Well it was, it was *the* presence. Employment was basically Reclamation. Everything else was a service industry. Recreation wasn't by any means what it is today. Reclamation actually did a lot of things for the community. In fact, before the town was actually sold, Reclamation maintained. The town itself was a government community. Reclamation actually established the town, constructed the town. But, I can remember the Reclamation folks coming down, and if you had something wrong with your home, they'd come in and fix the sink or, you know, paint the house, or whatever was required. And, but it was quite a presence. We used to ride bikes down to the dam, and get on the elevator, ride to the top, peddle off the dam, and come back down the hill. (Storey: Uhm-hmm.) And little things like that. And it was just, just a large community.

Storey: So, Reclamation was renting all of these houses, is that right?

Gray: That's right. The town was, I think it was, Coulee Dam was chartered somewhere '60 to '62, somewhere in there, maybe '59, but right in there about 1960.[5] And, then individuals had an opportunity to purchase the various homes, and they put bids in on the home. And the, the ones on the east side, or the Mason City side, didn't have foundations. They were all temporary homes, build on concrete blocks, wooden blocks, that type of thing. So, the folks that bought those, they were in for extensive remodels, and many of them, you know, had to put foundations under them, and do all these things to actually make them into a permanent home. So, lots of those kind of activities going on while I was growing up. There were always things to do. You know, there was always these projects going on.

Storey: Were the east side houses actually built by Reclamation, or by the contractors?

Gray: Contractor actually built east side homes.

Storey: And, they knew they were there for three, four, five, six years?

Gray: Yeah. I think originally the whole idea was they were gonna just all be torn down. (Storey: Uhm-hmm.) Probably dozed up and burned.

Storey: Do you have any idea what your dad was paying in terms of rent?

Gray: No, I don't. But, he bought the house for $2,500. I do remember that.

Storey: Uh huh. Let's see . . .

Gray: My aunt, the photographer, she bought hers, which was much smaller, and her's was $1,550.

Storey: Interesting. Hmm. Did Reclamation organize activities?

Gray: I don't remember any Reclamation-organized activities.

Storey: No things like picnics, or . . .?

Gray: I know the Employee's Association was pretty active up there, and they would have their

5. Coulee Dam City was incorporated on February 26, 1959.

picnics and things like that. But, you know, as far as swim programs or recreation like a Y-type of a program, no, they didn't do anything like that.

Storey: Hmm. What about the schools? Was Reclamation running the schools too?

Gray: Reclamation didn't run the schools, but with the federal project there the schools received a substantial amount of their funding from the federal government. And, you actually had two different school systems. You had the one in Coulee Dam, and then you had also the school district in Grand Coulee. So, there were two separate school systems, K through 12 in both communities. And, the schools were good.

Storey: Now, how did you get interested in recreation?

Interests in Natural Resources Management

Gray: That's a good question. My dream job growing up, the National Park Service, of course, was in Coulee Dam, and their headquarters was there, and they had the National Recreation Area along Lake [Franklin D.] Roosevelt. And, from as long as I can remember I always thought it would be a, would be a good job. It would be interesting to basically work for the Park Service in a position, a resource position. And, got down to W-S-U and started looking at some of the programs, and I just really gravitated toward the rec program. And then graduated and jobs were pretty scarce. And that's . . .

Storey: That would have been?

Gray: That would have be, well '74. Would have been May-June of '74. Yeah.

Storey: You graduated from W-S-U in '74? (Laugh)

Gray: W-S-U in '74. Yes. Yeah. Yeah. W-S-U in '74.

Storey: Either that or, (Laugh) okay.

Gray: It took a long time to get through high school? (Laugh)

Storey: Yeah. (Laugh)

Gray: Yeah. But, no so that was the, that was the idea. And, started applying for every register I

could think of, every test they had, the Federal Service Entrance Exam at the time. And, they had technician registers, and I was just working every angle I could. And, my plan was that I needed to just become federally employed so that I could, in essence, jump ahead of the guy on the street, be able to see the vacancy notices before they hit the street. And, one of the registers that I had sent in on was the park technician register. (Storey: Uhm-hmm.) So they qualified me on that, and low and behold I get a call from Bureau of Reclamation to go to work. And I, in fact I remember talking the H-R person and saying, "Well, I didn't apply for a electrical tech register, I applied for a park tech." She said, "Oh its all the same register." And so they said, "Well, we've got a job offer for you." And I thought, "Well, you know, if you're going to offer me a job in the electrical side of things, technician, and I applied for a park tech, and if you want to offer me the job I'll take it."

Storey: And that was at Coulee?

Began Working for Reclamation on the Third Powerplant

Gray: That was at Coulee. And, I think my first job was, it was either in the Third Powerplant or in the 500 Yard. I forget which. But, it was in both the Third Powerplant in the erection of the large 500 towers. I was involved in that.

Storey: 500 towers?

Gray: The 500 kV towers. The towers that look like the Martian men walking over the (Storey: Uh huh.) horizon. The large tubular steel ones.

Storey: For the transmission lines?

Gray: For the transmission lines. Yeah.

Storey: That would have been '74, then?

Gray: Yeah it was, it was '74. Well, it was before February '75, because that's when we loaded up and headed to Pueblo, for the natural resource job. So, I was actually only with Reclamation at Coulee Dam, in a permanent capacity for, I think, it was right at six months.

Storey: And what were you doing then?

Gray: At Coulee?

Storey: Yeah.

Gray: Well, in the Third Powerplant I was kind of an electrical, technical gopher. Most of what I did in the Third Powerplant was quantities for construction. Determine the amount of conductor, or light fixtures, whatever the contractor was installing. And a lot of it was just conductor, and it was a matter of reading tapes, taking electrical drawings, and tracing a circuit out, and they actually pull a tape with wiring, when they pull it in. And, you would find the circuit, and you'd go to one box and you'd read the numbers, and then you trace it out and go to the next box, and then you would determine from the reading from the tape how many feet of wire they actually pulled. And then we had a log sheet that you'd fill that in, and then they would use that for pay quantities for the contractor. (Storey: Uhm-hmm.) And, another thing, I worked with the electrical engineer on testing a switch gear. And, he had a set of test equipment where we would, in essence, overload breakers. Bring them to the, and make sure they tripped at the appropriate point, and take various readings, and such. And so that's what I did in the Third Powerplant. Then, up in the 500 yard, basically they had me on the inspection crew for the towers, and pulling the conductor in the 500 kV line.

Storey: So, what would you be doing? What would you be looking for as an inspector?

Gray: Well, that was interesting because, here you got this young kid right out of school and working with all these journeymen linemen, who were the contractors, and I would be sitting in my pickup with my notebook and all that, and I remember this one guy in particular, he would come and get me and he'd say, "You can't see anything from down there. If you're going to inspect us, you need to be up there." And so, in the bucket truck or up the ladder, or whatever, you know, and they'd have me up on the towers. And he was, it was almost like he was taking me under his wing. Here he was the contractor, you know. And but, but basically just verifying what they had done. And I basically, actually was kind of a gopher for the actual inspectors on the job. You know, just fresh out of school and filling a technician position, and working with the full-time inspectors.

Storey: So, you were doing all of this out of Coulee?

Gray: Out of Coulee. Yeah. And this all took place in about six months. (Storey: Uhm-hmm.) I was up there full-time for about six months, and all the time looking for full-time positions in the natural resource field. So.

Storey: I'm just trying to think what you would be inspecting for, just that the tower got up basically?

An Inspector's Responsibilities

Gray: Well, you know its things like the tower, the–I forget how they're even installed, if they're bolted, welded, whatever. But, then the insulators, how they would pull them up. And it was more for things, that they weren't damaged on the way up. (Storey: Uhm-hmm.) And they also, I do remember when they would splice the conductor, you reached the end of the cable, and they have a large hydraulic press that basically presses a fitting on the end of the cable, and that's how they splice one cable to another cable. And I remember that in that operation I was required to verify, like, the pressure. You know, they would clamp this thing down and it had to reach a certain pressure, and I had to verify that it did reached whatever the pressure was required by the specifications.

Storey: That connector?

Gray: And it seems like there was also, there was some type of a resin that was in the thing, and you had to make sure that as it was being compressed that this resin actually squirted out the ends, or had a breather hole or something on the side, but make sure that this resin came out. (Storey: Uhm-hmm.) So, little things like that. It wasn't very high tech.

Storey: It wasn't as if you were checking for bent members in the towers, (Gray: No. No.) or anything like that?

Gray: No. Huh uh.

Storey: Yeah, I had a, my sister's father-in-law used to work for a power company and he was the one who could spot the broken (Gray: Oh yeah.) insulators, you know. So he was always the one (Gray: Always the one.) that's sent out in these awful conditions to look at things. Because, for some reason, he could just sort of see it and sense it when there was a problem (Gray: Uhm-hmm.) with an insulator or something.

So, you were altogether working at Coulee, how long?

Gray: Six months, full-time. And I had also worked there for a couple summers while I was in school, (Storey: Uhm-hmm.) come back and work as a temporary.

Storey: So, you were known?

Gray: Was known, yeah. And worked on, what did I do? I was a drafting technician. And Ruth, I

can't think what Ruth's last name was, but she headed up the electrical revision drawings. And so I basically revised electrical drawings.

Storey: The as-builts?

Gray: The as-builts, yeah. (Storey: Hmm.) The red and green drawings. And, that's a tedious job. (Laugh) Excuse me.

Storey: I'll bet it is.

Gray: Excuse me. Eight hours a day sitting at that drafting table and trying to decipher engineer's notes and modify the original drawings, and, but she was, she was quite a lady.

Storey: So then you went there in '74?

Gray: Yes.

Storey: So, what I'm hearing is you moved on in early '75?

Gray: Early '75. Uhm-hmm.

Storey: And how did that come about?

Natural Resource Specialist in Pueblo

Gray: Well, like I mentioned, the whole idea of getting on was, with the federal government, was to look for that job in natural resources, to try to get around all the folks that were just on the street. And, I saw the job in Pueblo [Colorado], but the Fryingpan-Arkansas Project was a Natural Resource Specialist 579. And, had to do with the Fry-Ark system, but they also had quite a large recreation component, where the, at the time it was in the neighborhood of $20 million that the act actually authorized to be spent on recreation facilities. And so this, my supervisor, who had just been brought in from the U.S. Fish and Wildlife Service, that headed up the lands shop, selected me. And, so off to Pueblo, and I was probably there no more than six months and he transferred out. And so I was brand new in the job, first job in the natural resource field, and no supervisor. And, nobody with any kind of lands background. That was the whole lands shop, all two of us. (Storey: Yeah.) And that was interesting. That was very, learned a lot in a very short period of time.

Storey: So, you went there as a five?

Gray: Went there as a five?

Storey: What did you go to Coulee as?

Gray: Let's see, what did I, I think I must have been a four. In fact, no I think I actually started, I think I started as a, that was probably the temporary was a three. But, I'm just thinking if I applied for the position–well, my education would have made me eligible at for the five/seven. So I was either a three or a four at Coulee. (Storey: Uhm-hmm.) In fact, it seems like I was a three and I just got a promotion, six months at that . . .

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Gray: But in six months you were eligible for promotion. I got that, and it seems like I had the promotion for two or three weeks, and I accepted the other job and was off. But, basically I did what I wanted to do. I got into the resource field, (Storey: Uhm-hmm.) and off to Pueblo.

Storey: Did they pay to move you?

Gray: Yes they did.

Storey: How did that work?

Gray: It didn't cost must. Didn't have much. We were newly married. We had gotten married in September of '74, September 28. And so we actually rented the smallest U-Haul truck we could find, and had lots of room. And off the road, off we went down the road. They paid for the U-Haul, and I think they actually paid so much a hundred weight. And, we were flat broke, and so by doing it ourselves we actually came out with a little extra money and that's how we bought our washer and dryer, (Storey: Hmm.) when we got to Pueblo.

Storey: What kind of housing did you have Coulee?

Gray: At Coulee? We had a little rental house down in Elmer City, which is a little town north of Coulee Dam about two miles, and we had a little rental house down there. A real tiny thing, probably all of four or five hundred square feet. And, Joanne she's a, my wife is a registered nurse. She has a degree out of Washington State University. In fact, that's where we met.

And, so she worked at the local hospital at Coulee Dam, and she worked graveyard, and I worked days, and it was construction. So I was working like ten to twelve hour days. She was working eight hours at graveyard, and so we would pass each other. She was coming home and I was going to work in the morning. And, we did that for about, well, the six months we were in Coulee. (Storey: Uh huh.) It got a little old.

Storey: Yeah. So, then you moved to Pueblo?

Gray: Moved to Pueblo.

Storey: Where did you find housing in Pueblo?

Gray: Well, we got an apartment when we first got down there. And, we were probably in the apartment for, I don't know, three or four months. And then we bought a mobile home. And, we were in a trailer park on the east side of town.

Storey: On the east side of Pueblo?

Gray: East side. Yeah. East side of Pueblo. I think its eighth street that heads out and it joins Highway 50, (Storey: Uhm-hmm.) and we were probably a half a mile west of where eighth street joined Highway 50. So, quite a ways out on the east side. It was the edge of town back then. Yeah, I imagine probably Pueblo's expanded quite a bit.

Storey: Yeah. Where were the offices?

Gray: Downtown in the, in the I think it was the First National Bank building. We were on the second floor. And, pretty good size office at the time. I'm thinking that in the Pueblo Office we had somewhere between sixty to seventy people. And then we had field stations at Salida, up at Twin Lakes on the west side over by Ruedi [Dam]. And then of course the field station at Pueblo Dam. There was quite a large office out there also.

Storey: And what stage was the project in when you went to it?

Recreation Planing on the Fryingpan-Arkansas Project

Gray: The Ruedi and Turquoise [reservoirs] were complete. The powerplant was under construction.

Storey: That's the Twin Lakes Powerplant?

Gray: That's the Twin Lakes Powerplant.[6] When I got there the, they excavated a huge hole, had just pushed back the material, and the powerplant was, I'm trying to think. It was quite a ways along. I'm recalling pictures of the hole. I never actually saw the hole. But the powerplant, the generators were not installed and the penstocks were not installed yet, when I got there. (Storey: Uhm-hmm.) And, Pueblo Dam, they were just finishing Pueblo Dam, the dam itself. It was probably eighty or ninety percent complete. And, they were just getting into the recreation planning. And, they had hired a consultant, Flores & Associates, to come out and do a master plan for Pueblo Reservoir. That this was going to be the largest body of water on the east slope of the mountains, and they had all kinds of projections for visitations, with Denver so close, and the Colorado Springs, and such. And, it was just, coming from the Northwest where we have so much water, and going down there and looking at this three mile long puddle, when the lake's down at minimum pool, and looking at the recreation visitation that they were forecasting, I was just flabbergasted. I just couldn't, here we were building boat ramps that were six lanes wide, and I don't know how long they must be. They must be 600 feet long, at that twelve percent slope. And looking at that and looking at this little lake, and I was just amazed (Storey: Uhm-hmm.) that all these people would come to this little, little puddle of water.

Storey: Did it turn out that way?

Gray: It did. Visitation is just phenomenal, absolutely phenomenal on Pueblo Reservoir. And, its one of the first projects where Reclamation actually came in and had 20-25 million dollars to actually construct recreation facilities. So, it was infrastructure, sewer, water, campgrounds, picnic areas, boat ramps. They constructed a day-use area down below the dam. Because of the fluctuation of the reservoir, there was really no place for swimming up above. You were always chasing water during the recreation season with the drawdown. So, down below they actually excavated out two ponds, and built a diversion structure, and diverted water from the river through this little babbling brook or canal through the structures, and that was their day-use area. And, connected that all in with the trail system with the town of Pueblo. And, the unfortunate thing about that, we left Pueblo just about the time it was open, and headed off to Casper. And, I'm trying to think. Both marinas were open. There were no campgrounds that were completed yet, and construction was underway on all of them. But, it wasn't complete. [I] Had to go back down to check that out later. (Storey: Uhm-hmm.) So, that was a good job. It was a good start to Reclamation.

6. Ruedi Dam, Sugarloaf Dam (Turquoise Lake), Twin Lakes Powerplant, Pueblo Dam are all major features of the Fryingpan-Arkansas Project.

Storey: How much were you involved in the planning for all of that?

Recreation Development at Pueblo Reservoir

Gray: I worked, the primary plan was done by Flores & Associates. And, a lot of the things that we would work on was, well, the big one was revegetation. That was one of the major items that was our responsibility. We had two barrow areas, one was about 430 acres, another was about 150 acres. And, we designed a, and implemented, a rehab plan for those, basically re-seeded, and it involved pumping water out of the river on up to both areas, and irrigating those. So, that was all Reclamation. Flores, who did the recreation plan, a lot of that was with our regional office as far as plan approval, concepts. Our involvement was things like recommendations on locations and sites, and kind of coordinating with [Colorado] State Parks and the planner. More of a coordination role. And that, that really fell on my supervisor, who packed up and left. (Storey: Uhm-hmm.) And so there was probably about six or seven months when I didn't have a supervisor between Chuck and Bert. And . . .

Storey: Chuck?

Gray: Chuck, what was Chuck's? He was Fish and Wildlife Service, out of Grand Island. In fact, he went back to the Service. I'm trying to think what Chuck's last name was. It escapes me. But then they brought in Bert Schulle and he was, had been with the Forest Service, out of New Mexico. And, in fact, I think Bert just retired not too long ago, out of Billings.

Storey: And how do you spell his name?

Gray: S-C-H-U-L-L-E. Yeah.

Storey: Is this a situation where Reclamation was investing the money, building the facilities, and then turning them over to somebody else to run?

Gray: That's right. We had a master agreement with the State of Colorado Parks and Recreation group, and a lot of the design work, this with Flores, and such, was all done in concert with them. And, in essence, they would come in and operate and maintain the facilities, and Reclamation would build them.

Storey: And Flores & Company was, where were they headquartered?

Gray: They were out of Denver, and they were just architectural, landscape, recreation. Kind of a

conceptual firm. And, I'm trying to think how the, how the designs actually got done. That was like, my memory, I think we contracted. Reclamation did the water and sewer. We did kind of the basic infrastructure work, and then we contracted with State Parks to do the design, and I think construction management, for the actual recreation facilities, picnic areas, campgrounds, that type of thing.

Storey: So, these recreation projections, were they Reclamation projections, or state projections, or a combination?

Gray: A combination. Combination. Yeah.

Storey: How did that relationship work? Were you involved in that? Reclamation dealing with the State Parks Department?

Coordinating Recreation Development with State Agencies

Gray: Not a lot. We probably actually interacted more with Colorado Department of Wildlife. The reservoir was divided into two zones. Kind of the lower zone, the lower three miles was pretty much state parks, and then the upper–I'm trying to think how many miles it went back up there, was State Fish and Wildlife. (Storey: Uhm-hmm.) And, we worked an awful lot with the State Fish and Wildlife folks. We were doing a lot of the brush piles, back then, where you would anchor in–a lot of the clearing that took place in the reservoir, the trees were cut down and then they were cabled to the stump so the tree would float in the reservoir and yet would remain, in essence, anchored to that location. Did a lot of the, we got all the old tires from the contractor off all their huge dump trucks, and [units ?] and such and cabled those together. Went out and sunk those in the reservoir, for habitat. And, did a lot of things like that. Junk cars. Stripped cars out, and put the old hulks in the reservoir.

Storey: Fish habitat?

Gray: Fish habitat.

Storey: Hmm. Artificial reefs?

Gray: Artificial reefs. In fact, one summer, with, we had several rafts of these tires float to the surface. Just probably vegetation rotting and such, gas was formed, got trapped in the tires, (Storey: Uh huh.) and so all the sudden here we have these massive cabled-together tires floating around in the reservoir. So that was hard duty. We spent a couple days out there in

swimming trunks, draining the tires. Probably not OSHA [Occupational Safety and Health Administration] approved. (Laugh) Putting holes in tires and using . . .

Storey: Getting them to sink again?

Gray: To sink again. Yeah.

Storey: Huh. But, so for instance, visitation figures weren't our concern particularly?

Gray: No. We weren't directly involved in it. And, of course, the development of the park was tied to the estimated, the development, the extent of development was tied to the projections. And, everything I've heard, I mean, its been phenomenal. I just, visitation is just absolutely incredible down there.

Storey: Yeah, but that guy I talked about was from Cañon City. They used to, they had a boat (Gray: Oh yeah.) and they would go down there fishing all the time. (Gray: Yeah. Yeah.) After he retired, especially. Did you change jobs at all while you were there?

Gray: No. I, my position down there was 579 natural resource specialist. Went through all the steps. And then transferred from there up to a 11 natural resource specialist in Casper.

Storey: Uh huh. Something went through my mind that I needed to ask you, and I didn't write it down. The, oh the area manager. Who was the area, your manager?

Pueblo Project Office

Gray: Oh, let's see.

Storey: The project manager there?

Gray: Yeah. The project manager, when I first arrived, was Kregger, Kregger, Mr. Kregger. Things were very formal back then. (Storey: Uh huh.) I'm trying–George, George Kregger. That was his name. Yeah. He was the project manager. And, I'm trying to think if George was there the entire time I was down there or if–but he was the project manager. Joe Marcotte was the 400 Chief. And my supervisor worked for Joe Marcotte, so I was in the 400 Division. And, then Joe left and Tom Gibbens took over the 400 job. And I think Kregger was there the entire time I, I was only there for three years. Just a little over three years.

Storey: What was he like?

Gray: I don't remember a lot about George, other than things were just much more formal back then. And, you didn't really speak to the project manager, particularly if you were very young in the organization, you know, you kind of just, it was almost a taboo. Always dressed very sharp, you know, sport coat, tie, slacks, at a minimum, if not a suit. And, he had a very formal secretary, and I can't remember her name. But, oh she was strict. (Laugh) I do remember that, though. Oh yeah. Yeah she was a very nice lady, but oh she was strict. She ran that office.

Storey: In what way?

Gray: Well, just very authoritarian, that if the project manager needed something then that was top priority. You dropped what you were doing. You got it for the project manager. It would go through her, or very seldom you would actually give it to the project manager. (Storey: Uhm-hmm.) Just, and what I remember about her was, really had rosy cheeks. She really liked the make-up. And I mean it was just both sides. (Storey: Uhm-hmm. Hmm.) And, the hair piled up. The, I don't know, a beehive or a bun.

Storey: A beehive.

Gray: Whatever. Yeah. But, quite a colorful individual.

Storey: What about the 400 heads? What were they like?

Gray: The 400 heads were, they were pretty good to work with. They were really into detail. Joe wanted to sign off on most things, and was just directly involved, but good to work with. I never had any problems. He always support us very well. They used to, well we were open-office concept, with partitions. And of course, all the division heads had offices, kind of in the corners of the building. And Bert was probably about 6'4 or 6'5, and I'm 6'3, and so we would stick over the partitions about this much. So, we could just stand up and see where people were. And Joe, I remember him, he was not too far away from us in the corner office, so he'd just stick his head out the door and either yell "Bert" or "Bill," and so we'd pop up, you know, (Storey: Uh huh.) and look at him and he'd ask us a question, and we'd pop back down. And, I remember the procurement people, that were right next to us, that always used to rattle their cage. (Laugh) I guess they just didn't like the idea that you could look over the partitions. (Laugh) You know, and, you know, goofy little things.

Storey: Yeah. Yeah. What kind of management style did these folks have?

Management Styles in the Pueblo Offices

Gray: Joe was very, he was a micromanager. I mean he just absolutely had to be involved in things to the smallest detail. And, my bosses took most of that. And, but definitely wanted to be involved in all the details. Mr. Kregger I don't recall him having a management style, because I never interacted with him. (Storey: Uhm-hmm.) He was just this kind of figurehead that walked in the office in the morning, and walked out in the afternoon. (Storey: Yeah.) Yeah it, but, and Tom Gibbens was, he was a little bit less of a micromanager. Was, "Well, that's your program, just kind of go do it."

Storey: I know Tom Gibbens from somewhere, but I can't recall where.

Gray: I'm trying to think. Tom went up to Loveland after he left Pueblo. (Storey: Uh huh.) You know, when they kind of shut down Pueblo, and Tom was up to Loveland, and I think he retired out of Loveland.

Storey: He was, he was Ray Willms's[7] right hand. That's where.

Gray: Okay.

Storey: That's where it was. Okay.

Gray: He was a funny guy. Just, then there was also–I'm trying to think who the–Jack, I can't think of Jack's name. And Jack was in head of like Operation and Maintenance, and he was quite the character, because he was just the opposite. Jack was just, "Oh yeah, We'll get it done. We'll take care of it." And Jack and Bert were kind of counterparts. And Bert had the Land Resources, and Jack had the Operation and Maintenance, and both worked for Joe, and then for Tom. And, Jack was very seasoned, and just nothing would ruffle Jack. I mean, he just went with the flow. (Storey: Uhm-hmm.). So, that was good. I mean that was good for me, as a young person coming on, and just seeing the different styles.

Storey: So, any particular incidents you remember from Pueblo?

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7. Ray Willms participated in Reclamation's oral history program. See Raymond (Ray) H. Willms, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interview conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, in 1994, in Denver, Colorado, edited by Brit Allan Storey, 2010, www.usbr.gov/history/oralhist.html.

Gray: Nothing that really sticks out. We had, we had a Youth Corp Camp, Y-C-C, and we contracted with the college. Is it Southern Colorado State College? Whatever the college is.

Storey: Yeah, I believe that's the one in Pueblo.

Gray: The university in Pueblo. And Jack Salheimer [spelling?], and I can't think of the other guy. They ran the camps for us, and we contracted. I coordinated all the Youth Corp stuff, and, (clears throat) excuse me. The only real incident out of all the time in Pueblo is we would provide government trucks, and we were big into building low-water crossings in the upper reservoir. We have all these dry coulees that come down, and we'd come in and have the kids excavate it out. And they'd hall rock in, and then we'd mortar all the rock in to where you had a good firm base to where you could just drive across the creek. And there was always a counselor or a supervisor with the kids. They never worked alone. I mean these were, in the Youth Corp was, it was either fifteen to eighteen, or sixteen to eighteen. It was right in there. And, they got loading rock one day, and just started throwing the rock in the back of the pickup. And by the time they were done loading the truck two or three times, and missing, they just literally destroyed the back of the truck. I mean it looked like it had crashed into the moon, just from rocks hitting it, (Storey: Uhm-hmm.) being literally stoned to pieces. And I remember how well that went over with the Property and Procurement folks, that the kids literally destroyed this truck. And, its kind of funny, you know, it has nothing to do with Reclamation and the Fry-Ark Project, but, you know, the one thing that really sticks out. And, what was so odd about that is a supervisor was with them, and actually was involved in the whole thing. And they just, nobody thought. They just didn't think. And, (Storey: Hmm.) but no. Things went very well down there. It was a good job. A lot got done.

Storey: And you were there about three years?

Gray: About three years, yeah.

Storey: Just enough time to get your three grades, right?

Gray: Yup. (Laugh) Then on to Casper.

Storey: And, you were looking again, I take it?

Transfer to Casper

Gray: Yes. Yeah. Looking again. And took off to Casper and got an eleven to go to Casper.

(Storey: Oh.) Worked for Ken Randolph up in Casper. In fact, I think Ken . . .

Storey: He's still there.

Gray: He's still there?

Storey: I think so.

Gray: Yeah, I was thinking if he's, he is retiring or . . . ?

Storey: Oh, he might be. Oh no. You know I think I saw an announcement that he was retired.

Gray: I think he retired. I ran into him, was that a security meeting we had down, it wasn't too long ago. Less than six months ago. And, he was there. I'm trying to think of the project, the area manager's name up there. I can, boy I can see his face.

Storey: Oh. I can see his face too.

Gray: Boy. But, ran in to Ken down there, and still looks like the same old Ken.

Storey: Yeah. Let's talk about changing jobs. Did you apply for one job and get the job? Or were you applying for other jobs also?

Gray: Oh, I was applying for, anything I would see I would apply. And, I don't recall, and the heading to Pueblo, it seemed there were two or three jobs I had applied for. And, boy I don't, one I know I didn't get. It seems to ring a bell, I had an offer but it came after Pueblo, and I had already accepted Pueblo. I don't remember where that was. (Storey: Uhm-hmm.) But the Casper one, it came up Arlan Shineman had taken a new job and had the position before me. And, I saw that one, and just applied for the one, and was selected for that in Casper.

Storey: How did you learn about jobs in those days?

Gray: They were posted. The old clipboard with the two-hole punch in the top, and there would be a couple locations in the building where they just had them posted by region. And, also jobs, if somebody knew you were looking, and happened to see one, they would get it to you. Or there were times when the office with the vacancy would call and say, "Just wanted you know there's a job opening here, if you're interested." (Storey: Uhm-hmm.) But, yeah, typically, just postings.

Storey: So, once again, you picked up and moved?

Gray: Picked up and moved. Yeah.

Storey: And, tell me about the move.

Gray: Well, we, U-Haul was so successful the first time we U-Hauled it again (Storey: Uh huh.) to Casper. And, that time we had Kelly. She was, oh my goodness, she was just a few months old. And, moved to, moved into Casper and spent a week or two in Ken's house. He was a bachelor at the time. And so we kind of camped out there while we found a rental. Moved into a rental. And then we actually contracted to have a home built, out in a new subdivision, over by Mills, on the west side of town. And, worked in the old Casper office, which–were you ever up there prior to them getting their new building? Which, their new building now must be, what, fifteen years old, twenty years old?

Storey: No. I've never been to their office up there.

Gray: Well, it was, it was really something. It was an old Japanese internment camp, (Storey: Uhm-hmm.) that was down at Douglas, and they moved it up to Casper for the Reclamation Office. It was just this rambling building that went on and on and on. Just chunks of building that they put together, and different wings sticking off of it. And, if there was ever a place that needed a new building, Casper was certainly, certainly the place. (Storey: Uhm-hmm.) But, up to Casper, and that was a natural resource specialist job there. I worked with Wyoming Parks and Wildlife, with the land management around the reservoirs, noxious week control, land classification. That was a new one for me. I had the responsibility for land classification, if a district would request a change. And, but that was a good job. I was there just a little over two years.

Storey: Now, land class. This is soils? Or this is something else?

Land Classification

Gray: It was soils. Yeah. Soils. Yeah. Yeah this is soils classification, which is, Reclamation's land class system is based on maintaining the economic productivity so that the water users can make their repayment obligations to the United States through their repayment contract. (Storey: Uhm-hmm.) And the districts down there were, they always had a list. And, they were entitled to reclassification once every five years, and then Reclamation would pay fifty percent of the cost, at that five-year cycle. And they had enough districts down there, it

seemed like we were always working on a reclassification. But, I don't have a soils background, and so would need to arrange to get a soil scientist out there. And typically it was Arlan, and he'd go out and we'd meet with the land owners, districts, and take a look at what they want and were proposing to do. (cleared throat) Excuse me. And Arlan would either approve or disapprove the changes, or we'd modify things. And then I'd come back and then basically modify the drawings and work with the districts to make all the amendments and changes and such.

Storey: Yeah. John Lawson's the name.

Gray: John Lawson. That's it.

Storey: It finally came back.

Gray: Yeah. There it is.

Storey: The area manager up there.

Gray: John Lawson. Yup.

Storey: Arlan. Who was Arlan?

Gray: Well, Arlan was a soil scientist by training. He had been in Casper for a number of years. I believe he went down to the Lower Missouri Region, when he left Casper. Pretty sure he did. And then when they consolidated regions, he went from the Lower Missouri Region over to the E&R [Engineering and Research] Center, at the time.

Storey: And his last name?

Gray: Schineman.

Storey: Shineman. Now, when you say, "reclassified," this is soil type and combined with the ability to grow crops, (Gray: Uhm-hmm.) is that right?

Gray: That's right. Yeah. And it could be things like you look at topography. You know, is it physically too steep? It can be the types of soils, the depth of soil, how much rock is in the soil, and drainage. Are there drainage problems associated with it? Does the land get wet, and you know, it can't sustain irrigated Ag? Those are some of the criteria. And a lot of those districts,

they only have a set quantity of water, and a set amount of acres. And so if they want to move that around they basically need to move that to land that is classified irrigable, so it'd have to be Class I, II, III, or IV. And so sometimes you would get into a case where maybe the land they wanted to move it to had been classified, but it was Class VI. And so you'd have to go back and say, "Okay, has something changed? Was there a substantial amount of rock in the soil in the plow zone, and over the last so many years the farmer's picked all the rock, so rock's no longer an issue?" Or, it was a topography issue and he's knocked the hill down. The hill's no longer there. Is there a reason you can change it from Class VI to an irrigable class, and then if so, what is that? A lot of the contracts, their repayment obligation is based on what class it is. Class I, being the best, pays a higher rate. And so we go through all that to get it taken care of. And sometimes the answer was, "No." Its just, "You can't do it." You know, "The land just isn't productive, won't stay productive."

Storey: So, they could come in for parcels every five years? (Gray: Uhm-hmm.) Is that what I'm hearing? (Gray: Yeah.) Did they do that?

Gray: We were, it seemed like we were always working on land classifications. In districts where they're, basically they're putting all their water, or all their acreage to beneficial use . . .

END SIDE 2, TAPE 1. APRIL 5, 2004.
BEGIN SIDE 1, TAPE 2. APRIL 5, 2004.

Storey: Tape two of an interview by Brit Storey with Bill Gray, in Ephrata, Washington.

Things in beneficial use. The only way they can move it around?

Gray: Yeah. They only way they can move that around is to move it to a piece of land that basically meets the Reclamation criteria. So, it would need to be within the district boundary. It would have to be included, versus excluded, land. And it would have to be classified to receive, receive the water. So, those are all steps that they, some or all of those, they might have to go through. But, land class was typically the largest. Up here in the Columbia Basin, there's what, 670,000 acres irrigated. And, we literally are doing land classifications all the time. And, what we do at the districts here is, we'll do it as often as they want as long as they pay for it. Its only every five years that Reclamation pays fifty percent of the cost. And, its one of those laws that, there's probably debate whether you even need land classification anymore. (Storey: Uhm-hmm.) And you could have quite a debate on that one. The other thing is that if you want them to keep their water use, their acreage, and everything fine-tuned and up to date in today's world, waiting on a five-year cycle to do it doesn't make a lot of sense. (Storey: Uhm-hmm.)

You're always catching up. You're always, I mean, the farmer's not going to sit there and say, "Gee, I can't irrigate this piece anymore, but there's the corner of the field over there. Its not classified. I guess I won't irrigate for another four and a half years, while this all gets worked out." I mean that's just, they just go do it. And so up here what we've done is, we just tell them, "You pay 100 percent of the costs and we'll reclassify it anytime you want." But it, they're also, they're very small acreages, you know. Its almost tweaking and fine-tuning the system.

Storey: Does anything in this have to do with the crop that's involved?

Gray: The, depending on the crop can determine the classification standard. For example, orchards have a different set of criteria. And, some of your best orchard ground is good hilly slope with good air drainage, and it can even be fairly rocky and you'd look at that and say, "Well, there's no way you can grow potatoes on that." And so it would be a Class VI from a maybe a row crop standpoint, but from an orchard classification standpoint it'd be just fine.

Storey: Yeah, I was thinking about that. I've passed through a lot of orchards coming up here. (Laugh)

Gray: Yeah. Yeah. Lots of orchards.

Storey: The, what were the other things you did up there?

Working with Wyoming State Parks

Gray: Major item was the Soil and Moisture Conservation Program.[8] I administered that, and also worked very closely with the Wyoming Parks and Recreation Commission. We had, well we had Guernsey. Guernsey [reservoir] was a fabulous park. It was built by C-C-Cs. If you've, haven't been there you got to get there. It is absolutely incredible. Its over by Torrington. (Storey: Yeah.) And, rock work is just absolutely fabulous: bridge, buildings, picnic shelters. The best one is, what do they call it? The, is it the "Million Dollar Biffy," or the "Billion Dollar Biffy?" And its this incredible rock work outhouse up on this point. You can see over the entire area, and the grouting, the rock work, the timbers that they use to support the roof. I mean its just, its just incredible.

Storey: That one's been declared a National Historic Landmark.

8. The Soil and Moisture Program allows the Bureau of Reclamation to join in cooperating agreements to institute measures for the conservation of soil and moisture.

Gray: Yeah. That's good. That, the entire park or just that facility?

Storey: That facility.

Gray: That facility.

Storey: The C-C-C (Gray: Yeah.) development.

Gray: And, they have a museum there, also, that the C-C-C built. And they had a lot of, it was closed when I was down there. We didn't have the museum open. I don't remember why on that one, but they had a lot of beeswax models or sculptures that were in there that were, was done by a renowned artist. And, I don't, but it was absolutely incredible. And it was just–and all this was done, you know, in the '30s. It was just, (Storey: Hmm.) it literally is a treasure. Something that definitely needs to be protected. The public needs to be able to enjoy it, also. It needs to be protected. Its one of a kind.[9]

Storey: So, there was Guernsey?

Gray: There was Guernsey. Then Glendo, Glendo State Park. And then up above we had, up on Seminoe Reservoir, there was a state park up there. And then also we worked with the county, Natrona County, and their parks and rec department, and they had facilities at Pathfinder [Dam], and at Alcova [Dam]. And Alcova we had I don't know how many cabins. The cabins are a nemesis of Reclamation, and there must have been a hundred cabins at Alcova Reservoir. And, that was always the issue. How to deal with the cabins? How to restrict the cabins? How to get rid of some of the cabins? Always the issue. And, but a good, good job. It was a lot of variety. The State Parks folks, very very professional, and very low-key. Really low-key folks, but just did a great job. The county, it seems like the lower you get, its just, its more political, you know, the county commissioners. Brother has a cabin, you know, and those kind of things. But, I'm trying to think of the director's name, Toni, Toni Tumin [spelling?]. Real nice lady. Really nice lady. But boy she had her, it was a job. She had to keep on it. And so we had S & M-C [Soil and Moisture Conservation], the parks, land classification.

Storey: Let's talk more about cabins.

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9. According to Christine Pfaff, "evidence of the CCC legacy exists in numerous features built by CCC enrollees and still in use at Lake Guernsey State Park," and notes that "60 contributing buildings, structures, and sites, of which all but a few were the work of the CCC," were identified in the National Historic Landmark nomination form, see Pfaff, *The Bureau of Reclamation's Civilian Conservation Corps Legacy,* A-57.

Cabins on Reclamation Reservoirs

Gray: Cabins. Okay. (Laugh)

Storey: How did they get in there?

Gray: Well, these go way back to the, boy, '30s or '40s. And, Reclamation had (clears throat) excuse me, a pretty open policy, (clears throat) excuse me, that I think at the time it was looked at, "Well, here's these lands, these reservoirs, recreation just hasn't developed. We can have cabins and the public can still get on the lake and reservoir." And a lot of early ones I was familiar with, $15-$25 a year, you know, for twenty-five, fifty year lease to have a cabin. And, the whole idea, in fact the language in most cabin leases that I've seen, that Reclamation has, basically said that, "The public can come use the shoreline and this and that." But again, it's the reality. You build a cabin, and you got your boat dock out there, and you probably have a tendency to chase people off if they're along the shoreline. And most people probably don't feel too comfortable going and crawling on a boat dock that looks like it belongs to a cabin. (Storey: Uhm-hmm.) But, they had a ton of cabins there. I know they've dealt with the issue. I'm not sure where they are. I don't now if they've been able to remove the cabins, or if they're just a sign of the times.

Storey: Yeah, it tends to be an issue of public access, and so on.

Gray: Public access, yeah.

Storey: Everybody's facing the same issues, (Gray: Uhm-hmm.) Forest Service, B-L-M, all the land managers.

Gray: Well, we're trying to phase them out, you know. In fact, we've got 100 cabins on Conconully [Dam], up–we inherited (Storey: Uh huh.) those on a small projects.[10] And we've been, we've got the revenue now straightened out on the cabins. We've got it adjusted to the actual present worth. We're, I think we're probably are successful, in the last several years, we've probably gotten rid of one or two a year. But, boy you talk about a political issue. And those folks really know how to get their congressman cranked up. (Storey: Uhm-hmm.) So, it's a slow journey. Step by step.

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10. Completed by the Reclamation Service in 1910, Conconully Dam is an earthfill structure 72 feet high and serves as an important feature of the Okanogan Project in Washington, providing irrigation water to 5,000 acres along the Okanogan River. For more information, see Robert Autobee, "Okanogan Project," 1996, www.usbr.gov/history/projhist.html.

Storey: Let's talk about land and water conservation. What are those programs about? What were they about when you were there?

Land and Water Conservation Programs

Gray: Boy. Going all the way back to Pueblo. I had forgot about that. We actually had the I-M-S Program, Irrigation Management Services, and we did that with the Denver Office.[11] And, we basically would work with the local growers, and it was checking soil moisture, nutrients, that type of thing, and trying to work with them on when to irrigate and how much to put on. And, that program was in existence, I know, all the way up through the time I was in Casper. I remember being directly involved in that in Pueblo, and not so much so in Casper. From a conservation standpoint, are you referring to like our current programs now, or . . . ?

Storey: No. What was going on back then?

Gray: Oh, back then. Back then.

Storey: Let's talk about it now too. But later.

Gray: But, back then it was the Irrigation Management Services Program. We did a lot of work on soil conservation with Wyoming Parks and Recreation. Glendo [Dam], it was a real issue on the draw down of the reservoir. We had some real dust problems and some, I'm trying to think of the–what was the weed that would come in that was the noxious week? It would come in the reservoir, and we actually started a seeding program to try to control dust, and have a competitive vegetation on Glendo as it would draw down. And, that's, that's really about all I can recall from a conservation standpoint. We did a lot of, in the Soil and Moisture Conservation Program, we did a lot of fencing, to try to keep cows out of canals, and streams, and that type of thing. A lot of revegetation, through that program. Again, soil stability. Yeah.

Storey: Soil Moisture Conservation, what was that about?

Gray: Well, for us, for Reclamation, both in Pueblo and Casper, it was Reclamation's efforts to help, on federal lands, it had to be on Reclamation lands, but our managing partners to deal with a lot

11. Irrigation Management System provides irrigation scheduling information to irrigators, helping farmers schedule crop irrigation and determine proper irrigation amounts. See U.S. Department of the Interior, Bureau of Reclamation, Mid-Pacific Region, *Improving Water Management: Progress Report for the Mid-Pacific Region Water Conservation Team,* 2009, 1, www.usbr.gov/mp/watershare/report/2008_Annual_Report.pdf (Accessed November 2014).

of the issues. You know, Reclamation is not a land management agency, and we rely on our partners, whether they be our federal partners or state and county local partners. And Soil and Moisture Conservation, and the funding that we would get through that, was one of the ways that we could help our management partners get some actual on-the-ground land management type activities completed. And that was, that's probably done more for us, and I'm thinking here in this project, with [Washington] State Department of Fish and Wildlife, and the South Columbia Basin Irrigation Districts, two principal partners, and its just been incredibly valuable for us to deal with problems and issues as they come up. If we have, a fire would be a good example. We have a range fire that just cleans it off, like the table here, that through that program we can come back in and can provide some funding, and cost share in some places, and actually go out there and do rehab, reestablish the area that's burned off. We also do some wetland work through that program, to stabilize wasteways, return-flow channels, impoundments for water fowl. Anything that we can tie directly to, basically, conserving soil, moisture, and protecting those resources.

I'm trying to think what we specifically did. In Pueblo, our large project was reestablishing vegetation on about 600 [acres] of barrow area, where they'd actually taken material to build Pueblo Dam. (Storey: Uhm-hmm.) And now that money didn't come out of the Soil and Moisture Program, but that would be very similar to what we would do, but on a much grander scale. In that we determined seed mixes, how we're going to broadcast, or drill the seed, how we're going to irrigate it up, what kind of habitat values we were looking for. That was a real success. I was lucky enough to be in Pueblo, it must be about two years ago now. Reclamation had a get together in Denver, and one of the field trips was down to Pueblo to look at Salt Cedar. And so it gave me an opportunity to take a look at the two barrow sites, and they actually look better than the surrounding range. (Laugh) (Storey: Uhm-hmm.) So that was kind of fun to see that.

Storey: Does, did that kind of, did that program also involve control of things like cottonwoods, and . . .?

Invasive Species

Gray: No. Russian olive, yes. In fact, actually, way back then we were actually go around planting things like Russian olive, where now we go around and we tear it out. (Storey: Uh huh.) But the program, here in the basin, we've used it to remove Russian olive, and to try to reestablish a more native community, get rid of a lot of the exotics.

Storey: Yeah. Do you have tamarisk here?

Gray: We are just on the fringe. We have a little tamarisk.

Storey: Salt cedar, yeah.

Gray: Salt cedar. Yeah, just on the far south end of the project, along the Hanford Reach. And so we're pretty fortunate, although its getting a roothold and its spreading.

Storey: Where was it I was driving yesterday and I saw a whole river basin, or not a basin, but a stretch of river that had been taken over by salt cedar.

Gray: Is that right? Yeah.

Storey: But, that was up in the mountains somewhere.

Gray: Hmm.

Storey: Hmm. But anyway. Was John Lawson the area manager up there then?

Gray: No. Who was the area manager? Let's see. Ken Randolph was the lands person. Chris was the 400 Chief. What was Chris's last name? And who was the project manager? I'll have to think about that. It'll come to me. But John Lawson came way out, quite a while after I left.

Storey: And you were there how long? Two years?

Gray: A little over two years, because I, we moved up here one week before the volcano, Mt. St. Helens. (Storey: Uhm-hmm.) So that was May 18. So, we were up here about the tenth of May, actually physically got up here. So, so about two years, little over two years.

Storey: Well, I wanted to ask about how Mt. St. Helens affected the project anyway. (Gray: Oh.) Maybe this is the time to talk about that.

Experiencing the Mt. St. Helens Eruption

Gray: Major. (Laugh) I'll tell you, that was, that's something everybody should live through, at least one volcano eruption. (Laugh) One is enough. (Storey: Yeah.) You don't need to go through more than one, but that was really something. We were in church Sunday morning and felt that blast. Didn't know what it was, but the building rumbled. It was, I don't know, eight thirty, eight, quarter after eight, something like that. And, that was, I was just very impressed at that

huge dark cloud just slowly just engulfing the sun. And, it was very, very, very dark. Well, dark enough where all the street lights came on. And, it was very eerie for a short while, because at first the ash didn't start to fall. You just had, you had the huge cloud just literally blotted out the sun. And then slowly the ash started to come down. But, I'm thinking that probably in the Ephrata area we had in the neighborhood of somewhere between and inch to an inch and a half of ash when it finally settled on the ground. Moses Lake was a little higher, and it might have been maybe an inch and a half to two inches in the Moses Lake area, kind of in the center of the project. But it, it really affected the project that year. In fact I think water use was significantly less that year.

And, you know, there were all kinds of concerns, "Well, what's this going to do? What's this going to do to crops? What's this going to do?" And, we teamed up with, I forget who they were at the time. It was U-S-D-A actually had folks out there taking samples, sending it to lab, and nobody had an idea what this was actually going to do, whether it was going to be positive, negative, or neutral. And, so a lot of activities like that were taking place. Just the sheer cleanup. That was, that was the real issue after the, after things had settled out, because it was just, you'd drive down the road, you couldn't see. So, here you have this irrigation system, water's running, and just the actual cleanup was just, you know, motors, engines, anything mechanical. It was just, it was literally taking the grittiest, fine, talcum-powdery sand, depending on where you were, because the consistency changed. The more you went south the heavier the material was. So, on the edges of the plume it was lighter, and then in the middle it was heavier. And, but, that was just a major issue, was cleanup, you know, just physically trying to get it contained. Tried everything from plowing it off the road. They put the snow plows on the trucks and they were back out trying to plow it, and it was just so light it would fluff up in front of the truck and come back down. And, then it was the water wagon. You know, "Well, maybe we need to wet it down." So then they'd wet it down to where it wouldn't fly up. So then they kind of plowed a slurry then off the road.

I think, it'd be interesting to go back and actually look at the water records for that year, but what I recall is it was a real down year. A lot less water was used. The office, of course, closed down. You know, a lot of facilities physically closed. It was just the essential folks were in and around, and everybody else was charged to clean up. We had, I guess you could call them volunteer employees, that we had on the roof getting the, all the fines off the roof, off the front porch, just so you could just get back in business. (Storey: Uhm-hmm.) And of course, everybody was doing this to their own home at that same time. But, so like I say, you should live through one volcano, but that's enough. (Laugh)

Storey: Did it cause us problems with our vehicles or anything?

Gray: You know, I'm not aware of any real vehicle problems. The state patrol, folks like that, had a lot of problems. But, it was definitely harder on the vehicles, but I don't remember Reclamation or our irrigation districts having any failures. I just don't recall that happening. Its not saying it didn't, but it would get you to where you, we were changing oil at, you know, like 500 mile intervals, that kind of thing. I mean, it was just very frequent. And, rigging up a lot of dual air filters, to where you had a pre-cleaner before, you know, and changing those regularly. (Storey: Uhm-hmm.) Its interesting and you get out in the desert habitat management area, and you'll get out here and there's a dune area out there. And you can go out there today, you'll go along and you'll see the ash layer, and it'll be a foot to three or four feet under the sand, now, and there it is. There's just this layer of ash. And there's still a few places out there that you can still see it in the ground. Its few and far between but it almost now, you look over there and it almost looks like alkaline material. You know it just doesn't stick out the way it once did.

Storey: Why do we think that water was, the call on water was lower that year.

Mt. St. Helens Affect on the Columbia Basin Project

Gray: Well there were a lot of, that it sealed the soil, held the moisture in. It, there were some concerns there that it was so light in color, it was a very light gray, that maybe it was reflecting some of the heat, so the soil temperature was a little cooler, which that wasn't a good thing. The thing that I remember though is the following year. They were right in the middle of a, I think, a grasshopper explosion, and the ash pretty well did in the grasshoppers. The next year there were just no grasshoppers. And then the material was so gritty. It was almost like running around in sandpaper. (Storey: Uh huh.) It basically was benign from a nutrient standpoint. It, later when they came back and did their testing and all, it was just, "Well, you got another couple inches of soil, with no nutrients." You know, there were some trace minerals, and that kind of thing, but there were no problems associated with that.

Storey: And, I guess the fields, they were able to plow it in and everything?

Gray: Yeah, just plowed it in. And, it disappeared pretty quick in the fields. You know, just out there plowing and it was gone. Taken care of. And, I don't, it would be interesting to go look at yields and things that year and just see how everything turned out.

Storey: Hmm. Interesting. How long was it in the air, and so on?

Gray: The actual, I'm thinking it fell for like twenty-four to thirty-six hours, something like that. But, it continued, you know, the fine stuff continued to come down, and there was so much dust in the

air. You know, the [Columbia River] basin's a dusty area to start with, and so anytime you would have any, any good breeze blowing, it would kick up the fine stuff again. It was just a very gritty, dirty–I remember Joanne, you know, we'd be in the house and, you know, you'd turn around and you'd dust and, you know, a half hour later it looked like you hadn't touched things. I mean there was just that much grit in the air. Just very very fine particles.

Storey: Uhm-hmm. No problems with canals building up?

Gray: No. Don't remember anything along that line. See, 1980, so we were, that was pretty much pre-SCADA. We had some telemetry. The old In-Track [spelling?], but the system pretty well would just operate itself. They had the old Little Mans [spelling?], that until you went out to change the gate, the gate just stayed there. So, things actually went quite well.

Storey: So, we had a ditchrider system at that time, (Gray: Yeah.) I guess?

Gray: Yeah.

Storey: We probably still do?

Gray: Well, we still do.

Storey: How has it changed?

Gray: Still do, you know, and now most of our changes are made through our Supervisory Control and Data Acquisition System, SCADA. And that's all headquartered out of Ephrata here. And the three districts log on to operate their sections of the project. But they, you still have ditchriders in the field. The SCADA system just really operates the main carriage system. And so all the individual farmer turnouts are still manually done.

Storey: Oh, okay.

Gray: So the ditchrider will take a water order, and then actually the next day will go out and either open or close the gate, and deliver their required quantity. So. How about a . . . ?

Storey: Okay. [tape paused]

New here. We were talking about Mt. St. Helens.

Gray: Where were we then? Mt. St. Helens. That's right.

Storey: What was your job when you came?

Transfers to the Columbia Basin Project

Gray: Oh, okay. I transferred up here as the chief of the Land Resources Group. And Ephrata had realty and land resources together, and they decided they needed to break that apart. And so Dale Olson [spelling?] took the realty side, and then they created the vacant job for the lands side. And, I applied for it and was fortunate enough to be selected. And, I never thought I'd live in Ephrata. Lived in Coulee Dam all my life, sixty-five miles north of here, occasionally would drive through Ephrata. And, one mind set you fall into at Coulee Dam, up there, probably the same way for the folks down here, is that the real Bureau of Reclamation is Grand Coulee Dam. Its none of that stuff south. (Storey: Uhm-hmm.) You know, and then I go to work for the office in the south end, the irrigation side and lands side. And so, that was kind of an eye opener, just the other side of it. And, but anyway, moved up here in '80, Land Resources, and basically it pulled together everything I had done in Casper, and then Pueblo. I basically had Soil and Moisture Conservation Program, land management, Noxious Weed Control Program, or Integrated Pest Management Program, and those were probably the primaries. We had a large grazing program here. And, what's unique about the Columbia Basin Project is we have land management authority in the Columbia Basin Project, that Section Six of the Columbia Basin Project Act basically authorizes the secretary [Secretary of the Interior] to manage lands "for sound project purposes." (Storey: Uhm-hmm.) That's something you can drive a bus through. (Laugh)

Storey: Sure is.

Gray: Yeah.

Storey: That's the kind of authority you want.

Lands Resource is a Significant Program

Gary: And so its unique for Reclamation, and so we, in fact, our L-R-M [Land Resource Management], our Land Resource budget is, well its our significant program in Ephrata. But, to give you an idea, we've got, well there was a significant settlement program here in Ephrata, as they were building the project, but we still retain about, oh, total of probably about 370,000 acres of land that's Reclamation administered. That includes about 90,000 around Lake

Roosevelt. So, that puts us in the neighborhood of 270 down this way, 260, 270. We've got 670,000 acres under irrigation. We've got 6,000 miles, ballpark numbers, of easements for laterals, canals, wasteways, drains, and its just, its just, its just a big project. And, from a lands standpoint you start thinking about, "If anybody wants to do anything out there, they want to put telephone line in, they're probably going to cross a Reclamation facility. They're probably going to go across a chunk of Reclamation land." And so the Land Management/Realty side is just, those folks are just busy all the time. I mean, just trying to keep records up to date, grant permission to cross structures, that kind of thing. And, it was just to the point, back then, when I came up in '80, they were looking at a program to dispose of the remaining settlement lands. And they didn't. Part of it was just work force planning, that they knew they had a couple guys that were in the land management side, they're really sharp folks, but they were getting to where they could pull the pin, and I think they could get somebody in that could carry on. (Storey: Uhm-hmm.) But, great job. It just pulled everything together that I'd done before, and tossed on a whole lot more and gave us some authority to do some things with. After Dale retired then they reconsolidated the land and the realty section. Then I had the land and realty together. And, but we've done a lot of land exchanges. We've got, we don't have a lot of money but we have a large land base. And, that's just as good. That we've done a lot of consolidation for project purposes, which includes recreation, fish and wildlife, needs also for the irrigation side, whether it would be a barrow site or a material source or something like that, to operate and maintain the facility. You can see on the map up there, the pink lands are the, the vast majority of those are Reclamation lands, with the exception of the ones just by the river down there where the big bend is.

END SIDE 1, TAPE 2. APRIL 5, 2004.
BEGIN SIDE 2, TAPE 2. APRIL 5, 2004.

Gray: In the Hanford area there, there's actually about 34,000 acres of Reclamation-acquired land right there. And that was all to be developed into the irrigation project, and then World War II came along, and the Manhattan Project, and that just changed forever the development of the project down on that end. But, good job. From there, I did that, that was from 1980 to 1990. So, that was ten years. And then Bill Hewitt retired, who was the 400 Chief. And, I applied for that position and was fortunate enough to get that position. And, had that up until the area office concept came about. So that was what, '93?

Storey: Ninety-three, '94, I think.

Becomes Division Chief

Gray: Ninety-three, '94. And, the project manager here, Jim Cole, became the area manager for the Upper Columbia Area. And, the Upper Columbia pretty much consolidated the Yakima Project and the Columbia Basin Project. Those areas kind of became the Upper Columbia Area. And so Jim went over to Yakima to become the area manager, and then I basically took over the Ephrata Field Office, became the Ephrata Field Office manager. And, we went through, at that time, and kind of flattened the organization out so all the division chief jobs were basically taken out, and from a supervisory standpoint. And so, I've been doing that ever since. And somewhere here, I'm thinking probably about '98, I'd have to go back and check the action, but then became the deputy manager for the area.

Storey: Deputy area manager?

Gray: Deputy area manger, yeah. So I have the Ephrata Field Office manager's position. Its kind of a . . .

Storey: Are there two deputies then?

Gray: No, just one. Yeah.

Storey: And, its here rather than in Yakima?

Gray: Yeah. Yeah.

Storey: Hmm.

Gray: But the . . .

Storey: Tell me what grade you came here as.

Gray: I came here as a twelve. Came here as a twelve. I went from the eleven in Casper to a twelve here in Ephrata.

Storey: Running the . . .

Gray: The Land Resource Group.

Storey: The Land Resources Group?

Gray: Yeah.

Storey: What about when they re-emerged them?

Gray: It was a twelve when we merged. And I got my thirteen when I took over the division chief, the 400 position. (Storey: Uhm-hmm.) Yeah.

Storey: And then what happened in, when you became the head of the Ephrata Field Office?

Gray: Thirteen. Yeah. And, so its been good. I mean, Reclamation's very, been very good to me. (Storey: Uhm-hmm.) And, I've had exciting jobs, and always changing. Even here. And I never thought I'd be somewhere this long, in one place. I just absolutely never thought I'd be here this long. And, I think its two things. One, the kids start getting up in age, and they start getting into middle school and high school and you kind of feel like I got into a slot there and I'd go home and we'd talk about jobs in different places, and pretty soon everybody'd be crying around the dinner table. (Laugh) And sometime, "Aww shoot." And then also the jobs. I mean, I've had, well, one, two, three, three or four different jobs here in Ephrata. And so, its changed, you know, and so its, that's refreshing. (Storey: Yeah.) So. But, I never thought I'd be here this long. (Laugh) I would have bet you a paycheck, when I walked in the door, that I'd be here three, four years and be gone.

Storey: Move on again?

Gray: Yeah.

Storey: Yeah. Tell me about the programs when you first came, as the head of Land Resources Management. Let's talk about those in more detail.

Columbia Basin Project Land Resources Programs

Gray: Sure. Well, we've got, we got one major partner, and that's the state of Washington. And, we've got like I mentioned, a 260-270,000 acres on, the physical Columbia Basin Project, excluding Grand Coulee, that we take are of. And the state of Washington, we've got a contract with them to administer about 140-150,000 [acres], to do kind of the day-to-day management. And, those folks have been very good to work with. And, that's one area where we use our Soil and Moisture Conservation Program to where we can, in essence, be a good partner with them to help out in our management. But that was our major issue, was just day-to-day land management. What we were looking at doing was trying to take a look at, at our

areas, and make a determination if we had adequate lands available, if we were managing for habitat tied to the Desert H-M-A [Herd Management Area], which basically the reason we're there is because of the Frenchman Hills, and the Winchester Wasteways. Those are two major return-flow channels that come through on the way to Potholes Reservoir. Very low land, very, well its, its just, its an artificially-created wetland. I mean there's 30,000 acres out there. I mean, its just phenomenal. And so we manage that from a project standpoint to make sure we can get the return flows into Potholes Reservoir. We've had damage claims out there because of the high water. We've also then took a look at it and said, "Basically from a fish and wildlife management standpoint, we can evaluate this." And we actually ended up saying, "We need our right of way to be so wide from and operation and maintenance standpoint. But if we made it a little bit wider, looking at the typography and the benefits are out there, that we could do that, and basically use the Fish and Wildlife Coordination Act for authority. And we could just have a first class habitat management area, which we'll get the State Fish and Wildlife to manage for us."

And so, we did a lot of that, and went through the evaluations and studies to determine where those boundaries ought to be. Worked with the U.S. Fish and Wildlife Service through, again, the Coordination Act, and they did Coordination Act reports for us, and all, to help us identify where the boundaries would be on that. And, up until the remodel we used to have that map on the wall. And, our policy, in fact our policy still is, on a "willing seller" basis, and again going back and using, in essence, our bank account, we have some land there that we can exchange and move around, that we can consolidate and block up these areas to where basically everybody benefits.

And we've done that a lot in the desert area where our priority right now is Lower Crab Creek, Lower Crab Creek. Well Crab Creek actually starts way over by Spokane, by Reardon, winds all the way through the north central part of the state, or I should say the central part of the state, goes right through the town of Moses Lake, through Potholes Reservoir, and then it turns west and goes down to the Columbia River. And, O'Sullivan Dam is constructed across the creek. So, we capture all the water in Crab Creek, plus all of the return flows from irrigating the north half of the project, and that's the water supply for the south half of the project. But, by doing that then, our evacuation route, then, is the old creek. Where if we get into a flood situation, or if we need to release water that we can't put down the canal, we need to release it down Lower Crab Creek. Well, we've never acquired right of way down Lower Crab Creek, and so then we are restricted to pass water just in the stream channel. We can't exceed that. So, one of the things we're looking at to give us more flexibility in our operation is to actually acquire a right down Lower Crab Creek. And so we've, that's just been, well its been a priority for the last ten or twelve years. And we're

doing that through exchanges, willing sellers, that when we become aware of somebody that is willing to sell, that the creek goes through their property, we'll talk to the budget folks, year-end money, and see, "Do you have any money we can use to acquire this." We'll use exchange. And, its been pretty quiet down there the last several years. But, over the last ten years we've probably acquired three, four miles of right of way down there. We've got several right now we're working on, and which would be exchanges. And so that's a major program that will just, it'll increase our ability. We'll be able to get more benefits out of the project if we can truly have a safe place to where if we need to we can release water and get it down to the Columbia River without affecting folks. (Storey: Uhm-hmm.)

Integrated Pest Management

Integrated Pest Management that's been a, really a, just a fun and a neat project here on the Columbia Basin. The purple loosestrife, I don't know if you've heard that weed.

Storey: I've heard of it. Yeah.

Gray: Well, we've probably had in our 20-25,000 wetland out there in the desert, we probably had that much in purple loosestrife. It was awfully pretty, and pretty worthless. But our agronomist, Craig Connolly, over the years has worked very closely with a couple universities. I know Cornell was in here, and they've introduced three or four insects, a couple beetles, and there's a root bore, there's a, I think one does something to the bud, on the plant. Well, its been a phenomenal success. And, in fact, they come in now and they harvest the insects here and take them to other areas with infestations. And, you go out there now and you see an occasional purple loosetrife plant, where ten, twelve years ago, it was thousands of acres. I mean, it was just a sea of purple. And so that's been a really neat program that's been successful, and Craig has just done, just an outstanding job on that. Let's see.

Storey: You talked about Noxious Weed Management.

Noxious Weed Management

Gray: Oh yes, Noxious Weed Management. We've got a pretty major program on that. And, of course, we, being in an agricultural area we've got very active weed districts that are chartered under the state, and they're county organizations, and they're out there looking for that invasive weed. And they like to post little red signs. And just looking at we've got 6,000 miles of rights of way with canals and drains and things like that, and the Integrated Pest Management Program, which includes the weed program, is just, its major. All three districts are involved in

that, and spend a substantial amount of their capital on that. We use some of our Soil and Moisture Conservation funds to deal with that. Again, our agronomist works directly with the districts. And, we've been working with them successfully over the last number of years where they all now have mowers, and they mow the ditchbanks twice a year. And so, they still use chemicals, but the amount of chemical use has substantially reduced. And looking at, Craig has worked with the, and Hugh. They've got an excellent agronomist on their staff, and the two of them have kind of teamed up. And, it used to be the old scenario was you'd muck out the ditch to clean it and you'd dump the spoil on the ditchbank. And you just continue going on down and cleaning and mucking. So, behind you here you had all this humicy stuff, (Storey: Uhm-hmm.) and just perfect for weeds, wet, moist, and yet also very difficult to manage because you didn't level it. I mean its just like this. And so now the program is, they'll come in and when they clean the ditch they either, if they put on the ditchbank then they grade it down to where they can reseed over it and get competitive vegetation, or I know a couple of them, in a few cases, if they got a really good vegetation stand they'll haul it a away. Now, that really increases their costs to do that, but they're looking at the long term, that if they don't haul it away they've got to reestablish that vegetation stand. They don't have a problem with weeds right now. And, so we've really made a lot of progress in that. But, irrigated agriculture, weeds are always going to be an issue. I mean its just, its definitely a, it's a manageable issue now. And, they still have their hot spots, but its doing very well.

Storey: What kinds of weeds are bothersome here?

Gray: Oh boy. You always have your Canada thistle, is a goody. You've got all your knap weeds. We've got a lot of those.

Storey: That's K-N-A-P?

Gray: Yeah. K-N-A-P. And, oh they've got, oh I'm just not up on my weeds much anymore. I used to know that stuff really well, years ago.

Storey: Tamarisk a problem? Just in the south, you said?

Gray: Just in the south, and not along any of our actual channels and such. Its interesting where its at. Its, probably most of our tamarisk is in the Department of Energy control zone. And there is in . . .

Storey: In the Hanford Reservation?

Gray: And awful lot in the Hanford, Hanford Reservation. And, there's an awful lot of it on the Loch Island Slide. Tremendous amount of it out there on that slide. And I know that our folks had been, before it was designated, our folks had been working really closely with the district. And, State Fish and Wildlife managed the area at that time. And since the proclamation creating the national monument, our land that was state administered went over to the U.S. Fish and Wildlife Service to be administered as part of the monument.[12] And, I'm not quite sure where they are in their tamarisk control now. That kind of put it in a whole new box. (Storey: Uhm-hmm.) And, but its something that all the entities, they need to keep their eye on it. They need to keep it under control, because it is controllable right now, and you just need to go down to your country and take a look at it. (Laugh)

Storey: Down on the Rio Grande?

Gray: Yeah, I mean.

Storey: (Laugh) Its really out of control, I guess.

Gray: Yeah. That's for sure.

Storey: Tell me more about exchanges. Do you have any exchanges, for instance, with the state?

Land Exchanges

Gray: No. We have–I'm trying to think if we've every been able to actually put one together with the Department of Natural Resources. They're a state agency that manages the school trust lands. And, we've had our battles with them. We work very well with them, but historically the agency's had its battles. But, our exchanges, the vast majority of them are with private land owners. A couple that I can think of, anadromous fish have been, you know, have been an issue, well, the last twenty-five years. (Storey: Uhm-hmm.) And we had an opportunity here about, oh it must be, time kind of flies, eight, ten years ago that–well, it was after the designation of the reach. There's a strip of river between Priest Rapids Dam and the upper end of the reach that we had a landowner come in and basically tell us that he had, I think he had a half mile of river just below the dam on the Bernita, Bernita Bar [spelling?]. And, we basically used

12. The Hanford National Monument, along the Columbia River in southeastern Washington, was created by Presidential Proclamation in 2000 under the Antiquities Act. The monument preserves unique natural and cultural resources that include the Hanford Nuclear Reservation–the facilities that produced plutonium for the atomic bomb dropped on Nagasaki, Japan during World War II on August 9, 1945. For more information, see U.S. Fish and Wildlife Service, "Hanford Reach," www.fws.gov/refuge/Hanford_Reach/ (Accessed December 2014).

our exchange authority under the Columbia Basin Project Act, and some of the remnants of our settlement program, and we did an exchange with the individual and we acquired a half mile of Columbia River frontage, right on the Hanford Reach. And, we got that pulled together and taken care of. And, that was an exchange. Another one that we did . . .

Storey: Now why, tell me why this is in the government interest?

Gray: Oh, okay. Why is it in the government interest? From the Columbia Basin Project standpoint we look at our authority to manage a project, and "with sound project development," those wonderful words there. And, E-S-A [Endangered Species Act] was becoming an issue. We are being held accountable for certain standards along the river with return flows, different things, which is well we should be. And here we have basically a strip of land on the river within the Columbia Basin Project that was, in essence, open for development, which who knows what could happen to it. Maybe it'll be a gravel pit. Maybe it would be a subdivision with septic tanks along the river. And, here we had all this federal ownership, immediately downstream, which was Reclamation ownership. You kind of had a management zone, and in that case it was something that we felt we could do to aid and assist in the effort on anadromous fish. And so we went ahead with the exchange. And when we do something like this, what we do is we typically, it takes about a year to do an exchange. It's a pretty involved process. And we'll, in essence, do kind of an approval memorandum, where we'll run it by. And, in fact, in this case I think we took this all the way to, I think John Keys[13] was still the regional director at the time, but we had a series of discussions and talked about the pluses and minuses of the acquisition and such. And, many times when we do that, one of the things we look at is we don't want to increase our day-to-day O&M [operations and maintenance] dollars, our management dollars. (Storey: Uhm-hmm.) So, many times a criteria is that, "We'll do this as long as you, State of Washington Fish and Wildlife, or you, U.S. Fish and Wildlife Service, you agree to do the day-to-day land management so that we're not saddled with an annual cost. This is kind of a one-shot thing where we'll go out and we'll get the acquisition done and take care of it, and then you manage it from this point on." Did that down there. We also worked with, it was a nonprofit, River-something. And, we acquired a little eighty acre parcel down right next to this. And that was actually done with federal funds, towards the end of the fiscal year we were able to do that one, and that's about the same time frame.

13. John W. Keys III had a long and distinguished career with the Bureau of Reclamation that included being Pacific Northwest regional director (1986-1998) and Bureau of Reclamation commissioner (2001-2006). Mr. Keys also participated in Reclamation's oral history program, see John W. Keys III, *Oral History Interview*, Transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Storey, senior historian, Bureau of Reclamation, from 1994-2006, in Denver, Colorado; Boise, Idaho; Washington, D.C.; and Moab, Utah, edited by Brit Allan Storey, 2008, www.usbr.gov/history/oralhist.html.

I'm trying to think of a couple others. The desert H-M-A; that's the area just to the left of Potholes Reservoir on the map, the large pink area. And, high water table, and we actually had a lawsuit out there, the Worely [spelling?] Case, and we lost that. And, he had some, he had a private water source, public water, and high, general overall rise in water table got his spud shed wet. And, we ended up, based on that, we went out and took a look at the area to see what our liabilities would be out there, and we've done some exchanges, and also some acquisitions out in that area, with the idea the land could be used for recreational fish and wildlife, but it also takes care of a liability for the United States, from a high-water claim. (Storey: Uhm-hmm.)

Yeah, its, Columbia Basin is so, its almost unique that with the settlement authority in the act, the federal government actually went out in the '40s and '50s and purchased vast tracts of land in the basin, for a dryland price, and then developed the project, and developed farm units, and then basically held drawings, and then entered into contracts with the individuals that were successfully drawn. And many of those folks were veterans returning from World War II.[14] And then, so the land was developed in the farm units, purchased by Reclamation, developed into the farm units, sold for an irrigated Ag price, and in fact in most cases in the early years, Reclamation was actually the banker. We carried the paper. And then the settlement fund was reimbursed the cost of the acquisitions. So, right in our authorization the [U.S.] Treasury basically set up an account, a Columbia Basin Land Settlement Account, and in a way kind of advanced funds, and said, "Here's the money. Go buy this, and you have to pay it back with three percent interest. And, you'll do that because you're going to develop the project and the land will be worth more. So, when you sell it, it'll go at a higher rate, and you'll retire the debt plus three percent interest." And so that's very unique about the Columbia Basin, and that's where a lot of these lands have come from that we're talking about, is we've gone out and we've bought these vast tracts of acreage. And, I think at one time, I've never seen an actual number, but I think we had close to three quarters of a million acres, at one time. And now we're down to the 270. So, a lot of the land has come in and a lot of land has been sold.

Storey: Are we still doing settlement?

14. Near the end of World War II, Congress debated multiple bills concerning assistance to returning military personnel once the war ended. In 1944 Congress passed the Servicemen's Readjustment Act, or the GI Bill, that provided multiple benefits veterans. At the same time, efforts were being made to assist ex-servicemen who wished to settle on newly developed homesteads. The closest Congress came to giving veterans help to establish farms was allowing them preferential treatment in applying for homestead entries, in passing P.L. 78-434, *An Act Allowing Credit in Connection with homestead Entries for Military or Naval Service during World War II* (1944). For more information, see Brian Q. Cannon, *Reopening the Frontier: Homesteading in the Modern West*, (Lawrence: University Press of Kansas, 2009), 11-30.

Gray: No. No we haven't–settlement is defined as building, constructing farm units, and having drawings. No. I think our last, not sure when our last drawing was, seventies? Early '70s, would be my hunch. We had a sealed bid sale. I think our last sealed bid sale was, oh, maybe '83, '84, somewhere in there. We had a few thousand acres that was just surplus to Reclamation, and we did a sealed bid sale and got rid of it.

Storey: Hmm. What kind of issues have you had, since you came, about acreage limitation, if any?

Acreage Limitation Issues

Gray: Well, acreage limitation from an R-R-A [Reclamation Reform Act] standpoint, we probably got one of the larger, still active R-R-A programs around.[15] We actually got about a one and a half F-T-Es [Full-time Employees?] that deal with that program. I got three major districts. One has come under the new law, which has simplified things a lot by coming under the new law. We have two that, so far, refuse to come under the new law. Think about it every now and then, but they haven't come under.

Storey: Under the new law? R-R-A?

Gray: The Reclamation R-A.

Storey: R-A-18, 1982?

Gray: 1982 or four?

Storey: Well, whenever it was, yeah.

Gray: Whenever. Yeah, and, so–I need to, I guess, back up a little bit on your question. Where are you heading to make sure I'm heading in the right direction?

Storey: I'm just wondering if we have people out there where they're paying full price for the water and stuff?

Gray: Yes.

15. Congress passed the Reclamation Reform Act in 1982. The act, among other things, increased the acreage limitation to receive project water from 160 acres to 960 acres, removed the residency requirement, and placed a limit on the leasing of lands receiving government water.

Storey: Or, are most of the farms under the acreage limitations?

Gray: The vast majority of farmers are under the acreage limitation. We do have several full-cost farms that do pay some full costs. Percentage-wise, most of our farms, I think the average acreage is a little less than 500 acres, 400 and something; the high fours. We do have a few very large landowners, that have good attorneys, and very careful how they fill out their forms. And, that's probably where our people spend most their time, with those few folks.

Storey: Uhm-hmm. But, percentage-wise?

Gray: Percentage-wise, I don't really have a number but its definitely probably, number of farms, probably well less than ten percent. Acreage, that would be, it would be interesting to take a look at acreage and how that would fall out from an acreage standpoint. (Storey: Hmm.) Yeah. [tape paused]

Storey: Talking about acreage limitation before we went off. (Laugh)

Gray: Oh yes. (Laugh) Yeah. Our landowners are actually in pretty good shape. We have our share of large landowners. Our full cost is unique. I keep saying that for the Columbia Basin, but they calculate full cost on each individual block. So, you can see the map up there and we're a little far away from it, but there is approximately forty different blocks in the project, so there's forty different full-cost calculations. (Storey: Uhm-hmm.) And, Block Twenty-Six, which is the most recent, down in Mattawa, which was completed like in '84, full cost on that is, its in the range of $1,500 to $1,700 an acre, in that range. And so, the landowners take full cost pretty seriously, because its significant dollars on the Columbia Basin. But, that's really, that's about it on full cost. Our average farm's less than 500 acres in size. I'll need to get this sheet for you before you leave?

Storey: But still under the old system, the 160-acre system?

Gray: Well, under the new law that, the district can elect, or the individual landowner can elect. So, if the district elects, they're basically electing for all the landowners, so they're just under the new law, which then would give them the 960. If the district chooses not to elect, like two of ours have, well the individual landowners can choose to come under the new law, can do an election. And, a vast majority of our landowners have elected to come under the new law, and so that then gives them 960 acres. And, the other thing that our districts did here was, way back in the early '80s, they paid for, they funded the study to determine the Class I equivalency ratio here in the Columbia Basin Project. And so, these are round numbers, but if you had all

Class III land, on the Columbia Basin, you could actually own about 1,500 acres. That, basically, is your 960 entitlement from a Class I equivalency standpoint. A 960 is based all in Class I. And so if you have multiple land classes, you can actually have more acres than that based on the equivalency formula.

Storey: I didn't know that.

Gray: But, the water users had to fund that study up front, and it was an extensive study that, I'm trying to think, I think Denver did that. A long time ago; memory's a little hazy there. So, that helps the land owners out here also, you know, it 1,500 acres, that's a pretty good sized farm.

Storey: Yeah, it is. And, with some of these crops I'd think its pretty labor intensive too? Like the orchards, for instance?

Crop Diversity on the Columbia Basin Project

Gray: Orchards, yeah. Orchards are very labor intensive. You've got, probably some of the other crops, you know, asparagus. There's a lot of speciality crops in the basin anymore. Asparagus is another one that's just very labor intensive. Also, there for a while, asparagus was a very good, from an economic standpoint, a good crop. Its, the floor's kind of dropped out of that the last few years, as more acres have come on all across the world, and stiff competition. But, variety of crops. Oh, my goodness, I think there's sixty major crops, major and minor crops, close to ninety different crops grown in the basin. All the way from flower seed to seed potatoes, to early and late potatoes, beans, corn, fresh corn, mint. You name it and its probably produced here.

Storey: Beans? Dried beans or string beans?

Gray: Both.

Storey: Both?

Gray: Peas. Both sweet peas–in fact, both my kids, that's how they, one of their incentives for going onto higher education is working the pea harvest.

Storey: They hand pick them?

Gray: No. Actually working, Kelly was a sampler, that actually went out and actually tested the peas

for the correct harvest time. And then my son was, quite a glorious title, assistant mechanic. It meant, "You're the one that gets to crawl in the machine and untangle all the vines." (Laugh) And he'd come home just absolutely green. And, but they were both excellent jobs, you know, twelve, fourteen hours a day. Good incentive to go on and get, to make . . .

END SIDE 2, TAPE 2. APRIL 5, 2004.
BEGIN SIDE 1, TAPE 3. APRIL 5, 2004.

Storey: This is tape three of an interview by Brit Storey with Bill Gray, in Ephrata, Washington.

A little bit more about crops. You mentioned mint.

Gray: Uhm-hmm.

Storey: Tell me more about mint, if you would?

Gray: Well, they've got spearmint and peppermint both. And its, its produced. It actually grows a lot like alfalfa hay, and they swath it just like that. And then it goes into the mint still, and they basically inject steam through the canister and collect the mint oil off of that. And we've got, in fact, one of the larger mint producers in the nation is here in the Columbia Basin Project. Also is a challenge for the R-R-A people, that particular individual. But, that's kind of one of those niche crops. He's pretty well got the mint market sowed up here in the basin. But, it's a good crop. It has a good long shelf life. You can put it in a barrel and it can sit there until the market is correct, and then you can release it. (Storey: Uhm-hmm.) So, good potential. Difficulty dealing with the process, the waste stream, that you get a lot of hot water off the distilling process. And, to deal with that correctly, to where it doesn't get into return flows, that kind of thing. Also there's a lot of, the mint sludge, basically the plant material that they need to deal with and dispose of.

Storey: Can they put it back on the land?

Gray: A lot of them do put it back on the land, and you'll see, you'll see a fair amount of that. (Storey: Hmm.) Yeah.

Storey: And so this is used for flavorings and things?

Gray: Yeah. Its flavoring, you know. Well, you know, the one that pops to mind is Spearmint Gum. (Storey: Yeah.) And, but its flavoring, deodorants, you name it. Anything that has a mint taste

or odor to it.

Storey: Were you saying there was one farm that can, sort of controls this? Is that what I was hearing?

Gray: Well, in the basin. There's just one very large mint producer that definitely has the majority of the crop, in the basin.

Storey: Uh huh. And, of course, mint just spreads like the very devil?

Gray: Yeah, it does. Its quite the crop. (Laugh) Yeah, my wife made the mistake of bringing some home because it was pretty. (Storey: Uh huh.) And boy we fought that for several years to get rid of that.

Storey: Yeah.

Gray: Yeah.

Storey: What about things like potatoes? What kind of processing is there on the project?

Food Processing Centers of the Project

Gray: Lots of processing on the Columbia Basin. The potatoes that they produce here are grown for, like the french fry, potato flake market. They're process potatoes, versus, you know, bakers and that type of thing. But all the major processing houses are here, Simplot, Carnation, Nestlé. In fact, I think Nestlé and Carnation have consolidated: Twin City Foods. Heavy orientation over in Quincy. Lamb-Weston's in Quincy, along with Simplot. Moses Lake's got Nestlé, Carnation. Twin City Foods, is in the Tri Cities. Othello, Chef Ready, who is now, oh was bought out by the Canadian firm. I can't think of their name, but a prime crop in the basin. Potatoes, in fact, if you eat your french fries at McDonald's and Burger King you're probably chewing on a Columbia Basin potato.

Storey: Are there any production issues that affect the project itself? You mentioned the sludge, and the wastewater, and so on for the mint process.

Water Issues with Food Processing Plants

Gray: Well, the processing plants have quite a waste stream. And we are actively, have actively worked with them and the Department of Ecology on how they deal with, and how they handle,

their waste stream. Lots of nitrates, particularly in the any of the vegetable or potato processing. And, the primary disposal method has been after treatment of the waste stream, to land apply to deal with nutrients and such. And, we've issued several municipal-industrial water service contracts. We've worked with them on siting lagoons for storage. And, basically after they treat the thing, take the solids out in such, then they land apply and let plants use the nutrients in the waste stream. But, the water is too, its too, too hot, has too many nutrients, and so they have to mix it or cut it down with fresh water. And so that's what the water-service contracts are for. And it also takes a lot of acres in order to do that so that you don't apply too many nutrients to the soil.

But, we've done that over in Moses Lake, with the Nestlé plant. McCain, that's the name of the outfit, from Canada, that's down in Othello. We've got a contract with McCain. We've got one with Lamb-Weston, out of the Tri Cities. All to manage their effluent stream.

Storey: Uhm-hmm. What about the orchard industry? What kind of processing and crops have we got there?

Gray: A lot of packing houses. Quincy has quite a few packing houses where the apples will come in, they'll wash them, they'll sort them, spit and polish them and get them ready for the market. There's a juice plant, Seneca juice plant, in Othello, that it seems to operate–it must be directly tied to the market, because there are years when its not open, its not operating. And then there's others that it does. But it, its just amazing. They actually have a rail spur, and they have tank cars, Seneca concentrate. And its just amazing for me to think of an entire railroad tank car full of concentrated apple juice. (Storey: Uhm-hmm.) So the apple, the orchard industry, a lot of fresh pack; peaches, cherries, and things like that. That's all fresh pack and out to the market.

Storey: Hmm. Let's see, what are some of the other major crops there?

Gray: A lot of vegetables: sweet corn, carrots, beans, lima beans, green beans, dried beans, peas. What else?

Storey: And those are packed here?

Gray: Those are packed here. In fact, the Simplot plant over in Quincy is a large packing facility that then flash freezes, and its in the large industrial container size. And then that's shipped out to plants that then reprocess and put in the consumer size packets. Also Twin City Foods, that's another one I'm familiar with. They have a plant in Moses Lake, and also in the Tri Cities, plus

their original location is Stanwood, Washington, and during sweet corn time you'll just pass semi after semi hauling sweet corn over to their plant in Stanwood.

Storey: Sounds to me like, as if, a lot of this processing's going on all at the same time.

Gray: Yeah, it sure is. In fact, they'll process year round. Lamb-Weston is a good example. All the potato plants, they're processing 365 days a year.

Storey: Really?

Gray: It's a good industrial base for the small communities.

Storey: Well, I was wondering about the labor issues this causes for the farmers and so on, if you have a big rush in the fall or something.

Farm Labor Issues

Gray: There's substantial population that comes through, particularly for the orchard industry. (Storey: Uh huh.) That, and we talked about asparagus earlier. Those are probably, probably the orchard industry are the largest where you have the annual flux where people come in for harvest, and move on after harvest is completed. And that'll start early with the cherry harvest, and then keep right on going through the season.

Storey: These are pie cherries, as opposed to sweet cherries?

Gray: All of the above.

Storey: All of them.

Gray: Yeah. Yeah.

Storey: And they still hand pick those, I presume?

Gray: Yeah, sure do. And several new varieties. One of the more recent ones in the basin is the Rainier, and it seems to be very popular. And one thing about the project is there's such a large diversity on climate conditions. The far south end, down by Mattawa, the Wahluke Slope, things come on down there very very early. And, that, some of that fruit production will beat a lot of the traditional areas up in the Wenatchee, Okanogan Valley, so they'll actually hit

the market first.

Storey: Hmm. So, migrant workers are the way they deal with this fluctuation.

Gray: It's a good percentage, yes.

Storey: Hmm. I was wondering about things like, you know, the bean processing, sweet corn, and so on. Does that go on year round too?

Gray: A lot of the processing does. The sweet corn doesn't, and the fresh vegetables don't. Some of the cyclic would be the fresh pack fruit for some of your onion varieties, and potatoes, and such, are fresh packed right at the time, and head on out. And a lot of the soft fruits. Soft fruits just, they're fresh packed and out they go. A lot of the apples go into C-A [Controlled Atmosphere] storage, and there are several of those facilities around, so those are packed throughout the season.

Storey: C-A storage?

Gray: Controlled Atmosphere storage.

Storey: So, they can control how fast it ripens, and that sort of thing?

Gray: Well, yeah, its actually ripe but they can keep the fruit from deteriorating.

Storey: Interesting. How about alfalfa?

Dairy Industry

Gray: That's, probably acreage-wise, that's probably our number one crop. And, most alfalfa is grown for the dairy industry. Its very high protein alfalfa. Probably in the range of nine to twelve tons per acre, would be an average in there. Southern parts of the project they easily get four cuttings. Up here in the northern end, three cuttings is very typical. We've seen a lot of the dairies leave the west side of the state and move into the east side, within the project area. And that's the thing about cows, you're either shipping the feed to them or you're shipping the milk out. So, you're going to ship something one way or the other. And, land use has just gotten a little more difficult to deal with, I think, with the farmers on the west side of the state, so many of them are relocated over here. That also, from a water-quality standpoint, the State Department of Ecology needs to keep right on top of them. We work with the districts,

and we have complaints. We get effluent that might be reaching a return flow channel, along those lines. Work with Ecology to keep that in compliance. But alfalfa is definitely the, it's the number one crop in the basin.

Storey: Hmm. Since you mentioned dairy cows, this was not the area where the mad cow incident happened, was it?

Gray: No, that was in the Yakima Valley.

Storey: Oh okay. (Laugh)

Gray: It was in the Yakima Valley.

Storey: Has that affected our project up here in any way?

Gray: Its, I really don't know. It has certainly affected the cattle industry, and there are several feed lots also up here in the basin. And, I know they were tracing all the calves that came from this shipment that came in from Canada. And there were several that were physically located in the project, I think down by Connell they had located one or two. But, the only one that tested was the one down in Mabton, I think it was. (Storey: Yeah.) Down in the Yakima Valley.

Storey: I never did quite place where it was from, (Gray: Yeah.) in the news stories.

Gray: So, not on this project. (Laugh)

Storey: Good. (Laugh) What about chickens and pigs?

Gray: Not many that I'm aware of. There are a few swine facilities around, but I, I'm not aware of any poultry production for meat. Now, that's not to say we don't have it, (Storey: Yeah.) but I'm not . . .

Storey: But, not big operations, then?

Gray: No. They're, there are a few egg facilities. In fact, we have one in Ephrata, just south of town. A small, I don't know what you call it, a chicken ranch? (Storey: Uhm-hmm.) Or what you call an egg ranch. (Laugh)

Storey: An egg ranch? (Laugh)

Gray: An egg ranch. Yeah. (Laugh)

Storey: Let's see. I'm trying to think of other crops. Of course, there's a lot of dry land around. But that doesn't, that isn't us, particularly?

Gray: No. No. There's, that's outside the project boundaries. Well, the next time we take a break we ought to just grab a crop census sheet, you know, it'd give us a listing of the crops.

Storey: Yeah. Not much in the way of truck farming, though, really?

Gray: Not really, no.

Storey: A little too far away from urban areas, and everything?

Gray: Yeah. I think so.

Storey: You were saying the average size is 500 acres for farms, do we have any "hobby farms," so called?

Hobby Farms

Gray: We have a lot of small acreage, a tremendous amount. You know, the five and ten-acre hobby farms, pasture for the kids' horses, that type of thing. And, in fact, the Bureau of Reclamation, way back when they were first subdividing blocks, farm units and such, they actually platted one block, or one set of part-time farm units, that's what they called them was "part-time farm units," in each district. Quincy, which is the part-time farm units are over by Soap Lake. And, Othello, the East District, they have some over in Othello by the golf course. And then South District had them in Walla Walla County, and also in Mattawa, where it was, these were actual anywhere from two to ten-acre part-time farm units, which were actually platted for residential development.

Storey: Uhm-hmm. Interesting. And no truck farming has developed on those that you're aware of?

Gray: I really don't know. Most of them are residential neighborhoods.

Storey: Yeah. Hmm. But, not a big problem for the project then?

Gray: Well, the project, its literally, at times it appears that if it continues at its present rate we will

have subdivided the entire project. A number of years ago our irrigation districts were instrumental in getting a state law passed that required a developer on any project, on any district that exceeded 200,000 acres to have the irrigation district sign off on the plat, and the Bureau of Reclamation to sign off on the plat. And, the concern was that all this platting was taking place through the county process, and things such as rights of way, canals, laterals, project facilities, were not being protected. And so, we probably have been averaging two to three plats a week for the last two to three years. And, its just mind boggling the amount of subdividing of re-plats that have taken place.

Storey: Hmm. Tell me about urbanization on the project. What was it like before the project as opposed to now?

Urbanization on the Project

Gray: Very few people. You can look at the map and towns such as Basin City, Royal City, Mesa, didn't even exist prior to project development. Moses Lake, Quincy, Othello, the larger communities, they existed. Ephrata was railroad. Othello was railroad. But, they were very small in comparison to what they are today. Moses Lake was just a dot on the map. (Storey: Uhm-hmm.) And now its probably the largest community within the actual project boundaries. Its in the neighborhood of 12-15,000 people. So, tremendous population increase. Towns, communities within the basin, where before it was basically maybe sheep and cattle ranches.

Storey: Is the urbanization causing us any other problems besides having to review the plats?

Gray: Problems associated with it are water use, that all public water in the Columbia Basin Project area, for the most part, has been fully appropriated, and so the only water that's available now is the project supply, and we have municipal, industrial, and Ag water. And so, if, if there's going to be growth that requires additional water they pretty well need to come to Reclamation, to work with Reclamation for that, for the water supply associated with that. Just the, just the sprawl, towns and cities, there's impact on our facilities, trespass, using O&M roads for access into housing that the developer didn't provide access and just used the ditchbank. Safety issues, where you have a system that was laid out for a rural agricultural area and now the canal's going through a subdivision, and you have children playing. So, there's safety issues that we deal with. I don't know if I mentioned trash and garbage is just, that's phenomenal. We get a lot of dumping on Reclamation land and canal banks. Some vandalism. That could be here with or without the residential development, but definitely vandalism. And just probably, more importantly, is just as the area settles, things that were okay from an Ag standpoint, blowing dust in a field, or the stinky barn, now the subdivision's next door and they

don't like the blowing dust and they don't like the stinky barn, and yet they moved to the country for the lifestyle. And so, there's, every now and then you'll hear something like that.

Storey: What about runoff into the canals, and water quality? Any issues there?

Good Water Quality on the Project

Gray: Water quality, that's a good one. We've been active in our water quality. We've done water quality sampling since 1956, or '58. And, we've modified that through the history of the project, as blocks would come in. But the bottom line is we have consistent water quality data for well over forty years. And tied to that then, that was all for Ag parameters, but then tied to that then with the E-S-A listings, and the biological opinion that covers our operation under the Endangered Species Act, one of the reasonable, R-P-As, Reasonable and Prudent Actions, was to do a water characterization study, and in that what we're doing is we're looking at our major return flows to the Columbia River to see if there are any constituents in that water that would be harmful to anadromous fish. And, we're in our third year. We'll be starting our third year of that study, which has basically been data collection. We've purchased a number of hydro-labs, where in the past our water quality program was a grab-sample program. That, we would visit our sites five times a year and one would be, in fact they're out this week. You'd have a freeze-up, one in the winter. And the idea that with the freeze-up one is then you're just collecting ground water, emerging groundwater, and everything else is frozen up and tied up. And then we have the start-up, which they're out this week to collect start-up samples, with the irrigation system being charged. And, then they have a season, early season, then they have a peak, at the peak of the season, and then a late season. And hopefully that adds up to five. And now that's the one that we've been doing for forty years. Then coupled with that we have this new one, the water characterization where we're looking for constituents in the water heading back to the Columbia River that might be harmful to anadromous fish. If we find something in that then we'll basically develop a remediation plan to deal with that. We've also partnered with U-S-G-S [U.S. Geological Survey], and with their NWQA [National Water Quality Assessment] study, their National Water Quality Assessment.[16] And they are out, and they piggy-back onto our sites, and are doing some additional study and work to where we can, in essence, get a feel to see how we compare with other agricultural areas, and also have an independent scientific evaluation of what we're doing.

16. Implemented in 1991, the National Water-Quality Assessment Program develops "long-term consistent and comparable information on streams, rivers, ground water, and aquatic systems in support of national, regional, and local information needs and decisions related to water-quality management and policy. For more information, see USGS, "National Water-Quality Assessment (NAWQA) Program," water.usgs.gov/nawqa/about/html (Accessed December 2014).

Storey: So, are we sampling the delivery canals? Are we sampling the waste, the drainage canals, or what?

Gray: All of the above. Yeah. We basically track the water from when it's pumped out of Lake Roosevelt into Banks Lake. We sample it as it leaves Banks Lake. So that's, basically is Columbia River Water. We have several pickups in the canal side, and then we also have several pick ups in the, and all the reservoirs are sampled. So, Potholes [Reservoir], Billy Clapp [Lake], Scooteney [Reservoir], and then return flow channels, wasteways, all the way down through the system.[17] So we have, we can basically tell you what happens through the water as it moves through the project.

Storey: Uhm-hmm. And can you characterize that for me?

Gray: Let's see. This is the recreation guy talking about water quality.

Storey: Yeah. (Laugh) But you have a basic understanding of it.

Gray: Yeah. Let's see. My old boss, Bill Hewitt kind of summed things up. He says, "We," and this is pretty much unchanged, "We receive water in total dissolved solids is like 150 parts per million. That's Columbia River water. And by the time it gets to Potholes Reservoir its like 400." In that range.

Storey: Parts per million?

Gray: Parts per million. And then as it leaves the project, through the South District, some of the hotter returns are in the 6-900 range. And, he always said that that's very good water quality. If somebody in the Southwest had total dissolved solids of 900 or less they'd think they'd just found the most perfect water. (Storey: Uh huh.) The interesting thing about Columbia Basin though is, kind of the story behind that, is the efficiency of the project. We bring the water in, its, in essence, used once on the north end, above Potholes Reservoir, and its collected. The operational waste, waste seepage return flow, anything that seeps into the ground, as it moves toward O'Sullivan Dam. And, O'Sullivan Dam was constructed to actually go down into bedrock and collect all the surface and subsurface return flows, and natural occurring water, and then use that to irrigate the south end of the project. So, using a five-year average, we divert about 2½ million acre feet a year at Grand Coulee Dam, and we deliver at the head-end

17. Potholes Reservoir, formed by O'Sullivan Dam, collects return flows form the upper portion of the Columbia Basin Project. Billy Clapp Lake is an off-stream reservoir that stores project water, formed by Pinto Dam. Scooteney Reservoir is the terminus of the East Low Canal.

of each of the major canals, oh, 3.3 to 3.4 million acre feet. So, we're collecting 7-900,000 acre feet, and reusing it in the system. And so the overall efficiency of the project is very high. A lot of that we have re-lift blocks that, where the water's taken out of the main canal and lifted up to a lateral above the main canal. Anything that comes off of that block then returns back into the canal for reuse again. And so, the water's used and used and used as it moves through the project. And, that's the high efficiency. And then also, as we move toward the south end, we get up into that 7-900 total parts per million.

Storey: And do we have any idea how much water then goes out of the project?

Gray: Yeah, we do. Boy, memory's a bad thing. I'm thinking we're in the neighborhood of 6-700,000 acre feet. I think that's where we're at. So, net hit on the river, you know, if its 600,000 and we're taking two and a half at Coulee, a net hit on the river, you know, is 1.9. The record, not the record flow, but the average flow at Coulee, the Columbia going past Coulee, is about seventy-nine million acre feet. So, we take 2½ million of that seventy-nine million that goes by Coulee and then return 600,000 as it goes by, well basically from Coulee to Pasco.

Storey: Something like 1/35 or 1/40?

Gray: Yeah. But, we use the, less than three percent, is a number we kick around at Coulee. (Storey: Uhm-hmm.) That 2.5 represents right about three percent.

Storey: Let's see. I wanted to go back and see if I could get you to talk more about when you came as the head of Land Resources Management? We've talked about noxious weeds, pest management. We've talked about the desert management areas. Is that it?

Gray: Desert Habitat Management Area, yeah.

Storey: Uh huh. Do we have any special problems with Hanford? That you had to deal with? (Laugh) Other than the fact that they glow?

The Hanford Reservation

Gray: Let's see. Problems with Hanford? Not with Hanford in itself. The issue we had out there, if you go back and look at the history of the project, and basically the Army coming in, and the land being transferred over to the Atomic Energy Commission, the actual control zone was much larger than what you see on the map, when they first came in. And, somewhere we've

got a map, that it showed the reactors, the test reactors. (Storey: Uhm-hmm.) And then they had an arc, a circumference around that test reactor. And, the test reactors were placed far enough apart that if they had an accident then it wouldn't interfere with the other reactors. They could continue to–and this map showed the arcs. And, those arcs, of course, crossed the Columbia river and went into the Wahluke Slope area. And, the control zone was, I assume was based off those arcs. You need to be outside the arc. But that, it was an interesting map. We just stumbled across that ten or fifteen years ago. (Storey: Uhm-hmm.) But, the issues out there, that's some of the finest shrub steppe we have remaining in the basin, and the reason its there is because of the Atomic Energy Commission and the control zone, and Reclamation's ownership. Reclamation actually purchased about 34,000 acres out there prior to A-E-C [Atomic Energy Commission] coming in. And that's now within the control zone, which is now the Hanford National Monument. And, you can see on the map there the pink cross-hatched area. That area, we have a slide area out along the Columbia River, and that's probably been one of our larger issues, out in that area. In the early '60s, as the area started to transform, they actually looked at what they called a "Daylight Farming Program."

END SIDE 1, TAPE 3. APRIL 5, 2004.
BEGIN SIDE 2, TAPE 3. APRIL 5, 2004.

Storey: Anyway, Hanford, and the slide.

Gray: Hanford, the slide. So, Reclamation looked at a Daylight Farming Program out there where we would develop a couple blocks, and because it was in the control zone, and because of the safety concerns and security concerns, you wouldn't be allowed to live in the area but the land could be leased out and farmers could come in and basically farm the thing. Hence the program, "Daylight Farming Operation." Couldn't spend the night. And, that was looked at, and things were moving along pretty well. But A-E-C and Reclamation couldn't come to agreements on that. So, that program was set aside. But, about that time, a little after that, also Reclamation started to be concerned about potentials for slides out along the Hanford Reach, or Hanford Reach, the White Bluff section of the river. And, one of the early wildlife enhancement proposals out there was to construct the White Bluffs Wasteway, which is right in the middle of the cross-hatch area, and actually construct an 860 acre lake, literally right on the bluffs of the Columbia, and then run a smaller wasteway from the lake down to the river. And the old Bureau Sports Fisheries, which was U.S. Fish and Wildlife Service, they actually calculated Coordination Act benefits for it, and between them and the state actually promoted this enhancement program out there. Reclamation actually constructed the wasteway down to the lake, filled the lake one year, and had about 800 surface acres out there. And, you start to go back and look at the record in the file and it almost looks like the lake got filled and about

that same time, all of a sudden, some additional studies were completed and we realized that there was a real problem out there from a slide potential, and that about the last thing we wanted to do was to be putting any water out there.

So, we basically declared the White Bluffs Wasteway to be used only for emergency purposes, and we've held to that pretty tight. But, what the study showed was that any application of water within that cross-hatch area would migrate toward the White Bluffs and could have the potential to lubricate the slide zone and reactivate an ancient landslide. (Storey: Uhm-hmm.) Well, then around early '80s, it slid. And, so the water was put out there about early to mid '70s, or late '60s. Somewhere in that time frame. And then just literally, right after we did that, here came the findings that you really shouldn't do that. And so then the efforts was to basically not to use the wasteway to, but the water was already there as far as the pond above the cliffs.

So that's, that's been a major issue out there. We've actually been involved, in fact finished up about a year ago, a study on the landslide. We partnered up with the Corp of Engineers and the Department of Energy, and there is an island, a series of islands out there, Loch Island, just off the slide, that is culturally very significant, and used for fishing camps and that type of thing. And, the slide was basically redirecting the flow of the river into the island, and causing erosion on the island. And so the Reclamation took on the charge to monitor the slide, get some observation wells put in and take some survey measurements, drill some wells up topside to get an idea where the groundwater was, from that standpoint. The Corp looked at, "What could they do to protect the island? Could they do anything to prevent it from eroding further?" And, the Department of Energy was charged with basically collecting any cultural resources that became exposed, and mapping anything that was there so that there was a good record. And, our part of that study took the longest. It was a multi-year study to get the wells in, read the water table readings, and such, to get some history. And, what we found, basically, was that the water table continues to go down, and that it is, appears to be bleeding out. Water, given enough time, will dissipate. That the slide is essentially stable, minus any effects from the Columbia River. And so, if we get into a period of high flow on the river, you know got into a good flood season, and if the river would erode the tow of the slide, thereby taking off some of the loading that's just holding it in place, it could move some more. (Storey: Uhm-hmm.) And so that, actually that area–and then all about this same time the proclamation came through and it was designated a national monument, and the proclamation has specific language in it that allows the Columbia Basin Project to continue to operate and maintain its facilities. But, its made coordination a little bit more difficult. So, that's an active area out there. (Storey: Yeah.) Lots going on.

Storey: Now, how many people did you have when you were the Land Management manger?

Land Management Staffing

Gray: Oh, not too many, eight, nine. I had a soil scientist, an agronomist, a natural resource specialist, a grazing tech, some clerical assistants. Let's see, we had two natural resource specialists. So probably, yeah, about seven, seven, eight, somewhere in there. (Storey: Uhm-hmm.) Yeah.

Storey: And how many were split off into the real estate function.

Gray: That was the, that was just the land management portion of it.

Storey: Yeah, that's what it . . .

Gray: That was a piece. It was split off.

Storey: That's what I was asking about.

Gray: Yeah.

Storey: But, what about the . . .

Gray: And then the realty side had, oh what did they have? They had contract specialists, realty specialists, realty clerk, realty technician, another realty specialist. They had about six. (Storey: Uhm-hmm.) Yeah. So the group was about probably in the range of thirteen, before the split.

Storey: And how long before they put the two groups back together and made you the head of it?

Gray: Let's see. Dale retired, and I'm guessing that was probably '86 or '87. Maybe '87. So, about seven years.

Storey: So that was six or seven years?

Gray: Six, seven years. Yeah.

Storey: So, how did your job change when all of a sudden you had the realty people also?

Gray: It made me learn realty. (Laugh) That was an interesting first year, because we did the

consolidation, and we were shutting down on construction. We still had a drainage program going on, and Velda [spelling?] came on board as our–we lost all of our realty specialists from retirements, and that kind of thing. And, Velda [spelling?] came on as a training program for realty specialists. And so she and I worked our way through our first year of right of way acquisition for our drainage program. And so that was, that was an exciting year because we were both totally green to it. And, here we had like twenty-five miles of right of way to acquire for our Buried Pipe Drain Program. And, it went really well, but it was kind of frantic for a while, while you're trying to figure out what you needed to do, what the steps were, who you needed to work with, and that kind of thing.

Storey: Uhm-hmm. Did who you needed to work with involve Denver in any way?

Gray: No. The regional office. And, we had our own staff appraiser at the time. I forgot about Aaron. So, Aaron was here, and that helped a lot just from a procedural standpoint. He didn't have much background on the actual type of documents, confirmation deeds reserved by sale, you know, the donations, or anything along that line. But, he provided a lot of input on how the general scope of the program worked, what needed to take place at what particular time in order to meet schedule.

Storey: So, the drainage program would have been a construction program, right?

Gray: Uhm-hmm.

Storey: And, you were just involved in terms of getting right of way?

Gray: Getting right of way for it, yeah.

Storey: But, not in terms of any contracting?

Gray: No.

Storey: Or anything like that?

Gray: No. We had a Construction Division that handled all that. We did all, the Engineering Group did all the design. In fact, they even put out their own specs. They had permission from Boise to put out the spec. And so the design and spec was put out here, and then they had a Construction Division that oversaw the construction activities.

Storey: As I recall, talking to Tom Rawlings, his dad was here. That would have probably been in the '40s?

Gray: I've seen his name. In fact, he was project manger.

Storey: I think he was project manager.

Gray: Uhm-hmm.

Storey: And one of the things they found was that they raised the water level very quickly. You've already mentioned the water level in that area west of Potholes, but what kinds of continuing drainage issues do we have?

Drainage Issues on the Project

Gray: Pretty well have the drainage taken care of. Boy, years kind of run together, but our contract with the three districts basically says that, "If its economically feasible, the United States will drain platted farm units." And so we look at our drainage obligation as it's a contractual obligation, and only for platted farm units. We felt for years that our program was winding down. That there just, there wasn't enough of it to make a good economic program, as far as enough miles to get a good bid price, that type of thing. That resulted in the regional director, John Keys, and myself met with the districts here a number of years ago and basically negotiated an end to our drainage program. And, out of that what we agreed to do was that we would do a study. We would work with the districts, and we would contact every land owner, every farm-unit landowner in the basin, and that's what the districts would do. That would be their side of it. They got the mailing lists, and all that, and they would complete a drainage questionnaire. And then we would compile the questionnaire, take a look at problem areas, and we would then sit down with the irrigation districts and review these, go into the field, talk with the landowners, and basically determine if there was any additional lands that needed to be drained.

Out of that it looked like we were probably going to have fifteen to sixteen miles of drain. And, the idea is that we would go in, do the study. We would identify what needed to be done. If it was economically feasible we would do it. And then we would come back on ten-year cycles and do the whole thing over again. So, we would be out of the business, and we would come back every ten years. And the districts basically bought off on that, except they said the first cycle we want in seven years, and then after that you can go to ten years. Well, this is our seventh year. And so we actually went through that process. We identified

about fifteen miles that might need some drainage. We evaluated that, and out of that we ended up with–well, it wasn't very many miles. Five to seven (Storey: Uhm-hmm.) miles. About half of what originally looked like once we ran through the economics, and design, and all. And so we completed that construction. So that, in essence, got us out of the drainage business. And, but we are obligated to initiate a new study this next budget cycle, to go out. And I don't anticipate us to have anything, and if we do its going to be so small that it probably won't be economically feasible to do. So, for all intents and purposes, we're out of the drainage business. It might mean that if something does come up we'll provide a grant to the irrigation districts and have them just go take care of it.

But high water, you had mentioned high water table. Another thing that is kind of unique about Columbia Basin is that we have an artificial water table. And, north of O'Sullivan Dam we actually worked with the Department of Ecology back in the '70s to have designated a artificially-stored groundwater area. And, Reclamation was successful in doing that in the mid to late '70s, and so we actually have a Ground Water Licensing Program in the north end of the project, well upper third of the project, where landowners can go to the states and get a permit for a well to pump Reclamation artificially-stored groundwater. And then they come to the Bureau of Reclamation and enter into a licence agreement, and then they pay us for that water, and then they drill a well and pump the water out of the ground and apply it to their land. We've got about 40,000 acres that's being irrigated from that source.

Storey: So, the argument was that we had stored the water?

Gray: Uhm-hmm.

Storey: Reclamation had stored the water artificially?

Reclamation Stored Groundwater

Gray: Right. The argument was that Reclamation stored it, and Reclamation had a way to retrieve it. And, that was O'Sullivan Dam. That its constructed across the Crab Creek channel. It intercepts surface, and subsurface water. This water is migrating down to the reservoir, through the ground profile, and is actually part of the South District water supply. (Storey: Yeah.) And so, if a person puts a well in, and they suck that out, that's not going to reach the reservoir, and that means we have to then bring what we call "live water" in from the Columbia, down the canal, and supplement the water in Potholes Reservoir.

Storey: But, that doesn't happen in the southern part of the project?

Gray: No. Although we are working on a program down in the southern part of the project, and that's kind of exciting. We've been working on that for a couple of years now, and we have that groundwater area is called the 508-14 Groundwater Area.[18] Again that refers to a state code. And we have a U-S-G-S study that was completed, and there's a little over five million acre feet of water stored in the south end of the project. And because of the geologic conditions, apparently that does not just migrate into the Columbia. Its like being held in a large clay bowl. And so we are working with the Department of Ecology to establish another program, which will be mirrored after the Quincy subprogram in the north end of the project. And, we're actually hopeful that we can get that thing operational within a year, year and a half. The hurdles we ran into there was E-S-A [Endangered Species Act]. That, we had a U-S-G-S study that quantified the amount of water there, but what we needed to do was to determine how it would actually affect the river, in order to do our consultation from an E-S-A standpoint. And, we put together a technical team consisting of [Department of] Ecology, Reclamation, and the irrigation districts that took a look at that side of the issue. (Storey: Uhm-hmm.) And, we've been keeping the regional director apprised. We put out several reports. The latest is a White Paper that basically describes the program, and we got the regional director to, in essence, sign off and the Department of Ecology director to sign off, so it'll be a joint management area between Ecology and Reclamation in the south end. So we got our fingers crossed on that one.

Storey: Uhm-hmm. I can see a time, possibly, when we've licensed so much ground water that we have to increase our take from the Columbia.

Gray: The way the program is laid out, to use the Quincy subbasin, that they are interruptible agreements. That, if it affects the project in a, that we can actually cancel the use instrument. (Storey: Uhm-hmm.) And, the 508-14 would be laid out the same way, would be a ten-year or less water instrument. The area in the south end, the five million acre feet, if you look at the G-S [Geological Survey] and Ecology, depending on the amount of use, you might be able to mine that, but I think our folks, our technical folks, are not quite in agreement on that. And its primarily–and by mine, I mean that you might actually see some kind of a drawdown in it, is because the actual area of use is so small that most of the 508-14 is developed. It has surface water to it, or its other federal/state land that will never be developed. And so the amount of use down there, in this program, I think the consumptive use is in the magnitude of 20,000 acre feet a year out of, what, the five million in storage.

18. Refers to Chapter 508-14 WAC [Washington Administration Code], Columbia Basin Project–Groundwaters, see Washington State Legislature, "Washington Administrative Code (WAC), apps.leg.wa.gov/wac/, (Accessed December 2014).

Storey: Uhm-hmm. But, what I think I'm hearing you say is that we have a water right to 2.5 out of the Columbia?

Reclamation's Water Rights on the Columbia Basin Project

Gray: Oh actually we got a much larger water right than that, we're just using 2.5 on an average.

Storey: But so, then we could . . .

Gray: Yeah. Our water right . . .

Storey: We could increase our take with no problems?

Gray: Yeah. Our water right in place is 3.1 million acre feet. And we hit 3.1 one year, and that was tied to a refill in Banks Lake. We had Banks Lake drawn down for maintenance, and so we had to refill it. And that, coupled with a high water year, we basically took the entire 3.1 million, but our typical range has been from probably 2.35 to 2.75, is probably the range. (Storey: Uh huh.) And this last year, for example, we were 2.685. So we were 185,000 acre feet over our average, for 2003.

Storey: Uh huh. And, what causes these fluctuations? You've already mentioned maintenance on Banks Lake. Is it weather conditions, and so on?

Gray: Weather and cropping pattern, are the two. How much precip did we get over the winter? What's the year like through the spring? And how hot did summer get? And evap and transpiration, and the type of crops. (Storey: Uh huh.) One of our old operators, Francis Jensen [spelling?] who headed up the irrigation shop, has been retired now. I ran into him the other day. He's been out seven years now, and he's, his old comment was, "There is no average." (Laugh)

Storey: "There is no average."

Gray: "There is no average."

Storey: It just depends, huh?

Gray: It just depends. "There is no average."

Storey: Yeah.

Gray: "Don't ask me what an average year is. There is no average." Yeah.

Storey: Was your office affected by the transfer of the appraisers to the department?

Ephrata Office Reorganization

Gray: Yes. We've been spoiled all these years. When I got here in the Land Resources we had two appraisers stationed right here in Ephrata. Shortly after that we lost one, went to Coulee, then George retired. But Aaron, after we reconsolidated, we had Aaron until he retired. And even after they consolidated and we didn't have enough work to keep Aaron busy, he, in essence, became the regional office appraiser stationed in Ephrata. And, that has been, that was just very efficient for us, because we literally had access to the appraiser, and our turnaround was quick. I mean, we could really be responsive. And how the consolidation is going to affect us is its going to slow things down. I mean its just, I don't know how much its going to slow them down, but its going to slow things down. And part of the lands side of things, particularly when we do things from and exchange standpoint, is its opportunity. "This individual's putting their property up for sale. Its in Lower Crab Creek. Yeah, they're interested in your eighty acres up here because maybe they think they could sell that better, and we don't need it but we need Lower Crab Creek, and we can do an exchange," and yet you've got to be able to move. And you've got to be able to do that. You can't say, "Well, I'll get to that in a year and a half, two years." The opportunity will be gone. And, it'll be interesting because I just, I know it won't be faster. And, it might be the same, but I doubt it. (Storey: Uhm-hmm.) And so the question I have is, "How much more time is it going to take?" And, the other thing is, "What's it going to cost?" I really got a concern with that. One thing with having local appraisers, whether they are Reclamation or private contractors, is they know the area and they know the comps. And, if you are always, I don't know how the program's going to work. I mean, if it's the luck of the draw and you get whoever's next up on the list, and this is his first time to eastern Washington, and you go through six first-times in a year–so I just have to wait and see. (Storey: Yeah.) But I, in the field, its going to slow it down. We're going to lose opportunity. I'm certain of that.

Storey: Hmm. How long were you the head of the combined realty and land management function?

Gray: Let's see. Not very long. Because if Dale retired in '86, '87, and Bill retired in December of '89, and then I applied for and got the division job–so, that was like early '90. So, I basically had the combined shop from, for three years, round numbers.

Storey: And what was the biggest issue you had in the period with the combined shop?

Gray: Biggest issue would be disposal of lands from the Land Settlement.

Storey: What is the Land Settlement?

Land Settlement

Gray: Land Settlement goes back to the program that was authorized by Congress that allowed us to purchase land in the basin and to develop it into farm units, and then sell it, (Storey: Uhm-hmm.) as developed farm units. And so, we had remnants left over from that program, and the districts, for years and years and years, have been pushing us to sell that, to get that on the tax roles. "Sell that property. Sell that property." (Cough) Excuse me. And, we had gone through several renditions of trying to do environmental compliance, to do some type of a land sale. And, and we just were never successful. And what that led to is we said, "Well, what we need to do is we need to do a Resource Management Plan for our Land Settlement Program." And so we did a Resource Management Plan on 90,000 acres. That's the number of acres that fell into the settlement category, the leftovers, the remnants, about 90,000 acres. And, what was interesting in that whole period of time, our irrigation districts did a one-eighty, and they flipped from saying, "Sell every acre," to "keep every acre." And that, that was just interesting to kind of be here as that all took place. And, so then we started on the Scattered Tracts, that's what we called it, our "Scattered Tract Resource Management Program," and we actually went out and evaluated all 90,000 acres. We did it from a shrub steppe-habitat standpoint, soil standpoint, a project facility standpoint. Are there facilities? Are they needed for project purposes? Anything from materials, silt, sand, gravel. Are there cultural resources? Do we know? Do we need to do evaluations? And, we did a huge inventory, and then we came up with a number of alternatives of, in our, well this was basically for our NEPA [National Environmental Policy Act] document, but we came up with our preferred alternative for how we would like to manage these things as an agency. And anyway, we got all the way through the process, got the NEPA process done and we ended up with a proposal where we would dispose of around 11,000 acres of the 90,000 acres in a phase, a five-step disposal. And, our preferred method of disposal would be through exchange, to where we would go out and acquire other assets that were needed for project purposes, in exchange for the 11,000 acres or pieces of them. So that, that was, I think that whole process, in dealing with the Scattered Tracts, and the Settlement Program, was probably the most challenging.

Storey: You didn't explain why the districts did a "one-eighty" on us.

Gray: Well actually I think the light bulb finally came on, and they realized that what we were saying made a lot of sense, that "This is the bank account. You've got 90,000 acres that you can use to go out and do positive things for project development, whatever they might be." You know, "You don't know what they are today." (Storey: Uhm-hmm.) "And, if you dispose of all that, and you get nothing in return, except dollars, that by the way you have no access to, you can't use those dollars."

Storey: They go back to the Treasury or something?

Gray: They go back to the Treasury. They go to the Settlement Account, and we're authorized, the Congress specifically said, "You have the authority to exchange, to trade and exchange, and dedicate lands for project purposes. Why don't you take full advantage of that and use this as a resource to manage, to achieve project results?" And I think that finally all clicked. I think they finally just said, "You know, that makes a lot of sense."

Storey: Now, I think, as we were going out to lunch you mentioned there was a settlement agreement that had fallen through. Am I thinking wrong?

Gray: Oh, that has to do with R-R-A.

Storey: That's a different thing?

Gray: Yeah, a different thing.

Storey: Okay.

Gray: A different thing. Yeah, can't talk about that.

Storey: Pardon me?

Gray: Can't talk about that. (Laugh)

Storey: Oh, okay. The project, I guess, is basically settled, though there's another half million acres that could be developed? Is that right?

Gray: Right. The Settlement Program, basically, its still authorized, but for all intents and purposes the settlement program is complete. The project's authorized for 1,095,000 acres, and we've got, if you count everything, water service contracts, the ground water area, the platted farm units,

we've got 670,000 acres under irrigation today. (Storey: Uhm-hmm.) And out of that, about 550,000 are actually platted farm units out of that 670,000. And all the rest is water service . . .

END SIDE 2, TAPE 3. APRIL 5, 2004.
BEGIN SIDE 1, TAPE 4. APRIL 5, 2004.

Storey: This is tape four of an interview by Brit Storey with Bill Gray in Ephrata, Washington. It is April 5, 2004.

So anyway.

The Odessa Subarea

Gray: Anyway, so the, looking at the map again, all the yellow on the map is land that could be developed some day. The project is authorized for 1,095,000 acres. It currently is not built out. Bottom line, irrigation's not a national priority. The economics probably aren't there. The project is something that, its authorized, it should just sit there, and the decision can be made by a future generation, (Storey: Uhm-hmm.) you know, if things change. But I would see nothing in the foreseeable future, with the exception, there's a couple of areas out there, and two different fronts are going on for the same area. We have a Conserve Water Program that we've been working on for close to two years, and its taking water conserved off the first half of the project of the East Columbia Basin Irrigation District, and moving that out into the yellow area, just off from Moses Lake, and that's called the Odessa Subarea. And the Odessa Subarea, back in the '70s, the State Department of Ecology issued well permits for public water so that landowners out there could get a jump on project development. That's about the time period where the state contributed money to the Second Bacon Syphon Tunnel. Reclamation was constructing the Second Bacon Syphon Tunnel, and it looked like there was going to be some type of future project development taking place. And so the state came in and said, "Well, we'll issue well permits out there that will allow you to get started farming and everything. And then down the road the surface water will get there from the canal system, and these wells will go offline." Well, they over-appropriated the groundwater. And so the groundwater in the Odessa Subarea has been steadily declining, and they knew that going into the program. They knew that they were mining the groundwater, but they, in essence, said, "Well, that'll be okay because surface water will come and take these wells offline and groundwater can replenish."

Well, that never happened. And, so there are some pretty significant cones of

depression out in the Odessa Subarea. And so the conserve water pilot, what we're looking at is trying to deal with a multitude of resource issues, and Dick Erickson [spelling?], the manager of the East District, has really been pushing this and put a lot of effort in on it, basically said, "We've got a water conservation plan that we've developed, according to Reclamation standards. We've been working with you and the State Department of Ecology to implement our water conservation plan, do system improvements, and we've saved 'x' amount of water. And what we'd like to do is take some of that conserved water and put it to beneficial use. And we would like to put it to beneficial use out in the Odessa Subarea where these folks are running out of water. So, there would be no increase in agricultural production. It would basically keep the Ag production." And so we said, "Well, that sounds like a good idea. Let's look into it." And so one of the things we said was that, "Well, we have these projections in the water conservation plans. Now you've gone out and you've done these improvements. One of the things we need to do is, we need to have a consultant come back in and go look at the areas that were improved to say, okay did we really save the water that we projected it would save? Is this real water?" And it also will give us a good ground check to say, "our projections are pretty accurate." Or "Whoa, they're way out of line." So, the districts hired Montgomery Water Group, and they went out and basically took a look at a lot of these areas, and came up with a number, and basically it was, the estimates were high, but not that high. I mean, it was probably, probably at eighty percent of the savings.

So, the next step was then to take a look at now we had the quantified to get Reclamation technical folks to buy off on that, to say, "Okay, this is good science," and also the State Department of Ecology, who handles water rights, to say, "Yeah, this is, this makes sense." And then it was to take a look at the water. And, we would do it under, again, one of the R-P-As [Reasonable and Prudent Actions] in the biological opinion, where it basically says, "Conserve water and a," the language, "a reasonable portion should go towards fish." And so in reading that if there, if a portion goes towards fish, well then that implies a portion goes somewhere else. And so the proposal that was put together was to say, "Sixty percent of the water would go towards these deep wells, twenty percent would go towards fish, and twenty percent would go towards municipal and industrial water supplies, and that this would be a pilot out there." And so we're talking about probably 10-15,000 acre feet of water that we would move through the process and determine, i.e. "Can we really use a portion of conserved water?" So, part of it's a, to kind of work through the details. Kind of "the devil's in the details." And, to see what we can actually do.

Calls for Further Project Development

So, that's one program that we're working on for the Odessa Subarea. The other one

is, there's a group of folks out there that, once Black Rock got started over in the Yakima Basin, there's a group of folks out on the east side of the Columbia Basin Project that in essence said, "Look at that over there. They're studying Black Rock.[19] We should finish the Columbia Basin Project." So, they've had a couple of symposiums over here, and there's a group of folks out there that want to do everything from complete the project to have a very small portion done that would deal with the Odessa aquifer overdraft also. And they've had a couple of symposiums. They have a planning committee now that they put together. They've sent us a letter and have asked us to sit in on their planning meetings. And so we got Norbert Reece, I don't know if you've, Norbert was in here.

Storey: I know Norbert.

Gray: Yeah. So, Norbert's involved in that one for us, and was, in fact, over at their meeting last Wednesday, in Moses Lake. And so there's another issue going on out there associated with the yellow area on the map. So, those would be the only exceptions as far as project development. What we have told them is that anything needs to meet multiple resource needs. That, if they think they're going to build a half million acres of irrigated farm land, that that's just not going to happen. That, if there are severe resource needs out there then maybe, maybe there's something that might be able to be done. But, it would have to go through the planning process. Its got to have economics. Its got to work with the environment. And, Reclamation just doesn't go do all that anymore, that you got to be partners, you got to put up money. And, so. A lot going on there.

Storey: That's a word they don't like to hear.

Gray: Yeah.

Storey: (Laugh) Money.

Gray: Show me the money.

Storey: Yeah.

19. The Black Project proposed to transfer water from the Columbia River into the Yakima River basin to firm up water supplies for irrigation purposes and to supplement instream flows on the Yakima River for endangered species. For more information, see U.S. Fish and Wildlife Service, *Yakima River Basin Water Storage Feasibility Study: Fish and Wildlife Coordination Act Report*, Prepared for Pacific Northwest Region, Bureau of Reclamation, Yakima, Washington, October 10, 2007.

Gray: Yeah.

Storey: But, that's an authorized area already?

Gray: Yup.

Storey: So, technically we can build it?

Gray: Yup. Technically . . .

Storey: What does it take to build it?

Gray: Technically, all . . .

Storey: You know, you've already mentioned the planning stuff.

Gray: Yeah. Technically, money. There are a ton of planning studies that are done on the East High. I mean we have boxes, and boxes, and vaults, and vaults of stuff. I mean, from a reality standpoint, you would need to dust all that off. You'd have to take a look at 2004 technology. How have things changed? How have water duties changed? What's your size and your capacity? I mean, just from a technical building standpoint, but the project's authorized. I mean, technically you could, if Congress and the administration were so inclined, they could authorize money to build the project.

Storey: But, that's what it would take, is congressional (Gray: Appropriations.) appropriations?

Gray: Yeah. Take a, no authority, but congressional appropriations. Yeah.

Storey: That's a pretty tall order nowadays.

Gray: Well, that's a tall order. We did a continuation, environmental impact statement, in the '80s, and we were looking at a 87,000 acre alternative that would use existing infrastructure. The East Low was overbuilt, all the way down to–well, not overbuilt. It was built to capacity all the way down to Interstate 90, and then from Interstate 90, which is about half way down, the rest of the way down it was not built to ultimate capacity with the idea that the East Low Canal and ultimate development would be extended about fifteen, twenty miles, and it would serve additional lands in the South District. And so the bottom line is there was extra capacity in the north half of the canal. So, what they looked at, one of the, well, what became the preferred

alternative was to utilize that capacity in the canal to look at, "How could you bring in additional lands for the least dollar?" And so the ultimate, preferred alternative was you would widen the canal or build it to ultimate capacity below Interstate 90, also would include another syphon under the interstate, and you would then irrigate out of that. (Storey: Uhm-hmm.) You'd, the farmer would come to the canal, and I think economically they figured that a landowner forming local improvement districts, or whatever, could economically move the water three miles out. Could move the water three miles from the canal. So that established a strip three miles long all along the East Low Canal, and that was about 160,000 acres, round numbers. But, the capacity would only allow 87,000 acres. And so if that had taken place someone would have to decide, "Okay, who gets and who doesn't?" Because you only have water for about half the acreage that would actually be eligible. And things were actually moving along with that. We completed all the fish and wildlife enhancement plans, but that's also about the time that the anadromous fish issue started to heat up. And so we, in essence, took the study and put it on the shelf. In fact, that was our famous letter. We sent a letter that said that, "Due to the unknowns out there that we didn't think it was appropriate to continue with the project. That, if we weren't successful it could actually lead to an effort to de-authorize the project. And that what we ought to do is just put it on the shelf and wait for things to basically work, work out, and to find out where are we with anadromous fish? What conditions have changed out there?" And so we basically stopped in, the draft had been published. We even did a supplement to the draft, but then we put it on the shelf. We never finaled the E-I-S [Environmental Impact Statement]. So.

Storey: Hmm. Let's see now, when you became the head of the 400 Office, Division, (Gray: Uhm-hmm.) what did that add to your responsibilities?

Division Chief Responsibilities

Gray: Basically water operations. That 400 had water operations, realty, and land management. And, coordinated all of our activities with the irrigation districts. And so what that did, it added the irrigation district coordination, and then basically the operations. The operation and maintenance side of the house.

Storey: So, what's involved in all of those?

Gray: The, for a recreation guy, (Laugh) (Storey: Uh huh.) have a good staff. (Laugh)

Storey: Well, I understand that. (Laugh)

Gray: No it, on the operations side, the project is divided into reserved and special, reserved and transferred works. And, we still operate and maintain the reserved works, which includes, of course, Grand Coulee Dam. But, on the irrigation side, that's Banks Lake, the Main Canal down to the bifurcation, Potholes Reservoir, requirement to be able to move feedwater into Potholes Reservoir, and then the districts were each transferred in 1968, their respective districts. And so they do the actual day-to-day operation and maintenance on the three district carriage systems, East Low, the West Canal, the Potholes Canal, and all the laterals and wasteways associated with it. And, but in order for it to all operate, it operates as a unified project. And so our operations folks basically coordinate the entire operation. And, they're the ones that actually release the water from the dams, release the water into the head-end of the canals for the three major districts, keep track of all the water records. Our districts here pay 100% of the operation and maintenance costs of the Columbia Basin Project.

Storey: Annually?

Districts Pay 100% of the Operation and Maintenance Costs on CBP

Gray: Annually. Of the annual operation and maintenance cost, which, so all the, there's ten F-T-Es down the hall. Well, there's more than that, but there's ten that are totally dedicated to irrigation operations. So the districts pay 100% of all their costs. They pay for all the pumping costs at Coulee, and the operation and maintenance of the pumping plant at Coulee. And the coordination side of it, that's the biggest part of the coordination side, is establishing the annual budgets, presenting them to the irrigation districts, negotiating through budget items, then on a five-year cycle we actually set the diversion rate, which is a Grand Coulee side of the charge. And, that's always, in fact, we're in that. This is the last year, 2004 is the last year of the present, or the current diversion rate. And, our next diversion rate for the Grand Coulee side goes into effect in '05. So, '05 through '09. So, we're just now starting setting the rate, doing the rate setting for the Coulee side. That all gets wrapped into one number that gets presented to the, to our irrigators. It costs them about four and a half million annually to pay for our costs here, and then the Coulee costs. Now, that doesn't include their annual budgets. Each district runs, each district budget is in the range of twelve to fifteen million. So, if they're all twelve, that's thirty-six million a year, is what it costs to operate and maintain the project. And, our costs are in that because they reimburse us. Those are round numbers.

So, anyway that's our operations folks. And, I got into that side of the house. And that's always interesting. And also an eye opener. (Storey: Uhm-hmm.) Kind of fun after doing the lands for all this time. Yeah.

Storey: Now, you said there were ten folks running the water, I believe? That's now, right?

Gray: That's, yes.

Storey: Was that true when you took over too?

Staffing Issues

Gray: No, we actually had fewer. In fact, one of our problems–we cover 24/7, from basically March 15 to about the first of November. So, there's somebody physically down the hall 24/7. We have dispatchers and we have monitors. And, the dispatchers are the ones that actually calculate and make the changes. And the monitors just watch the system. And, the system, we have, oh I don't know how many re-lift plants, 240, 260 re-lift plants, and several of those are monitored, so we get pump alarms. If a pump goes down, you get a power outage, you've got the West Canal flowing along and you've got 4,000 c-f-s [cubic feet per second] in it, and you have Winchester Pumping Plant that's maybe lifting 800 c-f-s out of the West Canal, and you have a power outage or you have a pump problem and it drops that 800 back into the canal you got a problem. Now you got too much water in the canal. And so there's alarm systems that notify them of what's going on. They then work with their corresponding irrigation district to let them know they have a problem, they have a high water, low water, or they've got a pump down, whatever it might be. And that's done 24/7. During the day the district catches all that, but if that happens at night, when it really gets wild if we get those summer lightening storms. And they come through, and you know, you're dropping breakers left and right and losing pumps, and these guys will be scrambling. They'll scramble for eight to twelve hours, them along with the irrigation district field staff. You know, chasing the storms down , and getting things reset. And a lot of its like a domino. That if you have a re-lift block, and you're moving water up into a lateral, and then let's say you got a lot of circles, and we're primarily sprinkler irrigated anymore. That's one of our major gains in efficiency. And center pivot technology is the principle method. But, if you have an outage, you've got to get that canal back on before the pivot takes all the water out of its sump. Because, what happens then is now you've got a bunch of center pivots that have shut down, so now you crank up the pumping plant, you put water back in the canal, but the farmers have to go out individually and restart all the center pivots. So now you got water in the canal and its not being used because all the pivots are shut down. And, so it just kind of cascades. And so when they get into those outages, they have some critical areas in the project where they, its just the number-one priority, because if they don't catch it within in, and there's a short period of time. It, I don't know, thirty minutes or something like that. But, if they don't catch it, well then it cascades and they literally have to bring the system up kind of from the ground floor. And so they really, they

earn their pay when things like that happen.

But, what I was getting back to was staffing. When I took over the 400 position they were looking at transferring reserved works, and things like this. And, we were down to two dispatchers. And so we had two people, basically, dispatching 24/7, seven months out of the year. And so they had no life. I mean, if they weren't here, they were probably sleeping. And we actually went two years like that. And, it takes three years to train a dispatcher before you can actually throw them the keys and walk out of the door and say, "You got it." And so we went through a pretty tough period, when I first got in the 400 job. We ended up hiring three engineers that came in. And yet it took a couple of years to get them up to speed, and a third before you were really comfortable with them just doing the job. So, right now we're up to, we actually have one, two, three, four. We have five dispatchers, which is, we need four to actually operate without over-taxing people. And that fifth gives us flexibility. And so we're, we're in real good shape now.

Storey: What, where I was going (Laugh) . . .

Gray: I kind of took off didn't I?

Storey: And it did, no, but that's fine. But, I was wondering how computerization may have changed and affected those (Gray: Well, really . . .) functions while you've been here?

Technology Improved Operation Efficiencies

Gray: Substantially. We're in our, I guess technically, our second generation. I think our guys like to call it our third-generation SCADA system. When I started they had their old In-Track System, and they operated off of Little Man devices, which are old standard true devices in the field. Basically it's a float and a well, a stilling basin well, with some limit switches, and that's how you would set your gates. Well, then we went to our first SCADA system. [ringing phone] And that was probably, I don't know, mid '80s, maybe late '80s, in there. And, to where our folks here actually now operate the gates, at the dams, by radio. They use a radio system. And, prior to that it was all done by ditchriders and dam tenders. And, they would use the radio and they would call out in the field, and they would have the dam tender go out and adjust the gate. And, now they operate Potholes, bifurcation, Billy Clapp, Dry Falls, feed route, and the major wasteways, and then all three of the districts also. It's a project-wide SCADA system. And, we actually operate the East Low Canal now for the East District, with our folks right down the hall. Quincy and South, Quincy operates their 100% themselves. South, it's a marriage kind of between both of us. But, what its allowed us to do is its

increased our efficiency, because you can track the water. You know where the water is. So, if you make a change you can actually see it moving through the system. Where kind of in the old system you'd make a change and you'd want to see it come out the wasteway before you turned in your orders, that kind of thing. And so its helped from an efficiency standpoint.

We had a canal break in 1992, two or four, you know these years kind of run together, on the East Low Canal. It close Interstate 90, I-90, for 36 hours. It had three feet of water over it. And, our operator, Ron Jeschke [spelling?] was on duty, and very lucky it happened early in the morning, eight o'clock, something like that. But, he got the low-water alarm literally at the same time the farmer who lived by the break called in. So I mean he was getting the alarm and was calling the field to verify the reading, and got the call from the farmer and so was able to remotely shut things down. And without a doubt that saved substantially on damage. We were able to be more responsive. We still closed the interstate. Of that section of canal, even shutting it off, I think we calculated it up it had over 1,000 acre feet of water in the canal prism. So, just that draining out. But yeah, its been a good system. We're going through an upgrade, to the system, tied with the conversion to narrow-band. Its changed. It hasn't reduced the number of people, but its changed their experience and training. They've gone from being ditchriders to basically computer-oriented.

Storey: Yeah. What kind of college, and so on, would these folks typically have?

Gray: Well, let's see. We got a civil, an electrical, hydraulic, two civils; two civils, hydraulic, an electrical, and a double E, and, what's John? I think he's hydraulic too. So we've got five engineers. And, so the major change has been in–and what's nice our, you know, our young engineers, who have been around for fifteen years now, (Storey: Uhm-hmm.) but, its just second nature to them. I mean they literally went through school dealing with computer systems, and processors, and all that, and its just absolutely second nature. Its just part of them, an extension of them. And, you know, they can just really make the system dance, and really perform well.

Storey: Now, these are the folks, the operators, and the dispatchers?

Gray: The dispatchers, yeah. Yeah, we also have a reservoir superintendent in the field stationed at Coulee City that's responsible for Dry Falls and Pinto Dam, you know, because we still need to visit these facilities and structures daily. And there still are, there's still routine maintenance and things that take place in the field.

Storey: Now, where do you split the responsibility between you and the office at Grand Coulee?

Split Responsibilities on the Columbia Basin Project

Gray: At the North Dam, at the far north end. Grand Coulee has the responsible for the feeder canal in the North Dam, and then we take it from, basically, Banks Lake, the land and water resource from there south.

Storey: And does, why was that split chosen?

Gray: Just a nice place. (Laugh) No. Just, I think, you know, Coulee with their maintenance crews and such, you have the, you have the feeder canal and you have the radio gates that are at the end of that. They can deal with that, handle it up there. They have the pump-back operation also, in the pumping plant. And, but other than that I've never actually seen a document on why we drew the line there.

Storey: Or is there any . . .

Gray: Well, I take that back. I've actually seen a map with a line on it, but I haven't said why, I haven't seen why was it drawn there.

Storey: Yeah. Does that break cause you any problems?

Gray: No. No, we work really well with Coulee. In fact, many times we'll have them run out to Electric City. You know, Electric City literally is in the town of Grand Coulee, right there with the office. So, many times if those people have an issue out there, lots of times they'll just go to the Grand Coulee office, because they know those people. They're part of the community. And, then Craig or the folks up there will give us a call and let us know what's going on. (Storey: Uhm-hmm.) It hasn't been any problem at all.

Storey: Hmm. I would have thought the Columbia Basin Project would have been part of the Grand Coulee Office Area Office?

Gray: Well, what they looked at was Grand Coulee is power. And so they went with basically a power office. And, they took Hungry Horse and make it part of Coulee, and their operation is dedicated to basically power O&M. And they took a look at the Columbia Basin and said, "You know, the irrigation stuff you guys deal with just doesn't really fit with Coulee, and so let's consolidate all the irrigation stuff." And so that's why we basically got married up with Yakima, and . . .

Storey: That was in the reorganization about '93, '94?

Gray: Yeah. Now we do, in our Land Resource shop, we've expanded, oh tremendously, in the last five years. We do all of Grand Coulee's realty work. We do all of Yakima enhancement realty work. That's about six months ago.

Storey: What kind of work?

Gray: All the realty and lands.

Storey: Oh, realty?

Gray: Yeah, I'm sorry.

Storey: I don't know why I wasn't understanding that word for some reason.

Gray: I might be slurring there.

Storey: I doubt it.

Gray: And then we just, effective two weeks ago, we took over the realty responsibility for the Yakima Project, and with the idea that our realty staff now here is up to, I don't know. We must have thirteen, fourteen folks in it. And so we become kind of the, well we are the resource, the realty and land management resource for the Upper Columbia area.

Storey: Uhm-hmm. How long a drive is it from here to Yakima?

Gray: Ninety minutes. Ninety-two miles. (Storey: Hmm.) Been on that road a lot.

Storey: Yeah, I'll bet. (Laugh) So, when you were in 400 that would have been about how many staff do you think?

Effects on Staffing as a Result of the 1993 Re-Org

Gray: Oh boy. How many staff was–well, we had–I left out a whole shop here. The environment and contracts shop. So, we had environment and contracts. We had realty, and then we had the water operations. Well, the whole office, we went through the RIF [Reduction in Force], the early out. Remember the buyout?

Storey: In '94?

Gray: We actually lost thirty-five percent of this office in the buyout, and we were going from that transition from construction. Well, we were doing away with construction, with the drainage and such, and we had a ton of folks eligible to retire, and a lot of them were in the engineering, construction side. We went down to thirty-five people. And so that was our low, thirty-five.

Storey: In this office?

Gray: In this office.

Storey: But, that's not the 400 shop?

Gray: No. No. The 400 shop would have been, I'm guessing the 400 shop was probably twenty.

Storey: Uhm-hmm. So, it was, what, maybe half of the staff?

Gray: It was, yeah. It was a little over half the staff. Yeah.

Storey: How did, let's see how should I put this? How did your view of Reclamation change as you went from heading land resources to heading realty and . . .

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Storey: To heading the 400 shop, and then becoming deputy area manager?

Becoming Deputy Area Manager

Gray: You know, that's interesting coming from a lands background, because in a lot of cases the lands side of Reclamation, you know, that wasn't where all the glory was. The glory was in all the engineering and design and construction, and lands folks really had to be, they had to be creative to get things done, and to, just kind of coming up through the lands side you, I think you had a tendency to see the bigger picture. Where, on some of the other sides, I mean the more technical sides where "My job was to design this lateral," folks really got focused. And the lands folks would see that, "Okay, our job here is to manage these resources, and the reason we're here is because of this power project, this irrigation project, this municipal-industrial." Whatever the office was doing, and that all this had to work, and it was always the

lands folks that were out there dealing with State Fish and Wildlife, or the Department of Natural Resources, or running a lot of the interface, and dealing with a lot of the problems. And so I think the folks that kind of come up, in my group, that kind of came up through that kind of dealt with all that. And so, had a little broader perspective, or just saw the big picture a little bit more and can see how things dovetailed. And, that there were a lot of things that went into getting that water delivered to the field, and it just wasn't running the canal. And so, I actually think that really helped me.

Storey: Okay. Good. Now, you applied for the 400 job, right?

Gray: That's correct.

Storey: Did you apply for the Ephrata Field Office Manager job also?

Gray: No, I just inherited that one.

Storey: (Laugh) Tell me about it.

Gray: Well, I remember, I don't–Jim Cole was the project manager, a really neat guy. Sharp as a tack. And, I remember the area office thing coming around and there was Jim, and there was myself, and there was Cline Sweet [spelling?], and Cline [spelling?] had like the environment and contract shop, here in Ephrata. And, we had just gone through the buyout thing. We were really in a transition, and Jim had been asked by John [Keys] to be the area manager. And, I remember Jim sitting down chatting with Cline [spelling?] and myself, and conversation, something along the line, "Well, one of you is going to Yakima. One of you is staying here." (Laugh) And, I think Jim, I think he really kind of wanted Cline [spelling?] down there, and wanted me here, I think, but that's not the way he presented it. And, we all chatted. And, my kids were still in school, and everything, and Cline's [spelling?] were out of school, and with what was going on in the setup and a lot of the issues down there were environmental, the Yakima Enhancement Program,[20] the anadromous fish was really getting warm, and Cline [spelling?] was definitely the one to go. And so Cline [spelling?] went to Yakima. Jim went to Yakima, and I was kind of the senior guy left in Ephrata, and the 400 Chief, and so I just kind of–there was no change in grade, I mean, so it just, "other duties as assigned."

20. "In 1979, Congress directed the Bureau of Reclamation to conduct a feasibility study of the Yakima River Basin Water Enhancement Project [YRBWEP]. The congressional objectives of the YRBWEP study were to develop a plan that would provide supplemental water for presently irrigated lands, water for new lands within the Yakama Indian Reservation, and water for increased instream flows for aquatic life, and a comprehensive plan for efficient management of basin water supplies." For more information, see "Yakima River Basin Water Enhancement Project Columbia-Cascades Area Office," www.usbr.gov/pn/programs/yrbwep/ (Accessed December 2014).

Storey: Uh huh. So, at that time there was a project manager here? There was a project manager in Yakima?

Gray: Right.

Storey: So, that consolidation eliminated an office, basically?

Gray: Yes.

Storey: An area manager?

Gray: Yeah, yeah.

Storey: Hmm. So then how many people did you have?

Gray: Well, that was the low. We went through all that and we were right at thirty-five. That was everybody. (Storey: Uh huh.) Thirty-three, thirty-five, somewhere in there, because we had gone through our reductions here in Ephrata. We went through the buyouts, and then the consolidation, because the A-O [area office] went down. Polly Nez [spelling?] went down to Yakima. Cline [spelling?] went down, and Jim went down. So there were three out of this office that went down, that basically became the core of the area office.

Storey: Uhm-hmm. [tape paused] I was afraid it was three. (Laugh)

Gray: No. No. We're okay.

Storey: So, what kinds of issues have come up since you've been the field manager?

Developing Diversion Rates

Gray: Well, the first one was diversion rate, the first diversion rate. And, that I was involved in. I had worked with Jim Cole on a prior rate, but the 2000-2004 diversion rate was the first biggie right out of the box. And we started that about–wait a minute. This is, no. No. Oh, time flies by. That would have been the '95 to'99 rate. And, so that was the biggie. The second one was a breeze compared to the first one.

Storey: What's a diversion rate?

Gray: A diversion rate is how we capture our costs at Grand Coulee for lifting the water from Lake Roosevelt into Banks Lake. And, the formula actually takes in the cost of power. So we develop what it costs to generate power. So, that's one component. But there's, there's about, the spreadsheet is about five, six pages long. And, there's various components that go into the rate up there. For example, routine maintenance of the pumping plant, and janitorial service, lights, that type of thing. We're replacing one pump and one motor every five years. So, $4 million dollars to replace a pump and a motor. The switchgear, if switchgear improvements and changes and such. Anyway its just basically sitting down and working with the Coulee folks to say, "What are you going to do for this next five years in the pumping plant, to keep this thing operational, and to pump, and to generate?" And then breaking that down into individual components, which we can then explain to the irrigation districts and determining over a five-year period what its going to cost to do that. So basically, lay out a five-year budget. And then in the rate, what we do is we reduce that to a cost per acre foot. So, it might be that we're going to replace the 1-15 breakers, and that's $200,000 to do that. Well, then we'll take a look at, at the five-year diversion rate period, and we'll say, "Well, we got 2½ million acre feet a year average, times five years, so we got 12½ million acre feet. So, how many cents per acre foot does it take to give you the $200,000 over the five-year period?" And we'll go through that for all these various components, and then the power is calculate on how many mils per kilowatt. And, those are all added up, and you come up with maybe $1.35 per acre foot.

So, when we deliver an acre-foot of water to the districts, and we measure it, everything is measured. Oh, we measure stuff all the way through the system, all the way to the Columbia River. We wear the water out measuring it. We're probably one of the best measured projects in Reclamation. And, then at our Mile 02, which is the Main Canal up at Dry Falls Dam, we measure the water there and we apply that against this rate, which is called the diversion rate. So, this year the diversion rate is $1.13, $1.13 an acre foot. So, just for the Grand Coulee side, the districts owe us $2.5 million times $1.13. That's for this year. And that's based on actuals. So, right about this time of the year we're, we take the estimates, we're correcting them for actuals, and they actually use 2.685 million acre feet, so $185,000 more this year. So, bottom line, they owe us more money. And, but, so the diversion rate covers all of the Grand Coulee costs, reduced down to a cost per-acre foot. Make sense?

Storey: Yeah. It makes sense. However, you put, all of that water comes out of Banks Lake. You charge the distribution rate? Is that the correct term?

Gray: Diversion rate.

Storey: The diversion rate (Gray: Uhm-hmm.) for it when it comes out of Banks, I gather?

Gray: Right.

Storey: And then the water is used and then it, the remainder of it, flows into Potholes?

Gray: Right.

Storey: Then you deliver it again?

Gray: Uhm-hmm.

Storey: Do you get to charge the diversion rate again?

Gray: No. No, because its, the diversion rate just covers the cost of lifting the water out of Lake Roosevelt into Banks Lake. So, it doesn't matter how many times we use it, we're just, we're just recovering our costs. And then in addition to that, then there's another component to the rate, which basically covers all of our costs out of Ephrata. So, that's the cost to run the SCADA system, the run to have, the cost to have the 24/7 dispatchers down the street, the night monitors, the dam tenders, the maintenance we do on the canals in the winter time, all that stuff. That's the other side of the rate that gets added on to the diversion rate. And, (clears throat) excuse me. I forget where I was going with this.

Storey: I had asked if we got to double dip? (Laugh)

Gray: No. That'd be nice, but all we're entitled to is our costs. (Storey: Uhm-hmm.) Yeah.

Storey: So, how do they split this up?

Diversion Rates Split Among the Water Districts

Gray: Well, that's, that's interesting. It had to be a bunch of engineers that figured this out. Actually it really works. What we do is it all comes back to water measurement. And, the diversion rate and the 2½ million acre feet, what the water users do is they advance us half of our estimated costs, April 30, and the other half on June 30. So, they advance us based on our estimates. And then what we do is we reconcile the books. And, in fact we did that just two weeks ago. And we take our actuals, so we take what they advanced to us, and we either show we have a surplus or a deficit, and then we take that surplus or deficit and it gets added or subtracted onto

the bill for 2004, which is due April 30. So, when they make their payment April 30, they basically have adjusted the estimate for actuals, for 2003. I'm trying to think why I took off on that. What was your question again? (Laugh)

Storey: Double dipping?

Gray: Oh.

Storey: Oh, no.

Gray: No. No.

Storey: No, I was asking about how they figure out who pays what?

Gray: Oh, the split. Okay, the split. So then what we do is we again, we measure the water when it comes out of Dry Falls Dam. We measure it at the bifurcation, which is just outside of Soap Lake here, and that's where the West Canal and the East Low Canal start. So, we measure it there so we know how much goes down the West Canal, and how much goes down the East Low Canal. Everything down the West Canal is Quincy. Everything down the East Low is East District. Then we also measure it at Potholes Reservoir, at O'Sullivan Dam, the outlet for the Pothole's canal. And so that's the number, if you add all those up, that's where you get like the 3.4 million acre feet, more than the 2.5 because of the reuse. Well, we take that number, based on the 3.4, (Storey: Uhm-hmm.) and we look at what was delivered at the head-end of the three major canals and we basically determine what percentage of Quincy is of that 3.5, or 3.4 million. And Quincy will fall in there being like forty to forty-two percent. So, they're using forty, forty-two percent of the cost, of the water. So then we go back, and that's what we actually use to adjust the bill. And, to set the estimate based on their actual use. So, Quincy used forty percent of the overall water. For the three major canals they pay forty percent of the costs. East District would be in the range of twenty, like twenty-two, something like that. And then South would be in the range of thirty, thirty-eight, or something like that. And, so that's how we actually apportioned it out, and that changes every year based on the water that each district used.

In fact, that became an issue. We sent the districts a bill for the estimate, you know, they have to cough up for April 30, and it had a deficit of, for the 2003, and the deficit was almost $600,000 that they owed us to square up the books for 2003, $205,000 of that was they used more water than was in the estimate. They used 2.685 million acre feet, and they only paid on 2.5. So, there's $205,000 of the deficit right there. (Storey: Uhm-hmm.) And

Quincy was really squirming because their percent increased by two. I mean, they jumped from forty to forty-two. And, you know, when you're talking the kind of money we're talking, a two percent increase is a pretty substantial increase, and so Keith was concerned about that. And Dick, the East District, who the two percent came from, he was tickled pink, because his costs actually dropped. But it all ties back to if Quincy used more water, well then their water users should pay the proportional share.

Storey: Uhm-hmm. And let me guess, these districts are very powerful politically, locally, and they operate out of a little storefront or something somewhere?

Reclamation's Relationship with the Districts

Gray: Actually, no. Politically astute and very well connected, both locally and at the national level, (Storey: Uhm-hmm.) very connected. They are very, what's pleased me about our Columbia Basin districts, they are really professional organizations. I mean they actually have, they have professionally-trained engineers, they have accountants, they have good paid legal staff. They're top-notch districts, and they watch out for their water users. They're no cake walk. I mean, they run us through the wringer. But, they're professional. But they, you know, they don't get down in the gutter like some of the smaller districts I've dealt with over my career, you know, that just, you know–they certainly do a good job of representing their water users. And they definitely are, well they were in Washington D.C. last week, week before last. (Storey: Uhm-hmm.) The National Water Resource Association's spring meeting was in D-C. It always is. And so, they make the rounds. They go around and see all the congressional folks, and see both state senators, [Patty] Murray and [Maria] Cantwell. And, they were in to see the commissioner. They make the rounds.

Storey: I bet they do.

Gray: Yeah.

Storey: Have they built office buildings?

Gray: No. Let's see. Quincy is in the old Reclamation office. East is a combination. They're in the old Reclamation maintenance facilities. South purchased a building. They were never in a Reclamation office facility. They were downtown in an old bank, and then they move out of downtown. It got to be a little seedy. It started to become a red light district, and so they wanted to get out of that. And so they're out, out of town a couple of miles now. Got a good deal on the building.

Storey: Could you give me the full name, three districts, right?

Gray: Yup. Three districts.

Storey: Could you give me their full names?

Gray: Yeah. East Columbia Basin Irrigation District, Quincy Columbia Basin Irrigation District, and the South Columbia Basin Irrigation District.

Storey: Oh. (Laugh)

Gray: Catchy names, huh? (Laugh)

Storey: Well, it works.

Gray: It works. Actually it works.

Storey: It works just fine.

Gray: It works just fine. Yeah.

Storey: I presume they have a much larger staff than Reclamation does on the project?

Gray: Yeah. They probably each average around sixty. Quincy is the largest. They've got seven watermaster headquarters. I'm guessing they're probably closer to eighty in staff. I think East is right at about fifty-five, sixty. (Storey: Uhm-hmm.) And I think Shannon is a little over sixty. And that's, you know, that's a couple of years ago.

Storey: And they're run by a board?

Gray: Board of Directors. East and South have five-person boards, and Quincy has a seven-person board.

Storey: Does this cause us any problems? Do we, I mean, there are constantly discussions right?

Gray: Yeah. Yeah.

Storey: However, some districts are known for being litigious, hard to get along with, difficult to deal

with. And, I'm gathering from what you've been saying that's not true with these three?

Issues with the Districts over the Reserved Energy Rates

Gray: Historically, we go in cycles. Things have been pretty positive since, really the last, close to ten years. But we have our, we have our down times, and our last major issue was the reserved energy rate. And, we went all the way through the Federal Court of Appeals on that one. And we've been known to get tangled up in lawsuits with them. And, that case was that our repayment contract says that the power rate for the pumping plant to lift the water will be half mil, or the cost of power. And the, and we had never adjusted it all the way up to 1990. And so from 1952, when we started pumping, all the way up to 1990, it had been at half mil. And, we did some calculations and it didn't cover our cost of production. And our reading of the law, and the contract, is that, "Yes, you're entitled to reserved energy, but that's the cost of production. Whatever it costs us to generate it, that's what you have to pay." And they basically said, "No, that '68 contract says we get half mil power in perpetuity." And we said, "No, that's not what it says." And so we ended up going all the way to the mat on that one, and we prevailed on that. And, oh I don't recall what the–our power's very cheap. When you take a complex like Coulee, and you generate so much power that the cost of power is, well, its tied to the scale of facility. And so I think we, at this last diversion rate, we were at, we were a little over a mil. We were a mil, and I think, I don't know, 1.6, 1.06, something like that, which doubled their power costs.

Storey: Since 1952? (Laugh)

Gray: Yeah. Yeah. Yup.

Storey: Is one way of looking at it?

Gray: Right. Yeah. Exactly. And yet, then another way to look at it is that Coulee is just a very economic, you know, I mean here we are fifty years later and still our cost of production is basically a mil. And what was interesting about that is that's left and right, and when it became Third Powerplant time in the '60s, and we were planning for that, our districts wanted nothing to do with Third Powerplant because their power generation was based on left and right, and "You're going to build the biggest turbines in the world. This is going to make power go up incredibly. We don't want any part of it." And so, there was an agreement, and I think it was an M-O-U [Memorandum of Understanding] signed that basically said, "Okay, number one, Third Powerplant's authorized only for power production. Its single-purpose. And so, yeah, you don't get the benefit of the Third Powerplant." And they go, "We don't want the benefit of

the Third Powerplant. That benefit's just going to cost us a fortune." Well, then the Third Powerplant comes online, and the last time we did diversion rate, which you know this is five, six years old now, is that I think Steve Clark was telling me that if you would actually meld our cost of production in with left, right, and the Third Powerplant, our cost of production for Coulee was less than 3/4 of a mil. I, you know, its just a super-efficient plant. (Storey: Uhm-hmm.) And, then of course the districts came back and said, "Well, we need to factor in the Third Powerplant." We said, "Well, no, no, no." (Laugh) "You don't get the Third Powerplant. Remember, you didn't want it. And its single-purpose power only."

And so, we don't have the numbers yet, on the new rate, for power. Al Bolin [spelling?] is working on that now to pull all the costs together. So, I don't know where its going to be. My hunch is its going up, and we're in, they're in a turbine rebuild program up there. And so, what that means, there's been physically fewer units running because they're torn down. And so, some of the load has shifted to the Third House, and the cost of reserved energy is the operation and maintenance cost divided by the energy generated to produce your millage rate. So, the operation and maintenance costs probably haven't dropped much, maybe even went up, but you've got all these units out of production, (Storey: Uhm-hmm.) you know, at different times. And, maybe two or three units a year. So, instead of having eighteen, you maybe, you're average generating with maybe, you know, fifteen, or fourteen. (Storey: Uhm-hmm.) And so I, my hunch is that the rate will go up a little bit.

Storey: So, do you attend board meetings and things, for the water districts?

Maintaining Good Relations with the Water Districts

Gray: We have somebody in attendance every month. In fact, that's where I'll be tomorrow. I'll be at Quincy. And then East is Wednesday. And South is Thursday. And, I don't attend every month. I basically break that up between the management staff, but we have somebody there at each board meeting. And, we'll try to take a look at the agenda and maybe cater to whatever the topics are. If they're maybe into a lot of right of way issues, we'll have Stephanie head down. If its operation oriented, we'll have John Moody head down.

Storey: Does that, excuse me, does that work to reduce issues between?

Gray: Definitely. Yeah. You keep the lines of communication open. It definitely does. We go through our budget process with them. And, you know, as an example, as we start to put that together in late July, early August, we'll put together what we want to do and how its taken a look at and what's out there, and then we'll bring the managers in without the boards and we'll

just, the managers there, they're all engineers. And, we can sit down and just have a good discussion about what needs to be done. And, how we ought to go about doing it. And so, we'll leave that with, in essence, an agreement of what our budget will be. And then when we formally meet with the, its called the Reserved Works Committee, and that's by contract. We meet twice a year. Once in January, normally the last Monday of January. And then once in August, early August. Normally its like the first of August, the first week. And, at the August meeting we formally present the reserved works budget to them. We tell them this is what its going to cost to operate the system. And we found that by bringing the managers in and not having this be the first time this hits everybody that basically if, we'll get to a tough item. Maybe its replacing panels in the main canal, and we got $60,000, $70,000 in to do that, that one of the managers will stand up and say, "We've gone over this, and yeah, we need to replace these panels and this is what it's going to cost." And the boards hearing it from their staff really helps us. And so we'll kind of walk through things. And they may have an item here or there that maybe they think, "Well, we shouldn't spend seventy, can you get by with sixty?" You know, and we have, the biggest discussions are on the things they can really relate to. And, you know, we'll, you know, if we can do it we'll say, "Yeah. We can do it for sixty instead of seventy."

Storey: Uhm-hmm. I have the sense that a lot of these districts are very careful of their money?

Gray: Extremely so. Extremely so. Yeah.

Storey: But, they don't want to spend any money. Does that cause us issues with that, especially the areas that they're operating and maintaining?

Districts' O&M on the Project

Gray: Well, they've all done a pretty decent job. East District is working on a pumping plant rehab program. And, what they're looking at is we have so many re-lifts, and you look at the electrical switch gear, and its fifty years old. Pumps and motors have been maintained and rebuilt at the proper times, and all that, but just, you can only run mechanical equipment so long. And, I mean, at a point it just has to be replaced. And Dick has put together a replacement program. And, now his replacement program was like a fifteen-year program, in order to get through all the pumping plants. And, you know, he's got his fingers crossed, you know, that fourteen years from now those few pumps that still have to be replaced and rebuilt are going to hang together. But he's trying to balance that off against their ability to make, to get assessments, and approval from the board, and keep the system up.

Quincy District, they've been pro-active on their syphons. Here a few years ago they just relined the Soap Lake syphon. That's a big 10,000-foot-long syphon that goes the north end of Soap Lake. It goes down and around, and you drive over it on the highway, and its twenty-two, or twenty-eight foot in diameter, a big thing. And, they did a multi-million dollar contract to spend on a new mortar lining. Take the coal-tar off and put on new mortar. They're going to totally replace a smaller syphon out here, in addition to just their routine maintenance. We're into a gate painting program now, where we're, each of the districts are repainting gates, or replacing gates, whatever the case may be on a lot of the smaller check structures. We just painted Pinto Dam gates this year. Last year we did the West Canal bifurcation gates. And so we're ramping up on maintenance. Quincy's big one is the West Canal, through the town of Ephrata. Its, historically, has been a real, well the material that has cut through the basalt, and the silt that was put in for the bedding liner and all, it historically has been a problem. And they, at times, come back and say, "You know, as this thing continues to age, we're not going to be able to fix it all." And well, they've done more than hint. I know they've talked to the commissioner about, "Is Reclamation going to have any kind of R-N-B [?] Loan program? Any kind of low interest? Is there anything out there? We're willing to take care of it, but we don't know if we can keep up with it." And I know those kind of discussions. And that's kind of an across-the-West discussion, the aging infrastructure, and, (Storey: Uhm-hmm.) what are we all going to do about it? And, where we're out right now, is it's a transferred facility and you need to make plans to deal with that and take care of it.

Storey: Hmm. How do we go about monitoring their O&M programs?

Gray: Well, we actually have a Review of Operation and Maintenance Program. We're on a, I think it's a three-year cycle for these districts. Do basically one district a year. And, come in and basically take a look at the maintenance, look at the canals. What they'll do is, I think their old schedule, which their still one is, one cycle, they'll do it in the winter, when every thing's dry. The other cycle . . .

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BEGIN SIDE 1, TAPE 5. APRIL 5, 2004.

Storey: This is tape five of an interview by Brit Storey with Bill Gray, in Ephrata, Washington.

They'll do it when its charged, huh?

Gray: Yeah. Do it when its charged. And so out of that will come, basically, a narrative, a write-up. Its quite an involved program where the staff identifies maintenance issues, problems. It's a

chance for the district folks and our folks to talk about problems and issues. Also, out of that will come actual recommendations for things that need to be modified, repaired, replaced. And, depending on the severity, they're assigned a category. How important it is to get it done, and how quickly you need to get it done. And, that's an area where I think we've, I think we had one Category II, which was taken care of. But, that's an area that we've struggled with, on getting those completed in a timely manner. And we've been, last year, year and a half, two years, we've been really concentrating on that, and getting the backlog taken care of.

Storey: Uhm-hmm. What about title transfer. I think I heard you say something about we had transferred title?

Possibilities of Title Transfers of Project Facilities

Gray: Oh, no. Different. We transferred operation and maintenance responsibility, under the contract. And that's true for the vast majority of Reclamation projects. They're transferred to the water users for operation and maintenance. (Storey: Uhm-hmm.) Then, versus title transfer, where we go through a process and actually the United States no longer owns the project, and its physically transferred to the water user.

Storey: Or components of a project?

Gray: Or components of a project.

Storey: Have we done any of that on this one?

Gray: No. No we haven't. And, my hunch is that this one is so complex, and so much of it is tied to multi-purpose facilities, that I don't see that happening in the near future. In fact I've had each manager tell me that, "Thanks, but no thanks." They're not interested in title transfer at all. Several of our small projects, we take care of, I don't know, fifteen smaller districts, eastern Washington, northern Idaho, and western Montana. And, we've talked to two or three of them about title transfer. (Storey: Uhm-hmm.) There's a couple small ones that I'd just like to sign a Quit Claim Deed. Its too bad its not that simple.

Storey: Things like maybe Frenchtown, or Bitter Root, or something (Gray: Yeah.) like that?

Gray: We've got Bridgeport Bar, for example. It's a 410 acre project. Well, not a project. A 410 acre division of the Chief Joseph Project, 410 acres, volunteer staff, no full-time employees. Its one of those that its unfortunate the process, they'll, they have no interest in title transfer. Not

willing to pay any of the costs in title transfer. So, they're not interested. (Storey: Uh huh.) You know, but, you know and yet here we're setting there, and we go out every six years, I think, on the R-O&M [Review of Operation and Maintenance] and that, and we don't do a lot. We don't do a lot. And, we would spend a fair amount doing a title transfer. And, you know, I don't know, on something like that if it'd ever wash out, but boy if could just sign a Quit Claim Deed, do a quick NEPA checklist, I mean 410 acres is smaller than our average size of a farm down here. (Storey: Uhm-hmm. Hmm.)

And, Whitestone. We've talked to Jerry Barnes about that. They're 2,500 acres. Talked to them twice. And, Lake Chelan, talked to Lake Chelan. I think they might do it, Lake Chelan Reclamation District. That's about, I'm trying to think how large they are. Less than 10,000 acres, 6,700, something like that, but they also have, they also run the sanitation sewer, and domestic water. So they basically have irrigation, sewer, and water. And we have nothing to do with domestic potable water, and sewer. And it would just make it a lot easier for them if we were out of the picture. And, but we've chatted with them twice, on that one.

Storey: What project is that?

Gray: Well, it's a component of the Chief Joseph Project.[21]

Storey: Oh, it is?

Gray: Yeah. We've got Greater Wenatchee, Lake Chelan, Chelan Reclamation District, Booster Flats, Bridgeport Bar, and Whitestone. I think those are the Chief Joseph components. And then we have the Okanogan, which Okanogan is one of the originals. It goes way back to, oh what? Nineteen–I'm trying to think of the original structure.

Storey: Conconully was it.

Gray: Yeah. Conconully, 1920, '21, '23?

Storey: I've forgotten.

Gray: Somewhere back there. Yeah.

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21. Constructed by the Corps of Engineers in 1955, Chief Joseph Dam is on the Columbia River in north-central Washington. The water and power the dam provides serves the Bureau of Reclamation's Chief Joseph Dam Project. The project is divided into four divisions: Foster Creek, Greater Wenatchee, Okanogan-Simikameen, and Chelan. For more information, see Jedidiah S. Rogers, "Chief Joseph Dam Project," 2008, www.usbr.gov/history/projhist.html.

Storey: Are you getting ready to rebuild that, by chance?

Gray: We finished Salmon Lake Dam.[22] That was a Safety of Dams activity there. That's the dam that literally the town sits on the toe of the dam. And, we're, there's, what do they call their group up there? It's the Joint Committee. That's it. The Joint Committee consists of the Colville Confederated Tribes and the Okanogan Irrigation District. And, their goal is to try to wet up the bottom three, four miles of Salmon Creek so that they can get fish up out of the Okanogan River in to the creek. And, above the diversion dam, all the way up, you've got about fifteen miles of good habitat. Its not stellar, but its good, just good habitat. And, the yield in that basin, oh it is from, I think the lowest yield on record was like 2,500 acre feet, or something like that. I mean just, its just amazing the fluctuation they have up there. And, in fact, I think in the '70s with the Drought Assistance Program, they actually constructed a pumping plant in the Okanogan River to get water up into the system on critical years. Anyway the Joint Committee has taken a look at it from a standpoint of, "What could they do, water conservation, storage, pump exchange, what are the different things they could do to where they could firm up the district water supply a little bit, but also more importantly get enough water to have water in the creek, (Storey: Uhm-hmm.) to where you could get fish into the Okanogan, into Salmon Creek?" And, one of the things we're looking at is rebuilding the feeder canal, which goes from the creek over to Salmon Lake, which is the upper reservoir. And, part of their problem is the freshet, it comes off in such a short period of time. I mean, its literally weeks and its gone. And, they can't capture all the water that they're entitled to, which then if they could capture it they could use it for fish. They could use it for Ag. Now, that doesn't answer, that doesn't solve their problem, but that goes, that's part of their proposed solution. And, we actually entered into a grant with the district, about a year ago, for, to cost share with them on rebuilding the feeder canal. And, see if something comes of that.

Storey: Yeah. Hmm.

Gray: So.

Storey: Has the Columbia Basin Project been subject to the farm problems, the economic problems that farmers have been having around and about? And if so, how does it affect us and the project?

The Farm Economy on the Project

22. A feature of the Okanogan Project, Salmon Lake Dam is an earthfill structure 54 feet high constructed in 1921. Part of the Safety of Dams program, Reclamation, in 1988, reduced the operating levels of the reservoir to address seismic safety concerns.

Gray: Well, the effect would be–the farm economy hasn't been good. I don't know if the folks here are better or worse. My hunch is they're better off. Not just that they have a longer growing season, they have good water supply, it's a fairly, costs are controlled. But, how it affects us and the managers are the board of directions are very reluctant to increase assessments. And Quincy District, as an example, this last year, Keith wanted, I forget what his increase was, just for maintenance, just for these items we were talking about earlier, and they said, "No. No increase in assessment." And, its kind of like our budget.

Storey: Who said, "No?"

Gray: The board of directors for the Quincy District. Yeah. And, you know, you have things as simple as cost-of-living raises. And so, with no increase in assessment, he'd dealing with less money next year, just to cover something as simple as that. You know, increase in insurance, and different things like that. So he's struggling. But yeah, they work at the pleasure of the boards.

Storey: Hmm. Interesting. What else should we be talking about?

Gray: Oh boy.

Storey: How about the state parks, and managing the recreation areas in here?

Managing Recreation Areas

Gray: Yeah, we've got, we've got Steamboat Rock State Park on Banks Lake, and Potholes State Park on Potholes Reservoir, and Summer Falls State Park. And, they just turned back to us, Summer Falls State Park, which was really kind of a viewpoint, rest area. And, they were proposing to turn back Potholes State Park which, this gets in the neighborhood of 4-500,000 annual visitation. This is a major park. And, the state park's budget has been in such tough shape. And, they came and we, Stephanie and I actually met with the head of their commission, and their regional managers and such, and we talked a lot about Potholes, and we were able to work out a deal with Potholes that they did not turn it back to us. And, Steamboat Rock actually makes money for them. Its on the reservation system. It pulls in, it again, is in the neighborhood of about 500,000 annual visitation. So, between the two parks there's about a million. And Potholes, they actually, with their use fees and such, they were actually breaking even. And, one of the things we actually told them was that, "We'll do everything we can to help you with Potholes. We can't fund your day-to-day operation and

maintenance. We don't have that money in our budget." And they said, "Well, we can. Legally you have the authority." And we said, "Well, yeah we do. But, the policy of Reclamation is we're not going to get into funding day-to-day operation and maintenance costs. We can't afford that, if you look at that Reclamation-wide. We just can't do that." And so we kind of went back and forth, and they had actually said, "Well, we're going to have to turn the park back." And so we said, "Well, if you're going to have to do that we need to tell you we're going to take Steamboat Rock State Park too, because you're not going to, you're not gonna keep the keepers, where you're making money, and turn us back the one where you're losing money. Because, what we'll do is we'll take both, and then we'll try to look at some kind of a concession operation where we'll lease the parks out. But, you know, you just can't give us your dogs." And Potholes is not a dog by any stretch of the imagination. Its an absolutely gorgeous park. And we're talking they were in the hole by $100,000 or something like that. But, for state parks, and how tight they run their ship, that's a lot of money for them.

But, we were able to get through that. We supported their increase. Out in Colorado, you know, you have your park pass fee, in order to get into your facilities. Washington State has resisted that. And, you pay for camping, you pay for boat launch, but day-use is free, and all this. And, they finally, last year, went to a parking permit. So, they weren't charging you to enter the park, they were only charging your car. (Laugh) So, if you chose to walk into the park, you wouldn't be charged. And they had to play politics with the legislature, and things like that, but they got that in place. And, kind of typical with things like that. Visitation dropped off, which it will rebound, once people get used to that. But, so we dodged that one. So, we got, but what's interesting is between Potholes, Steamboat Rock, and Sun Lakes, which is also just right up the road, but that's on state property, we've got three of the top five state parks within the Columbia Basin Project boundary, and they're going to give one of them back to us, which was just, we kind of thought, "That's nuts." (Laugh) But we did have a turnback. Scooteney Reservoir was turned back to us in 1989 by Franklin County, and so we did go into that facility and completely rebuild it. We still manage that park. We've got a ranger station down there. Its an absolutely gorgeous park. Its on Scooteney Reservoir that's, I think there's a 34-unit campground. We tried to transfer that to state parks a couple times, and with their budget situation they've said, they've gone down and looked once. We had them pretty close, but couldn't quite convince them to take over Scooteney. (Storey: Uhm-hmm.) So, we're actually still managing the park down in Scooteney. This time of year its gorgeous, the landscape plan, a lot of flowering shrubs and trees. Its absolutely gorgeous.

Storey: How far is it?

Gray: Its one hour from here, fifty-five miles.

Storey: Hmm. So, where does the visitation to our parks come from?

Gray: West side. We're only two hours and thirty minutes from downtown Seattle. The whole west side of the state. Grant County–I love little tidbits like this. Grant County is the heaviest-fished fresh water county in the state of Washington. (Storey: Hmm.) For a county that had no water, prior to project development–now that's based on license. What's that based on, license sales? I forget what State Fish and Wildlife told me that's based on, but that annually, in their crop census, or CCREL [Cold Regions Research and Engineering Laboratory] census, not crop census, CCREL census, comes back. (Storey: Hmm.) Grant County is the heaviest-fished fresh water county.

Storey: Interesting. So, did we build the facilities, or did they?

Gray: They built the bulk of the facilities. Potholes State Park started out as a Job Corp project, back when the Moses Lake facility had a heavy equipment program. They did the initial development of Potholes. We did some 89-72 work, under the old 89, Public Law 89-72, where we could cost share.[23] That's how Scooteney got built. I don't think we ever gave any money to the state of Washington. They're on a two-year budget cycle. They budget for two years. And, so you take their two-year budget cycle, and then you take us needing to budget three years in advance. We're going to start work on '07. In fact, we started working on our Fiscal Year '07 activity plans, and by the time you try to meld those together. So, every other year the state legislature works on the state budget, because when they pass it, its for two years. And it just, and the state didn't, at the time the parks were developed, really didn't have trouble from a funding standpoint. They took advantage of the Water Land Conservation Fund, and things like that, but they never actually came to Reclamation, and we were never successful in putting together any kind of cost share. Now, since then we've done a lot of things, particularly with accessibility, State Fish and Wildlife. We've done a lot of work on toilets, both vault toilets and flush stations, and cost sharing boat ramps. We've done a lot of 50/50 cost share through our Title 28 Program. But, in fact, that's been instrumental in our not getting Potholes back, being able to make some commitments. (Storey: Uhm-hmm.) Yeah.

Storey: Hmm.

23. Passed by Congress in 1965, Public Law 89-72 is the Federal Water Project Recreation Act that instructs any federal agency designing a water project to give full consideration to recreational opportunities. For more information, see "Federal Water Project Recreation Act," in U.S. Department of the Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated*, Volume III, Richard K. Pelz, editor (Washington, D.C.: United States Government Printing Office, 1972), 1820-27.

Gray: So.

Storey: Let's skip back a little bit to when you were in Coulee Dam.

Gray: Whoa, way back huh? (Laugh)

Storey: And the Third Powerhouse. That would have been under construction while you were living in town, right?

Gray: Yes.

Storey: What were your impressions of that?

Third Powerplant Construction

Gray: Well, that would have been, when they started that I was actually in high school. And, I remember the day they blew the end of the dam off. And, everybody skipped school to go down to watch them roll the end of the dam off. (Storey: Uhm-hmm.) And that was pretty impressive. But, that was, the Third Powerplant was, for a lot of my class, that was the full employment act. A lot of them didn't go to college. They just went to work for the contractor. And, which was, it was big money and, you know, I think when you're that young it was easy to do that instead of thinking about, "What are you going to doing fifteen years from now?" But, so a lot of them went there. I went off to W-S-U and went to school. But, it started in 19–what, sixty-six? And, so it was well underway by the time I graduated high school, and off. But, it was, you know, just from a, just a civil standpoint, to see something like that constructed, it was just, it was just amazing. Just the excavation alone, and the common material. And, I actually worked at the gas station, the old Phillips 66 station, and we had a contract servicing all the contractor vehicles that were on the excavation contract, moving the common material. And, they were using semis pulling triples, and belly dumps, triple belly dumps, on a haul road. And they would fill these things with conveyor belts, and they'd come in with their pickup trucks that were servicing their semis. And, we'd service those. I think we were servicing those like every other week. And, it was definitely good for employment in the town.

Storey: Uhm-hmm. Do you remember what it was like when they blew the end of the dam off?

Gray: Yeah. Yeah, I do. It was just, it seemed so slow. It was just kind of this–they spent I don't know how many weeks cutting a isolation slot. So, you could just see this little slot between the piece they were going to roll over and then the main dam. And so they took this slot out, and

then they just literally rolled the thing over with their explosive charge. And, it was just, it just looked like slow motion. That's what I remember at the time. And you could kind of see this puff. And you know, you're probably a half mile away, and then you could hear the sound a little while later, and then it just seemed like it was just rolling over. And, of course a good bit of dust. But, I was very impressed. Maybe that's when I decided, "I'm going to work for Reclamation."

Storey: (Laugh) Your dad hadn't convinced you, huh?

Gray: No. No. No, he hadn't. In fact, back then I was wanting to work for National Park Service, I wasn't going to work for Reclamation. (Laugh)

Storey: What else should we be talking about on the project? What are the other big hot-button issues?

Gray: Well, we're being sued right now by the Black Sands water users. Let's see, we've talked about the 508-14 Program, the Conserve Water Program. We've got the lawsuit. I probably really shouldn't talk about that.

Storey: The Black Sands is that area to the west of Potholes?

Gray: It's the area, it's the artificially stored groundwater area.

Storey: Yeah.

Gray: Yeah.

Storey: We don't need to talk about that.

Gray: Let's see. Actually I'm kind of, I can't think of anything right now. I'm sure you'll come up with more.

Storey: (Laugh) I've got to have leads before I can come up with stuff. (Laugh)

Gray: Well, let's see. Well, the water quality, E-S-A.

Storey: Do you have any E-S-A issues besides salmon?

Gray: Not really. You know, we have bald eagle. We've got, well, there's a ground squirrel or ground pigmy rabbit, state listed. That could become one. And then there's a ground squirrel I think, but we got several plants. But, for the most part, our Scattered Tract System, we basically set all of our quality shrub steppe, and incorporate the, incorporated that in to management areas.

Storey: Yeah. So, how are they doing on repayment?

Repayment Obligation

Gray: Well, they're making their repayment obligation. Average repayment on the Columbia Basin is $131.63 per acre over fifty years. And, $2.63 a year.

Storey: An acre?

Gray: An acre. And that's, you won't find any land that pays that. That's a weighted average, and its based on land classification. (Storey: Uh huh.) So, Class I would pay more than that. Class IV would pay less than that. And, but yeah. No problems from a repayment standpoint. The project is very successful. It, you know, from a, just thinking about topics from a land standpoint, a lot of the, Reclamation has dedicated a fair amount of land for schools, parks, things like that, experiment farms, a W-S-U experiment station.

Storey: Do we work with that experiment station in any way?

Gray: In the early days.

Storey: But not now?

Total Maximum Loads–Clean Water Act

Gray: No. When I first got on board here we were doing a water quality assessment down by Royal, with the W-S-U Extension and Experiment Station. Its kind of a closed basin. There was only one area where the water leaves this part of the Royal Slope, and so they were able to quantify and make good measurements. And, we've got the Moses Lake Clean Water Project that we've been involved in over the years. Probably a big issue is T-M-D-Ls [Total Maximum Daily Loads], 303(d) list is, that's an up and coming issue where, under the Clean Water Act–Washington state's a delegated state. They basically are the regulatory entity for E-P-A, for the Clean Water Act. And, they make a list of impaired waters, and they're going through

the updating the list as we speak. In fact, the comment period closed two weeks ago. And, a lot of our facilities and reservoirs are on the 303(d) list, the Impaired Waters list.[24] And, Potholes Reservoir, for example, Moses Lake, but also the West Canal. And we kind of have gone round and round with them on that. We've got a lot of actual project facilities on the 303(d) list. And, the West Canal's on the list for pH, and temperature. And, we have repeatedly said, "Well, the Columbia River water is high in pH, in comparison to your background, you know, what you're using. And, water moves through alkaline soils. And so that has a tendency to raise the pH. And, if you import water into a desert and put it in a concrete ditch in the summer, its probably going to warm up. And, that's not detrimental to agriculture, which is the primary purpose of the canal and the water." And so we've been trying to convince them that they should take listings like that off the 303(d) list, and concentrate on sites that, from our standpoint, make sense. (Storey: Uhm-hmm.) And, we haven't had any luck on that. We're continuing to try. But, I would bet that if we could do that we would probably reduce our listings by eighty percent. We're never going to get Potholes Reservoir off there with that kind of rationale. I mean, Potholes Reservoir is a multi-use water, and so it needs to come to a different standard than like the West Canal and the distribution system. But that's, that's one that we're going to be working on, is the water quality. The 303(d) listing. I'm kind of talked out, I think.

Storey: Okay, let me ask . . .

Gray: [Inaudible]

Storey: If you're willing for the information on these tapes and the resulting transcripts to be used by researchers?

Gray: Sure.

Storey: Good. Thank you. Oh and this is still April 5.

END SIDE 1, TAPE 5. APRIL 5, 2004.
BEGIN SIDE 1, TAPE 6. APRIL 6, 2004.

Storey: This is tape six of an interview by Brit Storey with Bill Gray. This is April 6, at about one o'clock in the afternoon.

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24. Impaired waters are those waterways that do not meet state water quality standards under section 303(d) of the Clean Water Act.

First about the fish herders, I think you called them? (Laugh)

Fish Herders

Gray: Oh, the fish herders. Yes. Oh, a number of years ago, our agronomist, Craig Connolly, working with the Denver folks, we started looking at how we could control some of our aquatic weeds on the Columbia Basin. And so we brought in some grass carp out of the Denver Office, and ran a few areas to experiment with the fish and see how we could use those in our management. We put them in the East District, and also the South District, and they've actually worked out quite well. They're expensive. It has, its been a good program. Craig, we started calling him our fish cowboy, and then we first got the fish we actually put a radio transmitter in the fish, because we needed to get an idea for how far would they travel? Where would they move? How were we going to locate them? And that kind of thing. And, then we dewater the system, so we got to be able to corral them and move them into a place where we have year-round water, over the winter. And so you would have Craig out on the ditch bank with his earphones on, with the sounding equipment trying to find the fish. And it just, we've come a long way. Now we're dealing with fish. But, yeah, we used to give him quite a, quite a razzing about that, but its worked out well. East District uses them quite a bit. The districts now, East and South, are continuing to purchase fish. The program, its pretty well now gone into areas where we have year-round water and weed control, that it just is not real practical to try to get them out of the ditch and herd them up. And, you need to have fish screens to hold them in your section of canal. Its really, its just like cattle, that you have to basically over graze is, in essence, what you're doing. So, you put a barrier upstream and downstream, and you put the fish in and let them eat all the weeds. (Storey: Uhm-hmm.) And if you just turn them loose well then they'll just nibble here and nibble there and you really won't see the results. So, Craig is a bonafide fish cowboy.

Storey: So, they're cost effective, are they?

Gray: In, not for control of aquatics throughout the Columbia Basin Project. They have their isolated niches, where you have year-round water in a drain. Certain areas. They are expensive. They are very expensive. And so we still, we still use, we use a lot of mechanical methods (Storey: Uhm-hmm.) that we control. We use chemicals. We have aquatic chemicals that we also use in the large ditches. In the West Canal, with the capacity of 4,500 c-f-s, its just not practical to try to run the fish in there, and to corral them, and that type of thing. So the small facilities, the laterals, the small wasteways, they work.

Storey: Hmm. Its not practical because of the volume?

Gray: Volume and the cost. How, how are you, how you would corral the fish, as far as fish screens. I'll just use a large canal as an example. You would have to have a screen upstream and downstream of the area you're trying to control. And, the bottom width of the canal's thirty feet, you know, with basically a 1-1½ slope up the side. And it just, its just too large. And the number of fish you would have to put in there just, its just not practical.

Storey: Hmm. What other kinds of environmental issues like that are there in the Columbia, or on the Columbia Basin Project? You know, I'd think these fish might start reproducing, and . . . ?

Gray: Well, that's one thing with the grass carp, they are sterile. In fact, in order to bring them into the state, the state has a fairly rigid program so that they don't get additional exotics introduced into the state. (Storey: Uhm-hmm.) So, they are sterile, and that's part of the cost. You basically buy a fish, and you're in essence, the fish has a lifecycle, and then after that you need to replace the fish. And there's just a certain amount of loss, annually, with the fish. And, I know Craig has told me but I don't recall, basically, how many years the fish is good. The larger it gets, it reaches a point to where it really doesn't eat that much, apparently. (Storey: Hmm.) It kind of reaches a status point, equilibrium.

Storey: We don't have problems with them being taken by anglers and things?

Gray: Not that I'm aware of. Not that I'm aware of.

Storey: Huh. What about, I know we had purple loosestrife that we controlled? (Gray: Uhm-hmm.) Were you all involved in the research expenses for that?

Noxious Weed Control and Endangered Speicies

Gray: All we had to do on that was cover our own salaries. For example, Craig, with the research and such, that was handled, Denver again was involved in that. I know Cornell University was involved. Local weed districts were involved. The Grant County Noxious Weed (Storey: Uh huh.) Control District. So, the funding sources came from a multitude of areas.

Storey: Okay. Any endangered birds? What about bald eagles flying through?

Gray: Bald eagles. Yes. We have bald eagles. In fact, on Banks Lake, the Grand Coulee, Coulee Dam Chamber here, probably four years ago, started the Eagle Festival. And that we get enough birds up along Banks Lake, and over F-D-R [Franklin Delano Roosevelt Lake] where they, well, they actually have a night roost in Northrup Canyon, which is at the far north end of

the reservoir. Yeah. So, there's a lot of eagle activity.

Storey: Hmm. But, do we have to do anything special?

Gray: The only time we get involved would be if we are proposing a work item and we're going through our NEPA compliance, and we need to deal with endangered species. And, so we'll contact the service and get an updated listing from them. Depending what we're doing, it may affect the timing of work, and how we proceed.

Storey: Uhm-hmm. Something else came up yesterday as we, after we had closed down. I've forgotten what it was. You and John and I were talking.

Gray: Oh. Hmm.

Storey: Do you happen to remember?

Gray: Boy, I sure don't.

Storey: Yesterday, you briefly talked about the Chief Joseph Project.

Gray: Hmm. Uhm-hmm.

Storey: Which is, I believe, a pump project out of a Corps [Corps of Engineers] reservoir? As I recall.

Chief Joseph Project

Gray: The Chief Joe–how do we define that thing? The Chief Joe Division. We have a number of Reclamation projects which, that are along the mid-section of the Columbia [River]. Greater Wenatchee, which is, has three divisions, two located, well one in Wenatchee and then two on up the river. In fact, one is very near Chelan, the upper reach. But, there's several projects that are tied to Chief Joe, and from the standpoint of a from a financial standpoint. Their reserved energy, for example, is the cost of power produced at Chief Joe. We do have one contract, I believe, that is an Ag supply contract that comes out of Chief Joe. And, I'm not aware of others in our region. We had a few of those back, back in the Lower Missouri, where Reclamation actually does the contract management. (Storey: Uh huh.) The Corps has no Ag authority. And, but yesterday when we were talking about small projects and districts, I was referring to the irrigation districts up through that area that are tied, from an authority standpoint, to the Chief Joe project as their form of reserved energy and assistance.

Storey: What about other small projects that are managed out of this office?

Small Projects Managed by the Ephrata Office

Gray: Well, let's see. In Montana we got Big Flat. That's about an 860-acre project at Frenchtown.[25] They're all, in comparison to the Columbia Basin, very small. Northern Idaho we have two or three. East Green Acres, which is a . . .

Storey: Dalton Gardens?

Gray: Dalton Gardens,[26] and East Green Acres and Consolidated 19, which is on the Washington side of the border, they're both municipal-industrial and Ag projects. (Storey: Uh huh.) In fact, if you'd drive along the interstate you'll see the large tanks in the air that are painted red and white. Those are the facilities, the standpipes and reservoirs for those two projects. They're actually set up to transition to more domestic use. As time goes on, they realized that the Spokane Valley was going to settle and expand out that way. And so, they're actually designed, and the repayment contracts are to shift from the agricultural side to the domestic potable water side.

Storey: Hmm. What about Bitter Root?

Gray: Bitter Root? Bitter Root is a, its also in western Montana. Bitter Root is a paid-out district. We do, now they're about 10,000 acres in size, I believe. And they're primarily Ag, the Bitter Root.[27]

Storey: But, they are managed out of this office?

Gray: Yes. They're managed out of this office. Yeah.

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25. The Frenchtown Project consists of Frenchtown Diversion Dam on the Clark Fork River, about six miles west of Missoula, Montana, providing irrigation water to approximately 5,000 acres. For more information, see Thomas A. Latousek, "Frenchtown Project," 1995, www.usbr.gov/history/projhist.html.

26. Located two miles north of Coer d'Alene, Idaho, the Dalton Garden Project consists of a pumping plant, an equalization reservoir, and a main line serving 960 acres of land. For more information, see Tina Marie Bell, "Dalton Garden Project, 1997, www.usbr.gov/history/projhist.html.

27. The Bitter Root Project provides irrigation water for 16,700 acres near the town of Stevenville, Montana. Project facilities include a storage dam (Como Dam) and reservoir, a diversion dam (Rock Creek Diversion Dam), and a distribution system. For more information, see Tina Marie Bell, "Bitter Root Project," 1998, www.usbr.gov/history/projhist.html.

Storey: So, how do we manage these things? I mean they're small by Reclamation's standards. They're scattered all over the place.

Reclamation's Oversight Responsibilities for Smaller Projects

Gray: We provide more of an oversight function. That might be a better way to define it. The projects we've just been talking about, districts are transferred to the water users for operation and maintenance. So, there is no Bureau of Reclamation physical presence in the day-to-day operation of those projects. The water users, they do that. The board of director hires the manager. The manger then manages the district and hires the necessary employees to do that. And, our involvement would be if they have a technical issue, a technical problem. We would come on, also on a cycle, to do a Review of Operation and Maintenance. To see how they're doing managing the system, develop recommendations on things that they need to change or improve, or whatever. Also, from a Reclamation Reform Act standpoint, we talked about that the other day, depending on the district and whether they're paid out or not, they may still need to comply with the Reclamation Reform Act. And so we have people that oversee that, work with them on that. So, its really more of an oversight standpoint for the small projects.

Storey: What kinds of issues come up in overseeing these?

Gray: Well, with Big Flat and Frenchtown, fish screens. With Bitter Root, Como Dam, which was a non-federal dam that Congress told Reclamation to fix under the Safety of Dams Act. And, so we're still involved in that, and that's tied to the Bitter Root Irrigation District. East Green Acres, very few things go on there requiring our involvement. They've got subdivisions and encroachments on right of way. Our lands people will help them to release right of way, or acquire additional right of ways if a subdivision's coming in. Again, technical assistance. They'll, many times, call in and talk to, in fact John Moody and his staff, who you chatted with this morning. Over in Washington, Lake Chelan Reclamation District, Paul and his group they do a great job. We'd come in and basically do our R-O&M on our cyclic reviews. Okanogan Irrigation District, a lot of time we've been spending with them here the last several years, fish issues, trying to work on Salmon Creek to enhance that for, from a fish habitat standpoint, also their aging infrastructure, providing assistance to them on redesigning and rebuilding their feeder canal. So just, its kind of a multitude of things related from technical to land resource, to realty issues.

Storey: Have any of them asked for title transfer?

Gray: No. None of them have. Whitestone District, we were up there and had chatted with them

once. Lake Chelan Reclamation District, we've been up twice and have chatted with them. And, let's see, I think that's it. So, two out of the, including our three we've got seventeen districts. So, two out of seventeen.

Storey: Have expressed some interest?

Gray: Have expressed interest. And, after we chatted with them they, we never heard back.

Storey: Uhm-hmm. Interesting. Chelan is, is that the northern route I was planning to take across from Scadget over to Omak area?

Gray: Yes. You would have.

Storey: To Whisp, I think it is.

Gray: If you would have taken, I think it's Highway 97 south of Omak, you would have gone through Chelan. And, the actual irrigation district is along the north border of Lake Chelan. Its actually headquartered in a little town called Manson, which is probably five to ten miles up the lake on the north side of the lake.

Storey: I heard something that sort of peaked my interest, and that's about R-R-A. Did I understand you to say that if a district is paid out on it's repayment it doesn't have to comply with R-R-A?

Paid-Out Districts Under RRA

Gray: Boy, I'm not the R-R-A expert. There is a–if a district is paid out, and their obligation to the United States, the repayment obligation, has been completed–I know the rules changed, and I'm not, I'm really not up on just how they changed, but I believe that's correct. That either their threshold changes or they no longer have to comply with provisions, certain provisions, of the act.

Storey: Uhm-hmm. Interesting. I think we talked yesterday about R-R-A. Do you have a lot–you only have a small percentage that are larger than the 960, or the whatever the imposed limitation is?

Gray: Yeah. Right. From an average standpoint, yes.

Storey: Yeah. Not many at all.

Gray: Yeah.

Storey: Hmm. Do you have an R-R-A staff still?

Gray: Yes we do. We have basically one and a half staff positions dedicated (Storey: Yeah.) to R-R-A.

Storey: Okay. You know, it's a long way over to the Bitter Root Project. A long way. (Laugh)

Gray: Yes. Close to four hours. (Laugh) No. No. No. No. I take that back. It's five hours to Missoula. And its there south.

Storey: Close to another hour for that.

Gray: Yeah. Close to another hour. Yeah. Yeah.

Storey: How do you deal with such a large area? How can we effectively manage such large areas?

Managing a Large Area

Gray: Well, again, it comes back to we're primarily providing oversight. And, a lot is done over the phone. Many of the districts, the smaller districts, we might get up and actually see them once or twice a year, (Storey: Uh huh.) I can think of Whitestone. And its, its, so they all don't have issues at the same time. And, that helps from a standpoint of being able to spend the necessary time. Frenchtown is an example. Is Frenchtown the one they just, their office just burned down? I'm trying to think.

Storey: One of them just burned down. I've forgotten which name.

Gray: I think it was Frenchtown. Yeah. So, one of the things we're doing now is going through the files and pulling maps together, and they're letting us know what they have and don't have. And, their office burned down, but their shop and facility is still there, and they had a lot of stuff in the shop. And, you know, that's something that's certainly out of the ordinary. It doesn't happen all the time. But, so our folks will be spending a little more time on that and try to help them replace records they don't have.

Storey: Yeah. The, well, what else should we talk about? What are the sort of hot-button issues for you all?

Gray: Boy, Brit, I almost think we've covered them. Our issues, for the foreseeable future, are the diversion rate account, developing a new rate for the 2005-2009 period, the following up on the 508-14 Program to get that water licensing program underway, the East District Conserve Program. We'll be spending some time with this group out there that's looking at some kind of development in East High area for the Odessa sub. And then just land and realty issues. They seem to always be there just with the miles and miles of rights that we have, and encroachments, and problems associated with those. So, more than enough to keep us busy.

Storey: Yeah. Tell me how this office relates to the region, and how that's changed in the last, say, fifteen, twenty years.

Field Offices's Relationship with the Region

Gray: Well, since the area office concept in, what, '93, '93, '94, when we reorganized, from this office standpoint prior to that time we would pretty well communicate directly with Boise, and we still do in a lot of areas particularly from a technical specialist standpoint. But, administratively, with the creation of the area office, now we'll run through the area office, on our way to Boise. So, there's kind of a cultural shift there. For a lot of the folks that were here when this was a project office, that adjustment that took a while to adjust to that, that they now couldn't work directly with the region in some of their capacities. And, I"m primarily thinking of support service type activities. If we're working on contract issues, that type of thing, we still work directly with the regional office. The area office doesn't have that type of expertise. (Storey: Uhm-hmm.) And, so that's probably the, was the biggest adjustment, was just the idea that you no longer deal and communicate directly with the region, that you're a field office within a larger area.

Storey: Uhm-hmm. The area, the area manager (Gray: Uhm-hmm.) is?

Gray: Eric Glover, currently. Yeah.

Storey: And what kind of management style?

Gray: Well, he's good. He came up out of the Lower Columbia, was the area manager down there. And, I think he's going on close to three years. It'll be three years October, November, right in there. And, he's real good about letting his managers handle their programs, and likes to be kept informed of what's going on, and very supportive.

Storey: Good.

Gray: Yeah.

Storey: Well, let me ask you again, if you're willing for the information on these tapes and the resulting transcripts to be used by researchers?

Gray: Sure.

Storey: Good. Thanks.

Gray: You bet.

END SIDE 1, TAPE 6. APRIL 6, 2004.
END OF INTERVIEWS.