

ORAL HISTORY INTERVIEWS R. KEITH HIGGINSON

March 22, 1995, and April 19, 1995
Boise, Idaho



STATUS OF INTERVIEWS: OPEN FOR RESEARCH



Interviews Conducted by:
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Oral History Program
Bureau of Reclamation

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INTRODUCTION

In 1988 Reclamation hired a senior historian to create a history program and work in the cultural resources management program of the agency. Though headquartered in Denver, the history program was developed as a bureau-wide program. Since 1994 the senior historian has been on the staff of the Commissioner, Bureau of Reclamation, in the Program Analysis Office in Denver.

Over the years, the history program has developed and enlarged, and 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); and making the preserved data available to researchers inside and outside Reclamation. It is also hoped that the oral history activity may result in at least one publication sometime after 2000.

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

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TABLE OF CONTENTS

STATEMENT OF DONATION	i
INTRODUCTION	ii
TABLE OF CONTENTS	iii
ORAL HISTORY INTERVIEW	1
EARLY LIFE AND EDUCATION	1
STARTS WORK WITH THE SOIL CONSERVATION SERVICE AS A SNOW SURVEYOR	1
WORKS ON WATER RESOURCES ISSUES WHILE ATTENDING UTAH STATE UNIVERSITY	2
WORKS TO DOCUMENT UTAH'S WATER RIGHTS CLAIMS FROM THE VIRGIN RIVER IN THE COLORADO RIVER	2
WENT TO WORK FOR THE UTAH STATE ENGINEER	2
BECOMES CHIEF OF THE WATER RIGHTS BRANCH OF THE UTAH STATE ENGINEER'S OFFICE	2
OFFERED A JOB IN THE WATER RESOURCES PROGRAM OF THE STATE OF IDAHO	3
APPROACHED IN THE FALL OF 1976 ABOUT TAKING A JOB IN THE DEPARTMENT OF THE INTERIOR ..	3
APPROACHED BY CECIL ANDRUS ABOUT TAKING A POSITION IN WASHINGTON, D.C.	3
OFFERED THE POSITION OF COMMISSIONER OF THE BUREAU OF RECLAMATION	4
GOES INTO CONSULTING BUSINESS IN UTAH	5
HOW HE LEFT HIS POSITION AS COMMISSIONER OF THE BUREAU OF RECLAMATION	6
APPROACHED BY GOVERNOR ANDRUS ABOUT RETURNING TO IDAHO	8
BIRTHDAY	9

ATTENDS BOISE JUNIOR COLLEGE	9
OFFERED THE POSITION OF ENGINEERING AIDE WHILE ATTENDING BOISE JUNIOR COLLEGE	10
FORECASTING RUNOFF	15
SPENT TWO YEARS IN THE ARMY	18
WORKS ON ESTABLISHING UTAH CLAIMS TO COLORADO RIVER WATER BELOW LEES FERRY FOR THE ARIZONA-CALIFORNIA LITIGATION	21
TESTIFYING IN <i>ARIZONA V. CALIFORNIA</i>	22
CALIFORNIA ATTORNEYS REVIEW UTAH EXHIBITS IN <i>ARIZONA V. CALIFORNIA</i>	24
GOES TO WORK FOR THE UTAH STATE ENGINEER'S OFFICE	26
WORKS ON ISSUANCE OF "CERTIFICATES" FOR THE USE OF WATER IN UTAH	29
CLEAR UP BACKLOG OF UTAH'S PROTESTED WATER RIGHTS APPLICATIONS	29
UTAH STATE ENGINEER PREPARED PROPOSED FINDING OF WATER RIGHTS FOR ADJUDICATION OF RIVER BASINS	35
FEDERAL WATER PROJECTS ARE SUBJECT TO STATE WATER LAW	38
HOW THE NATURAL AND STORAGE WATER IS KEPT TRACK OF IN THE RIVER SYSTEMS	39
WATER RIGHTS APPLICATIONS TURNED DOWN IN UTAH	42
LITIGATION OVER RETURN FLOWS OF BUREAU OF RECLAMATION WATER	43
THE FAILURE OF TETON DAM	45
GETTING IRRIGATION SYSTEMS BACK IN WORKING ORDER AFTER THE TETON DAM FAILURE ...	47
PROCESSING CLAIMS AGAINST THE FEDERAL GOVERNMENT RESULTING FROM FAILURE OF TETON DAM	48

USE OF THE TETON DAM FAILURE TO TRY TO FORCE CHANGES IN THE BUREAU OF RECLAMATION	49
INTERNAL REVIEW PANEL CONVENED AFTER THE FAILURE OF TETON DAM	50
INDEPENDENT REVIEW OF DESIGNS FOR MAJOR STRUCTURES INSTITUTED AS A RESULT OF TETON DAM FAILURE	50
PRESIDENT JIMMY CARTER'S "HIT LIST" OF WATER PROJECTS	51
ACREAGE LIMITATION IMPLEMENTATION REGULATIONS AND THE RECLAMATION REFORM ACT	55
BRINGS IN DEPUTY AND INITIATES TOP-LEVEL MANAGEMENT COMMITTEE MEETINGS	57
TESTIFYING BEFORE CONGRESS AT BUDGET HEARINGS	58
CONGRESSIONAL HEARINGS WERE SOMETIMES USED TO GET SPECIFIC INFORMATION INTO THE RECORD	59
HAROLD ARTHUR LEAVES RECLAMATION AFTER THE TETON DAM FAILURE	64
COMMISSIONER FLOYD DOMINY	66
COMMISSIONER ELLIS ARMSTRONG	66
COMPLAINS TO COMMISSIONER ELLIS ARMSTRONG ABOUT RECLAMATION'S CONTRACTING FOR WATER IN PALISADES RESERVOIR	67
IN IDAHO YOU CONTRACT WITH RECLAMATION FOR STORAGE SPACE INSTEAD OF FOR WATER ..	74
TRANSFER OF WATER FROM IRRIGATION TO MUNICIPAL AND INDUSTRIAL USES	74
THE WESTWIDE STUDY	75
WATER SHORTAGES	75
CONVERSION OF WATER USE RATHER THAN DAM CONSTRUCTION WILL OCCUR IN THE FUTURE	75

BUREAU OF RECLAMATION ISSUES IN IDAHO IN 1995	76
HOW WESTERN WATER LAW MIGHT CHANGE TO PROVIDE FOR NEW USES OF WATER	77
ISSUES RECLAMATION MUST CONFRONT IN CONVERTING WATER TO NEW USES	77
HOW IS WATER USE GOING TO CHANGE IN THE WEST?	79
SAFETY OF DAMS ISSUES IN RECLAMATION WHILE COMMISSIONER	81
TRIPS TO SPAIN AND CHINA WHILE COMMISSIONER	83
CONCERN IN IDAHO ABOUT RECLAMATION'S WATER CONSERVATION INITIATIVES	85
CONCERNS ABOUT WATERSPREADING AMONG THE STATES	85
TENDENCIES FOR IRRIGATED LAND: URBANIZATION AND CONSOLIDATION	87

ORAL HISTORY INTERVIEW: R. KEITH HIGGINSON¹

Storey: This is Brit Allan Storey, Senior Historian of the Bureau of Reclamation, interviewing former Commissioner Keith Higginson, in his offices at 1301 North Orchard in Boise, Idaho, on March 22, 1995, at about one o'clock in the afternoon. This is Tape 1.

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

Higginson: That's a long story.

Storey: Good!

Higginson: I was born in Boise, Idaho, educated at Boise City Schools, graduated from Boise High School, attended Boise "Junior College" in those days -- it's now Boise State University, completed my engineering degree at Utah State University, and have had a career since high school days working in the water resource field.

EARLY LIFE AND EDUCATION

I started with the Soil Conservation Service [SCS] in 1948 as a research assistant and snow surveyor, and spent the winter months, weekends, in the mountains, measuring the snowpack, and then assisting with snow survey-based stream flow forecasts, and was based here in Boise.

STARTS WORK WITH THE SOIL CONSERVATION SERVICE AS A SNOW SURVEYOR

Then I spent the summer months in that assignment marking snow courses, where I would go with an assistant into the mountains with metal pipe that we had previously painted red and yellow alternating stripes, and would set those markers on the snow courses, so that in the winter months they would be very apparent, where the alignment was to take the snow measurements.

1.. This interview was not reviewed by Mr. Higginson prior to being put into final form.

And also during the summer months [I] did work on irrigation water requirements and soil and other related irrigation concerns and conditions -- mostly here in Idaho, but I was working at the time for Wayne D. Criddle who is one of the authors of the Blaney-Criddle Consumptive Use Formula, which is used widely by the Bureau and by other entities for the estimation of consumptive irrigation water requirements. So I assisted in that research effort, because Mr. Blaney and Mr. Criddle were both with the Soil Conservation Service.

I spent some time away from the water field as a representative of the LDS Church [Church of Jesus Christ of Latter-day Saints (Mormon)], and in the military. And then I returned to finish my education at Utah State, and during the time I was finishing my junior and senior years, I went to work with Mr. Criddle again, who had then transferred to Utah State, and was engaged in a research project in Southern Utah, attempting to document Utah's water right claims in the Colorado River.

And I was operating the field station on the Virgin River and doing mapping of agricultural use of water in a three-county area in Southwestern Utah. [I] spent the summer months there between semesters of school. And then during the school year [I] worked for Mr. Criddle and furthered the studies on irrigation and water requirements and water supply. And that ended up, after graduation, where I was one of the witnesses for the State of Utah in defending its water rights claims in the *Arizona versus California* litigation over the Colorado River.

[I] graduated in civil engineering at Utah State in 1957, and [I] was offered a position by Mr. Criddle again, who by then had been appointed by the Governor of Utah as the State Engineer of the State of Utah. And Wayne Criddle offered me a position with the Department, and I went to work in Salt Lake City in the summer of '57 in the Water Rights Program of the State of Utah.

Before many years, I ended up in the position of Chief of the Water Rights Branch for the State Engineer's Office. [I] was in that position for a total of eight years, and [I] was

**WORKS ON WATER
RESOURCES ISSUES WHILE
ATTENDING UTAH STATE
UNIVERSITY**

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WATER RIGHTS CLAIMS FROM
THE VIRGIN RIVER IN THE
COLORADO RIVER**

**WENT TO WORK FOR THE UTAH
STATE ENGINEER**

**BECOMES CHIEF OF THE
WATER RIGHTS BRANCH OF
THE UTAH STATE ENGINEER'S
OFFICE**

attending a conference in Elko, Nevada, and also attending that conference was a fellow named Carl Tappan [phonetic spelling], who at that time was the State Reclamation Engineer of Idaho.

He, knowing that I was an Idaho native, began asking me what it would take to get me to come home to Idaho and come to work for the Water Resources Program of the State of Idaho. And sometime later, he made me a definite offer, and I actually took a cut in pay from what I was making in Utah, and came home to Idaho as the Assistant State Reclamation Engineer. That position title was changed later on: the Department of Reclamation of the State of Idaho became the Department of Water Administration, and then the Department of Water Resources, and I became the Director a year after I came to work for the State of Idaho. So I was Director of the Department from 1966 through 1977.

In the fall of 1976 By the way, we had experienced the failure of the Teton Dam, and I was involved as an appointed member of the committee to determine the cause of the failure of the dam. But in the fall of 1976, the elections were coming on. I was approached by the Department of the Interior, invited to Washington for an interview, and as a result of those interviews, I was offered the position of Director of the Water Resources Council. And it was just prior to the November elections, and my response was, "I will conditionally accept the appointment, assuming that Mr. Ford beats Mr. Carter in the November election."

I came home from those interviews to Idaho and reported to my boss, Governor Cecil Andrus, that I had been offered this position, and it was possible that I might be leaving state government to take this job in Washington. He acknowledged that and nothing more was said until the election, and then Carter defeated Ford in the election. I assumed from that, that the offer was withdrawn -- at least my acceptance had been withdrawn, because I wasn't about to take an appointed position in the eleventh hour of a dying administration in Washington.

A month or so after the election I was in a meeting in the Governor's Office, and Cecil Andrus looked at me and said, "I want to talk to

OFFERED A JOB IN THE WATER RESOURCES PROGRAM OF THE STATE OF IDAHO

APPROACHED IN THE FALL OF 1976 ABOUT TAKING A JOB IN THE DEPARTMENT OF THE INTERIOR

APPROACHED BY CECIL ANDRUS ABOUT TAKING A POSITION IN WASHINGTON, D.C.

you." We made an appointment, and he indicated at that time that he had been approached by Jimmy Carter to become Secretary of the Interior, would be going to Washington, and wanted to know if I was still willing to go to Washington, but perhaps in a different capacity. I indicated to him that I was willing, and he said, "I'll wait 'til I get to Washington, get my feet on the ground a little bit, and see where I need you, but I want you in Washington with me."

And he went to Washington in January, following the inauguration, and himself was sworn in as Secretary. [He] invited me to Washington twice: the first time we talked in generalities about positions within the Department of the Interior, talked about a number of administrative jobs that I might serve in, in his administration. And I really anticipated that he would ask me to be a member of his personal staff, because of the "hit list" that had been announced in the review of national water policy. And I was thinking from those discussions that where he wanted me was as a special staff assistant for water resource matters. And I was quite excited about that prospect.

He invited me back again a couple of weeks later and he said, "I know what we talked about the last time you were here. I've decided where I want you, it may not be what exactly you had in mind in coming to Washington, but I'd like you to do it. I want you to be Commissioner of the Bureau of Reclamation."

And I said, "You know that's not exactly what I want, because I don't want to have to worry about personnel and budgets and equal opportunity and all the things that go with running an agency. I've been doing that in a state agency at a smaller level, and I'm not sure I really want to do that at the Federal level. But if that's where you need me, and want me, then that's where I'll go."

And he said, "That's where I want you. I've got to have somebody in that position that I have some personal relationship and trust with." So he offered me the position of Commissioner of the Bureau, and I accepted, and my nomination went over to the White House and

**OFFERED THE POSITION OF
COMMISSIONER OF THE
BUREAU OF RECLAMATION**

was cleared, and I was appointed. I think the thing was signed April of 1977, and I was appointed Commissioner of the Bureau, and served there from April until January of 1981.

Storey: To the inauguration of President Reagan, then.

Higginson: Right. And it was shortly after that How I left Reclamation is maybe as interesting as how I arrived there.

**GOES INTO CONSULTING
BUSINESS IN UTAH**

Following the Reagan election, we were all asked to submit our resignations as is the normal practice, but also to indicate whether we would be willing to stay on if asked to do so. And I indicated a willingness to stay on, and I was contacted by the transition team for the Department of Interior, which was headed by Dick Richards, who became the Chairman of the Republican National Committee under Reagan. And he interviewed me three times, and one time he had an individual there whose name I can't remember, whom he identified as Governor Reagan's personal advisor on water resources. And [I] interviewed, and the decision was that they ask that I not seek other employment, that they probably were going to ask me to stay on as Commissioner, and would I please not make any other arrangement. But the individual to be appointed as Secretary of the Interior wanted to personally visit with me before the final decision was made.

And then it was announced that James Watt was going to be the new Secretary of the Interior, and I was expecting an invitation or a request to come for an interview with Mr. Watt. The day that Mr. Watt took office, he held a meeting in the auditorium of the Interior Building and he announced that all prior appointees were to clear out of their offices by that night. And I walked up to him after the meeting and I introduced myself and I said, "Mr. Secretary, I don't understand. I was told just recently that the decision as to whether I was going to stay or go would be made after an interview that you and I would have."

He said that decision was made on November 6, or whatever the election day was, and turned [on] his heels and walked away from me. So I returned to my office and called Dick

Richards, who was then over at the Republican National Committee, and I said, "Dick, I don't understand. What's going on?"

He said, "I talked to him just last night and he told me he wasn't going to do that. Just a minute, I'll call him." I said, "No, never mind. If he's that kind of an individual, I don't want to work for him." And so within that short a notice, I had to vacate the office. And that's how I left the Department of Interior and the Reclamation job. Not with a good taste in my mouth, of course.

Storey: No, I guess not.

Higginson: That was a strange way of doing things, because I had been certainly nonpolitical. As a matter of fact, in this job in state government I worked for five different governors: I started out with a Republican; went from a Republican to a Republican to a Democrat to a Democrat to a Democrat to a Republican. And two of those are Andrus, in both his "lives" as Governor. And there's never been any feeling that I was in any way political as a Republican or Democrat or what I was.

As a matter of fact, when I was being considered by the White House for Commissioner, the Secretary told me that he had received a call from the White House after my papers had gone over there, and when I filled them out, I left "political affiliation" blank. And I told Cecil Andrus that I had left it blank, and he said, "That's fine, we'll send it over that way."

[It] went over to the White House and they called the Secretary and said, "We can't send this into the President for appointment because it doesn't show a political affiliation."

He said, "Why not? He doesn't have one. In all the years I've worked with him, I've never asked what his party politics were." Anyway, it eventually came back and I was appointed Commissioner. But Mr. Watt didn't see it that way.

Storey: What did you do after you left Reclamation?

Higginson: I made contact with a former colleague that had

**HOW HE LEFT HIS POSITION AS
COMMISSIONER OF THE**

worked for me here. I had hired him as Deputy Director of the Department, and then he had left and gone into private consulting business. His name is Jack Barnett. Jack had moved back to the State of Utah, where I had recruited him from. He and I talked over the years about someday opening a consulting business. So I contacted him and asked if now was the appropriate time for us to seriously consider doing that, and we decided that we could make that move. And so I went to work for a short time.

Well, it was kind of a strange one -- peculiar how circumstances are. I had made an acquaintance with a fellow in Virginia while I was in the Commissioner's job, who was the head of a small engineering firm in the Fairfax area of Virginia. When I got word that I was to get out of the office that day I called him and said, "I'm probably going to be leaving and going back west somewhere, because I would rather live back in my home country of the western part of the United States. But if you've got something that I can do as a fill-in for you for a short period of time, I'd be interested, because my kids are still in school, and I don't particularly want to disrupt them here in January and move them."

[He] said, "Well, I don't have anything in mind, but we'll look around." He called me back that same afternoon, after this had all happened. He said, "You'll never believe what just happened. We have done some work for the Shoshone and Arapaho Indian Tribes of the Wind River Indian Reservation in Wyoming. They're engaged in the adjudication of water rights on the Wind River, called the Bighorn Adjudication, and they want to know if we have anybody on staff that understands water rights who could assist the tribe in making their claims for water rights held for individual tribal members who have lands in fee title within the boundaries of the reservation. Are you interested?"

I said, "Yes, I'd be interested." So I went to work for that company as kind of a fill-in while Jack Barnett and I were establishing a consulting business. I worked there until about May, and then I came west, and my family moved when school was out.

We established a consulting business that was named Higginson and Associates initially, and then Higginson and Barnett when Jack was able to join me and bring his business with him, and we established a business in Bountiful, Utah, just out of Salt Lake. I was there for six-and-a-half year in that business. We did mostly water rights; water resources; geothermal energy; related work -- litigation; expert witness kind of work; helped develop a small geothermal project in Southern Utah at Colfort [phonetic spelling], a little five-megawatt, dry steam-powered binary generator _____ turbines, for a client.

I was there until the summer of 1987, when Governor Andrus contacted me. He had been reelected as Governor of Idaho, and the fellow serving as Director here had announced that he wanted to retire, and the Governor wanted to know if I was interested in coming back to my job. And I told him I didn't think so, and he said, "Well, will you come to Boise and talk to me about it?" And maybe that was a mistake, because I've had a good relationship with Cecil Andrus over the years, and have a lot of respect for him.

I came to Boise on a trip to visit family members who were still living in the area, and made an appointment with Cecil Andrus. He offered me the position and I looked at it from several standpoints, but primarily from the standpoint that I admire and respect Cecil Andrus and was happy to be able to work for him again, and could reestablish some personal fringe benefits that I didn't have with the consulting business that made it look attractive, and I came back in '87 to this job, and I'm now retiring from here. (Storey: In '95?) In '95. (Storey: In May, still?) In May. So I will retire in another month from this position. So I've had twenty years with the State of Idaho, four years with Reclamation, eight years with the State of Utah, several other periods of time in research and field work that I've done with the Soil Conservation Service in the university experiment stations and so on. I've been in the water business off-and-on since I started in 1948, about forty-seven years.

Storey: Okay, let's go back and start over and go through

APPROACHED BY GOVERNOR
ANDRUS ABOUT RETURNING
TO IDAHO

it a little bit. When were you born?

- Higginson:** I was born May 20, 1930. So I turn sixty-five in May, fully eligible for Social Security and retirement. And it's time to retire. **BIRTHDAY**
- Storey:** Tell me more about your high school jobs in water resources management. Those were with Soil Conservation Service?
- Higginson:** It was after high school.
- Storey:** Okay, when you went to college, you mean?
- Higginson:** I started before I started college, but while I was in Boise Junior College, I was working for the Soil Conservation Service, and then worked the summer months, marking snow courses and doing field research in irrigation water use.
- Storey:** When you went to Boise Junior College, did you know what you wanted to study? **ATTENDS BOISE JUNIOR COLLEGE**
- Higginson:** I was studying engineering. I knew I wanted to get an engineering degree.
- Storey:** Why did you know that? What caused you to choose that field?
- Higginson:** Oh, I've always, from earlier days in elementary and in junior high and high school, I was always interested in science and math, and I felt that engineering was a field that I wanted to work in. Matter of fact, when I was in high school, I had a good buddy that he and I took the naval ROTC application scholarship test to get full-ride NROTC scholarships to some university. And we were planning on both of us going to Purdue University to get mechanical engineering degrees. And I flunked one little aspect of the physical on the basis of one tooth that I had, that didn't have an opposing molar, and they wouldn't let me go have it pulled. And he went to Purdue University and I went to Boise Junior College.
 But yeah, I'd been, since early days, wanting to pursue something in the area of the engineering field. When Mr. Criddle came along and offered me a position working for the Soil

Conservation Service as an engineering aide, it fit right in.

Storey: What was Mr. Criddle like?

Higginson: He was a good friend, a good neighbor. He lived down the street about a block from my house. (**Storey:** Here in Boise?) Here in Boise. And I grew up with his family. He had kids that were younger than I, and we just struck up an acquaintance in the neighborhood and he came looking for me because he was looking for someone who might work as an engineering aide, and offered me a position, and I worked with him for those two years I was going to Boise Junior College and for the two years I finished up at Utah State, and for eight years as State Engineer's Office in Utah. So he was kind of my mentor in the water and engineering area.

OFFERED THE POSITION OF
ENGINEERING AIDE WHILE
ATTENDING BOISE JUNIOR
COLLEGE

Storey: Now, you said you went out and "marked snow courses." Was it you by yourself?

Higginson: I'd usually have a helper with me.

Storey: Okay. How did you do this? Did you just go out and pound pipes into the ground?

Higginson: No, the courses were already selected and already had been used, but they were usually markers on trees. Trees are not necessarily a permanent marker of the bounds of the snow course. Some of them were straight courses where you would, between this sign and this sign, at intervals of every ten or fifteen or twenty feet you would take a sample and weigh it and determine the moisture content of the snow. And so we would replace those tree-mounted markers, or post-mounted markers with permanent markers set in concrete on pipes painted red and yellow. And then we would alter the maps so that the snow surveyor coming to those courses in the dead of winter in three or four or five or six feet of snow would know where to make the measurements between the signs that were on those posts that we had set. And there were places where the brush had overgrown the trail between the markers, and so the snow tubes

would get into the brush, and so we would clear the snow course pathway so that we would get a good reliable reading, and do maintenance work through the summer months.

Storey: So you were hauling one-inch pipe? (**Higginson:** Two-inch.) Two-inch pipe and cement?

Higginson: Into the mountains, in a dolly between us. And we would take, usually just the cement, and no water, no sand and gravel, and we'd go up to the site of the snow course and then we'd look for a stream where we could get enough sand and gravel out of a streambed to mix with the cement that we had, and get some water supply to mix some concrete. And then we would dig the hole and fill it as much as we could with large rocks, and then surround the rocks with cement to hold the base of the sign.

Storey: Where was this you were doing this work?

Higginson: All over Idaho and into Wyoming and into Washington. And I don't remember we set any courses in Oregon, but we were working for the SCS office in Boise, which had jurisdiction over the Idaho portion of the program. But we were cooperating with the Snow Survey Program in the Northwest, which was out of Portland. So we went into Washington, and I know there were several courses in Washington that we worked on.

Storey: These are in the mountains mostly?

Higginson: In the mountains, high mountains.

Storey: And you did this for two summers? (**Higginson:** Two summers.) Sounds like a lot of work!

Higginson: A lot of work -- a lot of fun, though. Saw a lot of beautiful country.

Storey: Now when you say you had a dolly between you, does that mean a wheel?

Higginson: No, it didn't have a wheel.

- Storey:** It's just a pallet?
- Higginson:** A pallet with handles on each end. So we'd walk up the trail and climb up from where we could drive to. Some courses we could drive to, but many of them we'd have to climb up a trail from the nearest road area, roadless area, whatever, we'd have to climb up a trail to the site of the snow course, carrying this between us, like a hod carrier, you know.
- Storey:** Did you ever have trouble finding the snow courses?
- Higginson:** I don't think there was ever a time we didn't find the course.
- Storey:** So they were fairly well-marked?
- Higginson:** Yeah, they had to be well-marked so the snow surveyors could find them in the winter. The ones that are near developed areas were easy to get to, you could drive right to them and just do everything out of the back of the pickup.
- Storey:** And they provided you a government vehicle?
- Higginson:** Uh-huh.
- Storey:** Here out of Boise?
- Higginson:** Out of Boise, yes.
- Storey:** And did you just go out and stay out? Or did you come back on weekends? How did that work?
- Higginson:** We were out sometimes two weeks at a time, and we'd take camping equipment, and for the most part, we would camp out in between work
- END OF SIDE 1, TAPE 1. MARCH 22, 1995.
BEGINNING OF SIDE 2, TAPE 1. MARCH 22, 1995.
- Storey:** You were saying that you would go and camp out between jobs.
- Higginson:** I remember camping -- I don't think we camped all the time. There were times when we did stay

at a motel. But I remember camping quite often, and in a number of different locations around. We even ended up one of those trips up in Eastern Idaho and ended up camping in Yellowstone one night.

Storey: But you never went out and actually measured the snow?

Higginson: I did, in the wintertime, on weekends from school, I would measure snow courses around Boise here. I measured the Bogus Basin and Rhodes Creek and several other courses.

Storey: How did you get into those, then?

Higginson: We'd go in mostly on skis or snowshoes.

Storey: And you had a bunch of equipment with you?

Higginson: Basically what you have is a scale, which is calibrated to weigh in equivalent inches of water, and an aluminum snow tube with a cutter edge on the front of it to cut through layers of ice, and a handle to twist that into the snow like an auger. You would put that tube down through the snow column until you struck the ground, pull it out, and then you would clean out any dirt that was in the bottom of it, so you weren't weighing dirt, so you were just weighing snow. And then you would weigh it on the scale and record the number of inches of moisture that that represented. The tube is of such diameter that the scale calibrates it in inches of water. And that's the standard method of doing it.

Then during part of the time, we'd just started a program of snow pillows, where the weight of the snow on some flexible medium filled with alcohol or antifreeze or something that wouldn't freeze up on you, would show as a rise in a manometer. They've become much more sophisticated than that now, but I helped install a couple of those snow pillows up here at Atlanta Summit, Trinity Mountain, other courses around Boise.

Storey: How often would you go out to the same snow course in those days?

Higginson: At least once a month, but I think Bogus Basin we did every two weeks.

Storey: Was that fairly routine as far as you know, for measuring the snow?

Higginson: I think so. Most of the snow course measurements are done every month, the first of the month, or approximately the first of the month, because if someone is measuring snow courses, they generally will have more than they can get to in a single day, and so it takes two or three days to cover all of the snow courses they're trying to measure. So around the first of the month they try to make the measurements.

Storey: Did you go by yourself?

Higginson: No. Never go by myself -- it's just unsafe to be by yourself. So [I'd] always take somebody with me. And when I was a student at BSU [Boise State University] doing this, I would get a couple of my buddies, and they would be able to pay one of them -- the other one would just go along because it was an adventure, and an opportunity to ski unbroken snow.

Rhodes Creek, up on the summit between the middle and the North Fork of the Boise River was particularly an inviting course, because they kept the road plowed up to Atlanta, Idaho, which is quite a ways in the back country. And we'd go up there and make a spot at the side of the road wide enough that we could get the truck off of the road, so it wasn't in the way blocking traffic. Then we would get our skis out, and we'd put sealskin climbers on the bottoms of the skis -- sealskin grows with the hair in one direction, and it'll slide forwards, but it won't slide backwards in the snow, so you can walk right up the mountain. And we would climb the mountain, and generally -- I'm just guessing -- that's about a two-and-a-half, three-mile climb to the top of the ridge. And we'd get up there and measure the snow at the snow course on the top of the ridge, eat our lunch, take the climbers off, wax up the skis, and then we'd have a beautiful, about three-mile run back down to the truck on unbroken powder snow.

- Storey:** Sounds to me like you were a skier.
- Higginson:** It was fun! I skied doing snow surveys.
- Storey:** Oh, you did? And then I think you mentioned that you were working on stream flow forecasts. Was that at the same time?
- Higginson:** That's as a result of the snow surveys. Then you take the snow survey information for the current year, and you compare it to an average of all the years of record where you have similar snow records and runoff records. And then based on that, you can develop a curve, from which you can forecast the runoff for the coming water season. And so I was assisting in doing that -- all of the real work was being done, of course, by the professionals, but I was assisting in doing some of the calculations.
- Storey:** And was that while you were here at Boise?
- Higginson:** That was while I was here with the Soil Conservation Service.
- Storey:** And Mr. Criddle was still here then?
- Higginson:** Yes. And Morley Nelson was the Chief of the Snow Survey Office. Moreland Nelson is a noted raptor enthusiast -- trains eagles and falcons -- very interesting fellow to be around.
- Storey:** Is he still around?
- Higginson:** Yes.
- Storey:** I wonder if he knows where a Snowy Owl is. (laughs)
- Higginson:** He could tell you.
- Storey:** How reliable are stream flow forecasts?
- Higginson:** Well, they're very reliable. Some people misuse them. They think that if there's a forecast made and the subsequent water supply is different than as forecast, that there's an error in the forecast. But what usually happens is, the forecast is based

FORECASTING RUNOFF

upon an assumption that there will be average conditions of water supply, precipitation, after the forecast, through the runoff period. And if that doesn't happen, then your forecast doesn't mean anything.

Every Monday morning our staff here accesses the data network, the Snowtel network, it's called now, where these automatic pillows are, that are weighing the snowpack over a confined area, and are comparing that to average. And out here on our bulletin board every Monday morning, our staff will put two or three of the plots comparing the current year's snowpack with the average line. And I think this year they've got the 1992, which was a drought year line, on those graphs. And so you can see, compared to average, where we are. And it's just a matter of comparison of this year's snowpack with previous years and relating that to streamflow runoff.

Storey: But that varies rather considerably in different areas of the mountains, doesn't it? (**Higginson:** Yes.) So this is for one specific area.

Higginson: Well, it's for three specific areas that are out there right now: each snow course has its own set of correlation curves. So how does this particular snowfield relate to the runoff in this watershed? And there'll be a separate set of curves developed for each one of those snow courses.

Some of them are manually read, still, by people going in with the snow tubes like I used to do, and taking a core sample and weighing it, and doing it at a number of sites between markers, so that you know you're measuring under the same conditions year after year at the same location. And that's still done at a number of the courses, but a lot of them are done by the Snowtel by the remote sensing. A lot of them are done by visual readings, by a fly-by in a helicopter, just looking at a staff gauge as to snow depth, and then taking an assumption as to the average water content, based upon snow depth. And there are various ways of doing it, but I haven't done a snow survey for a long time, so present techniques I'm not that familiar with.

Storey: Now, I normally associate the Soil Conservation

Service with assisting farmers with conservation measures and maybe stock ponds and that kind of thing. Why are they interested in snowpack and stream runoff?

Higginson: I think it's an aid to the farmers in planning the next year's water-related operations of their farms -- particularly in irrigated farm areas. It's a very important program, as far as I'm concerned. It provides information to the farmers to plan water supplies.

We're looking in Idaho this year at near average, or slightly above average snowpack and runoff forecasts in the same range of about average to a little above average. We're looking at a situation where we come into the year with below-average content in our reservoirs, throughout the state, which means that if we don't get a little better-than-average snowpack and water supply, we're not going to fill our systems, and therefore the allocation of storage is going to be less than an average full supply. So I think it's important that we know what's coming, in order to make those kind of plans. And I think people have adjusted their cropping patterns for the coming season, based upon the forecasts. They've had lands lie fallow because they knew that they weren't going to have a fully supply, enough to fully irrigate all of their croplands. So it's very important.

So that's why the SCS is involved in it. If they weren't doing it, somebody else would need to pick it up and do it. But they do it very well, and they have people trained, skilled, and we certainly want to support them.

Storey: Now, am I correct in thinking that at Utah State you were studying civil engineering?

Higginson: Yes. The school is called the Civil and Irrigation Engineering College. So I was taking some courses related to agricultural use of water -- for the most part, basic civil engineering.

Storey: I guess I would be correct in assuming that at some point you began to evolve toward water resources management?

Higginson: I think primarily when I went to work for the Utah State Engineer's Office after graduation, and I got into the water rights area, water management area, water resources, water permits -- that's probably where I began to evolve into that area, that's what I did.

Storey: So when you were in school, you stayed pretty much generalized civil engineering.

Higginson: Basically civil engineering, mechanics and fluids.

Storey: But at that point, Mr. Criddle had moved to Utah State (**Higginson:** Right.) from Soil Conservation Service.

Higginson: Right, he was then working for the Agricultural Research Service and the University Engineering Experiment Station at Utah State University.

Storey: Uh-huh, so you just naturally evolved into a position with him -- it worked out well.

Higginson: It worked out well, and he came looking for me again. I was stationed in the military in the Pentagon in Washington, and he stopped by one day and contacted me and said, "When are you getting out of the service?" and I told him and he said, "What are your plans?" and I said, "Well, I want to return to college." He said, "Would you consider Utah State? If you want to consider Utah State, I've got a job for you if you want to come to Utah State to finish your engineering degree." That worked out, so

Storey: You had been drafted?

Higginson: I had been drafted, I'd been volunteered for the draft, actually.

SPENT TWO YEARS IN THE ARMY

Storey: In the Army?

Higginson: In the Army for two years, and spent most of that time in the Pentagon as an intelligence analyst.

Storey: Can you talk about that in general terms?

Higginson: Oh yes, I can talk about it in more than general

terms. Our unit was called the RECAP "K" Unit: Repatriated Escaped Captured American Prisoners from the Korean War. And as our military people came back through the lines at P'anmunjōm, they were interviewed and debriefed. And there was a transcript made of that interview about their experiences in capture and while confined and their repatriation. And our job was to go through those debriefing reports and determine if there was anything of any intelligence value, anything that indicated any collaboration with the enemy, anything that indicated that other prisoners had done things either heroically, where they were due to be cited for their valor, or had done things that were worthy of prosecution to other prisoners: collaboration with the enemy, causing the illness or death or problems with other inmates. And then we would abstract that portion of one report and place it in the other prisoner's file.

So we started building up files on prisoners, because everybody in prison camp knew that So-and-So was a bad guy, and here are the examples of the things that he did to other prisoners that caused misery and death to other prisoners. And so we began building files from the statements of other prisoners on each prisoner. And that ended up with our sending forward recommendations from our unit -- I didn't do it, I was the clerical person -- sending forth recommendations for citations for valor or medals of honors or those kinds of things -- not the Congressional Medal, but medals and awards -- and bad conduct discharges and court martials on others. And so that's what I did during the time I was in the military.

Storey: How large was this unit?

Higginson: It started out, as I remember, about fifteen, maybe, enlisted men and five officers -- about twenty in the total unit. By the time we had finished going through all that mountain of material in about eighteen months to two years, we were down to one officer and three enlisted men by the time I separated.

Storey: And what was the date of your military service?

- Higginson:** May '53 to May '55.
- Storey:** So now let's see if I've got this right. You went to Utah State in '55?
- Higginson:** In '55, and graduated in '57.
- Storey:** And you came out of Boise Junior College in '53?
- Higginson:** '50. I spent three years as a church representative for the LDS Church in Denmark.
- Storey:** [That was] '50 to '53?
- Higginson:** [Right], '50 to '53.
- Storey:** Okay, then you went into the military.
- Higginson:** And was there for two years, and came out in '55 and went back to Utah State and graduated in '57.
- Storey:** Okay. You very carefully worded how you got in the military. I've forgotten the exact phrase.
- Higginson:** I volunteered for the draft.
- Storey:** You volunteered for the draft. I thought you had said you were volunteered for the draft.
- Higginson:** No, I volunteered for the draft. I wanted to get it over, I knew that I had a military obligation, I wanted to get on with my schooling, and I didn't know when they were going to draft me, and I didn't want to sit around and wait for them, so I went down the Draft Board and said, "You've got my number, sometime it's going to come up, please call my number, if you can, in your next allotment. I want to get it over with." And they did.
- Storey:** So you had a five-year gap between Boise and Utah State.
- Higginson:** Between the sophomore and junior year of college.
- Storey:** Was that good or bad for you?

Higginson: It was bad from the standpoint that I was rusty on a lot of the things that I needed for classes in thermodynamics and calculus and some of those things. I was rusty on some of those things, and it took me a while to get up to speed again in studying. But in the meantime I'd gotten married, and that was an improvement in my education because I was more settled and a little more mature, and it made those junior and senior years a lot easier. But I was pretty rusty on calculus and some of the things that I needed for some of the advanced courses.

Storey: Well, while you were at Utah State, your work with Mr. Criddle, could you tell me about that in more detail, please?

Higginson: We were responsible for preparing information concerning use of water in the state of Utah that might be used by the State in presenting its claims in the Arizona-California litigation over the Lower Colorado River. I'm sure you know that there is a compact that divides the Colorado between the Upper and the Lower Basins, and there's a compact in the Upper Basin that divides the water among the states, but there was no similar compact in the Lower Basin, and so there was litigation, because Arizona apparently felt that California was using more than its share, and they wanted an allocation made of the rights to use the waters of the Lower Basin.

Well that immediately brought in the states of New Mexico and Arizona, Utah, Nevada, and California. And Utah felt that the way to present their case for their present uses and their future needs was to have at least current information about what those uses were, so our job was to try to document present use. My summer job was to go throughout the three counties that were part of the Virgin River drainage portion of the Lower Colorado River Basin and Kanab and Johnson Creeks, which were also tributaries below Lee's Ferry, where the river divides, and to map uses of water to determine crops growing in fields and fields that were being irrigated as a basis for asserting a claim that there is a right already established to so much water.

**WORKS ON ESTABLISHING
UTAH CLAIMS TO COLORADO
RIVER WATER BELOW LEES
FERRY FOR THE ARIZONA-
CALIFORNIA LITIGATION**

- Storey:** From the Lower Basin?
- Higginson:** From the Lower Basin, below Lee's Ferry.
- Storey:** I think most of the things I have read just tend to identify Utah as an Upper Basin state.
- Higginson:** But it does have that corner of the state in the Lower Basin, that drains into the river below Lee's Ferry.
- Storey:** Right, so that's why you were involved. I was trying to sort through why Utah was involved in the California-Arizona suit.
- Higginson:** Just because of that drainage. As I say, there are basically three stream systems: two small creeks over in Kane County, Utah; and then the Virgin River drainage, which is a major tributary to Lake Mead -- runs down through Mesquite and areas in Nevada and Arizona.
- Storey:** Were you the only person involved in this work?
- Higginson:** No. No, Wayne Criddle was heading it up, and there was a Dr. Jay Bagley. All three of us went to San Francisco when Utah's case was presented -- the Arizona-California -- and were witnesses as to the work we had done and what we had found and what our numbers showed as far as present uses.
- Storey:** So this was while the case was being heard in the Ninth Circuit, maybe?
- Higginson:** I can't remember. It was a special master that was hearing it.
- Storey:** Oh, okay, so it wasn't a District Court.
- Higginson:** It was a special master for a Federal District Court, I think, that heard the case.
- Storey:** Okay.
- Higginson:** Anyway, that was the work that we did in the summer, was to get the information necessary to present in court, and present Utah's case.

TESTIFYING IN ARIZONA V.
CALIFORNIA

Storey: Do you remember anything about your conclusions?

Higginson: Oh, I don't remember the numbers or conclusions, but we did find, of course, evidence along the Virgin River and those other streams, of agricultural water use. I think we developed the numbers as to how many acres and what kinds of crops were grown, what the irrigation requirements would be for those crops as a means of asserting a claim to water. And then I don't know how the State presented its claims for water for future expansion or growth. That wasn't part of my work -- I was trying to identify present uses.

Storey: Do you remember anything about the preparations for doing your testimony or the kinds of feelings your testimony caused in yourself?

Higginson: Well, I know there was some anxiety. Utah had hired a private legal counsel who'd been engaged to help the State assert its claims. I'm trying to remember his name, but I don't remember it right off. But we did, in effect, rehearse what he wanted to get into evidence, each morning before the day's presentations would start.

We would at least be prepared to know what exhibits we were going to try to use that day, and who was going to be on the witness stand -- whether it was myself or Mr. Criddle or Mr. Bagley or Jay Bingham, who was a fourth person that was involved with us, who was Director of Utah's Water Resource Board, that was helping present and defend Utah's case.

And I think we spent about a week in San Francisco, during the course of that. Yeah, it's really one of the first times I'd ever been a witness in a water litigation where I had to be qualified on the basis of my background, experience, and work that I had done, before I could present my evidence. I've been in I don't know how many cases since then where you have to be qualified as an expert and testify -- and so it doesn't bother me now, but at the time I had some anxiety.

Storey: Do you remember anything about the qualification process?

Higginson: No.

Storey: But they did qualify you -- that's interesting.

Higginson: I had to through that process.

Storey: How many times do you suppose you testified?

Higginson: In that case? (**Storey:** Yeah, in that one.) Just part of one day. Mine was very short from the standpoint that I was just testifying [to] what I did in the field, what I found, what I used, what the resulting numbers were. And then based on that, the other witnesses would indicate what did that mean as far as a demand for water to satisfy those uses.

Storey: And did they let you use notes or anything?

Higginson: I think I did. At least I referred to the exhibits that were being proposed.

Storey: Did you hear the testimony of other states?

Higginson: No, we didn't hear other states, because it was "Utah's week" to present its case, so I didn't hear [the other states' testimony], but there were attorneys there representing other states that were able to cross-examine if they chose to do so. I think for the most part most of the questions that I got were from California, not from Nevada or New Mexico or anybody else.

Storey: Do you remember anything about the nature of their questions, or their character?

Higginson: No, I do remember one thing though, [the] morning when we were getting ready to start our presentation we had an early-morning phone call that had come to Mr. Criddle or one of the heads of our group, asking us if we would come over to the State of California Office before we went to the court that morning. And we went over and they had taken our exhibits which we had furnished them the day before -- these were our

CALIFORNIA ATTORNEYS
REVIEW UTAH EXHIBITS IN
ARIZONA V. CALIFORNIA

proposed exhibits that we're going to present tomorrow -- they'd gone through them with a fine-tooth comb and they had found several either typographical errors or transposition of numbers or something, and we discovered that they probably had more information on the State of Utah than we had. They just had a massive staff that was working on this litigation, and we'd just turned our exhibits over to them and said, "Go through them with a fine-tooth comb, see if we have any objection." And they didn't have anything major that they were concerned about, they just wanted [us] to know that they had found some typos or other errors in our exhibits, and so we were able to make the corrections before we presented them to the court.

And I found that rather interesting, that the library of the resources available to the State of California was much greater than we could put on our own effort in Utah. They were just

Storey: That is interesting, yeah. Now, did you do that both summers that you were working for Mr. Criddle there? Or was this not just a summer job?

Higginson: I did that both summers. When I got out of the service in May, I went to Southern Utah and did it, and then I got married that next year, my wife and I went back and spent the next summer, and I did it for two summers, gathering the field information. So I was down there for two summers and lived in St. George, Utah.

Storey: Brigham Young's cotton plantation (chuckles) as it were. (**Higginson:** Yes.) What about during the winter? Were you working for Mr. Criddle then also?

Higginson: I was. I worked part-time while I was going to school. I was on the G.I. Bill, so I was supplementing my G.I. Bill with part-time work for Mr. Criddle in pulling together some of the work that we'd done during the summer, plus helping him with anything that he needed -- calculations or otherwise -- on some of the research that he had been doing: consumptive use

and irrigation water requirements, further development of his consumptive use formulas and so forth. I did the spade work for his studies.

Storey: And then you graduated?

Higginson: Graduated in '57, but there had been a Governor's election in Utah and George Dewey Clyde had been elected Governor, and he was a former colleague of Mr. Criddle's in the Soil Conservation Service, had been elected Governor of Utah, and he appointed Wayne Criddle as the State Engineer. And so he had left Utah State in the spring of '57, and went to Salt Lake.

And I, of course, was looking for full-time employment: I was graduating and I interviewed with a number of places and he invited me to consider coming to work for the State Engineer's Office -- and I did. I guess a side-note: it was the lowest-paying job offer that I had, was to go to work for the State. I had much better offers working for aircraft and missile industry. We were in the big missile boom, aircraft boom, and there were a lot of people that were hiring civil engineers and structural design engineers in the missile industry, aircraft industry. I could have made a lot more money by going to work somewhere in California or somewhere, working as "Design Engineer Number Thirty-two in Row Fifty" of a plant somewhere.

**GOES TO WORK FOR THE UTAH
STATE ENGINEER'S OFFICE**

END OF SIDE 2, TAPE 1. MARCH 22, 1995.

BEGINNING OF SIDE 1, TAPE 2. MARCH 22, 1995.

Storey: This is Tape 2 of an interview by Brit Storey with Keith Higginson on March 22, 1995.

You were saying that you wanted to stay closer to your roots in Utah.

Higginson: I wanted to stay close to the inter-mountain area -- Utah, Idaho -- inter-mountain area is where I'd want to stay.

Storey: Rather than going to California and designing aircraft and missiles.

Higginson: [Right.] So I took the job with [Utah State Engineer's Office]. And I knew Mr. Criddle, I'd worked for him and I had a good relationship with him. I knew him and he knew me, and it was a reasonable relationship. As I remember, I went to work for the State of Utah with an engineering degree for \$425 a month!

Storey: In 1957?

Higginson: In 1957, right.

Storey: Before we go on to discuss that job, when you were working, for instance, in the summers, doing the surveys in southern southwestern Utah, what kind of hours were those?

Higginson: Well, it was pretty much what I could do -- and it was kind of a sunup to sundown. When I was down there alone I worked longer hours than after I was married and had a wife at home who probably had something fixed for dinner and expected me home at some reasonable hour. But they were pretty much my own hours -- they just expected me to finish the work assignment. But a lot of the work was in the field, and Southern Utah is not always pleasant out in the hot sun in the summer months, and so I'd try to work early mornings and late afternoons, and try to avoid the hot part of the day.

Storey: In a State of Utah vehicle?

Higginson: I think so, although I can't remember the vehicle. Yes I did, I had a pickup truck.

Storey: And you had to survey with some accuracy?

Higginson: No, it was more visual: use of aerial photos, and an indication on the aerial photo by outlining an area that was irrigated, and indicating the crops being grown in that tract of land. We had to indicate whether the land was being farmed, because it would show on the photo that it had been cleared or something, and it may not be irrigated -- it may have been abandoned or something. So we had to look at presently-irrigated land and cropping.

Storey: And then did you have to write a report up, or

Higginson: No, we'd take those, and then off of those, I prepared section-sized overlays on mylar, where I'd trace what I had marked on the photo. As a matter of fact, I think I laid the mylar over the photo to draw directly on the mylar while I was in the field. And then I would prepare section-sized overlays showing the irrigated land. And we were also mapping phreatophytic vegetation -- heavy dense growths of cottonwoods and salt cedars and phreatophytes.

Storey: Things that consumed a lot of water.

Higginson: And we were marking that kind of vegetation, and we had a coding as to the observed density of the vegetation, and that was a matter of judgement, of course. I'd go in the field with Bagley and Criddle, and they would say, "This is such-and-such," and so I'd make a mental note of that, when I see another area that looks like that, then it's this coding. And they'd spend some time in the field with me, but mostly I was on my own doing that mapping.

Mark it on the photo, and then in the winter months during college days, I would take those and draw them in ink drawings and then determine acreage by planimeter or analytical balance or whatever method we were using at the time. We would totalize the acres by section.

Storey: How would you characterize the agricultural settlement that was down in that area at that time?

Higginson: There were some areas where it was fairly intensive agriculture development -- primarily in the fields south of Washington, Utah, and the fields around St. George and along the Santa Clara River; but for the most part, it was kind of shoestring ranch/farming, small creeks with small diversions coming out to irrigate an individual hay field or something. But there were some fairly large areas near St. George, Utah, the Hurricane Bench area, and the Washington fields in the St. George and Santa

Clara areas.

Storey: Large farms, small farms, family farms?

Higginson: Small farms, family farms, yeah.

Storey: And the crops were mostly forage?

Higginson: They were a lot of forage, but they quit growing any cotton. (Storey laughs) They grew sugar beet seed, was a big money crop; and other row crops and fruit/vegetable crops; some orchards.

Storey: Then you went to work for the State Water Department -- is that right? Utah?

Higginson: Utah State Engineer's Office. My responsibilities there were basically in the processing of applications for permits to divert and use water in the state, and the follow-up examination of the proofs that were submitted by the Engineer's completion of the appropriation and the issuance of -- Utah calls them "certificates" -- we call them, in Idaho, "licenses" -- confirming the water right has been established pursuant to the permit. I was in that kind of an assignment for essentially eight years.

**WORKS ON ISSUANCE OF
"CERTIFICATES" FOR THE USE
OF WATER IN UTAH**

Storey: Tell me what it involves.

Higginson: Well one of the major things that I had to do Criddle showed me a file cabinet and said, "This is the file cabinet in which we hold all of the protested water right applications. If someone files an application, we have to publish a legal notice that the application's been filed, then there's an opportunity to object. And if somebody protests, we stick it in this 'protest' file. Some of these have been in here a long time. The law requires that we hold a hearing and resolve the protest and either approve, approve with conditions, or reject the application. Your job is to clean out that file cabinet."

**CLEAR UP BACKLOG OF
UTAH'S PROTESTED WATER
RIGHTS APPLICATIONS**

So with help from the Deputy Attorney General assigned to the office, I proceeded to go around the state holding hearings on water right disputes and conflicts, trying to clean out that file cabinet -- and we finally did it, but it took several

years of working through the filings. We would travel for a week at a time and visit several counties, because we would hold the hearings in the county where the proposed use of water was located, and schedule a series of hearings in a county. They also had to hold hearings on requested extensions of time -- somebody got a permit, they were allowed five years to complete the development. If they didn't get it completed, they could request an extension. There was an opportunity to object to the extension, and the Utah law allowed up to fifty years for the development.

In Idaho, we're not as generous -- you get it done in five years, you can get one extension, that's it. So we were holding hearings on requested extensions -- some of which had been protested -- and just trying to get things up to date. So, I spent a lot of time traveling the state, becoming familiar with the water resources of the state, and holding hearings and writing up recommended decisions to give to the boss for consideration.

- Storey:** Why would people protest?
- Higginson:** Because of the feared impact that a new appropriation would have upon their use of the water. If somebody has a well and his neighbor wants to drill a well across the fence, he's concerned about the draw-down of -- the cone of influence would intersect the neighbor's well and lower his water table, and maybe would necessitate the deepening of the well or the lowering of the bowls or interfere with his ability to get his water supply.
- Storey:** So in Utah, the State Engineer's water rights authority extended to groundwater?
- Higginson:** Yes.
- Storey:** Is that also true in Idaho?
- Higginson:** Yes.
- Storey:** Now what about somebody who wanted to divert from a stream?

Higginson: Same process: you'd publish notice in a local newspaper that an application had been filed to divert "X" cubic feet per second from a particular stream, at a described location, which we'd describe by either quarter-quarter section or by meets and bounds description from a known section corner -- so many feet north and twenty feet west of a certain corner -- so people could go to a map and plot it, say "it's right there where they want to divert" -- and the amount of water, the period of time in which they want to use the water, where they want to use the water if it's for irrigation, a description of the lands to be used.

Then there was a notice that anybody objecting to issuance of this permit should file a protest by a certain date. And that would set up the necessity for holding a hearing to resolve conflict. And generally, the conflicts were resolved by a finding that first there's water to be appropriated -- it's not a fully-appropriated stream, so he doesn't own all the water, that it can be done without interference with somebody else's water right, that it's in the public interest, it's consistent with the state policy concerning conservation of its resources and all those kind of things. You go through that kind of a process.

Storey: Okay, now when you say "a hearing," back in the late fifties

Higginson: They were fairly informal. We would swear in a witness, "solemnly swear that the testimony you will give in this hearing will be the truth" and so forth. Sworn witnesses, who, for the most part, people were represented by an attorney -- not on every case, but in many cases they were. We would try to resolve the matter informally, off the record.

If we couldn't do that, we would record the hearing on a tape recorder, so that we had a taped record of the hearing. We would allow the applicant to proceed first and present whatever his proposal was, "What do you propose to do? Describe your proposal. Describe whether you believe there's water there and why you think that there's water there that you can appropriate without causing anybody else problems." And then we'd allow the protestant to raise their

objections, give some opportunity for answer or rebuttal, take the matter under advisement, do whatever investigation seemed appropriate, and then issue a decision.

Storey: For instance, were these hearings open to the public?

Higginson: Yes, always.

Storey: And were they advertised in advance?

Higginson: Notices were given only to the parties, the applicant and the protestants, but the meetings were always open -- if anybody was aware of the meeting, they were certainly welcome to come in. We had several of them that involved the Bureau of Reclamation, in connection with some of its Central Utah Project stuff, and it involved a lot of members of the public.

Storey: Can you give me any specific examples?

Higginson: Of that? (**Storey:** Yeah.) I remember we were holding hearings on the Central Utah Project diversions out of the Uintah Basin, the collector system, the transbasin diversion through the enlarged Strawberry [Dam and Reservoir] into Spanish Fork River, and I held that hearing for the boss and drafted a decision which he eventually issued a decision -- I won't say it's the same one I drafted, but he issued a decision. So it involves those kind of things: applications to appropriate, use water under Section VIII of the Reclamation Act.

Storey: Now say a farmer comes in and he says, "I want to file a water right" -- I don't know what's realistic for a farmer, let's say 10 cfs [cubic feet per second] -- "at this point on the stream," and everybody else says "Oh, all the water's gone out of this stream." And his response is, "Two out of five years all the water is gone on this stream, but in the remaining three years, on average, there's enough flow to cover my water right." Can he get a water right?

Higginson: If he were to do that and were able to

demonstrate that it still would be a feasible project, that it wouldn't be just tying up the water so somebody else couldn't use it, but he had a legitimate, feasible, economic project that he could put in, he could do something in the two years that the water wasn't available, we'd probably issue the permit.

Storey: And then he would become a junior rights holder?

Higginson: [Would] be a junior rights holder, and then the years where there isn't water, he'd be shut off by the watermaster or water commissioner.

Storey: Okay. How characteristic is that kind of a system in Utah, where you have rivers or water sources that are overappropriated part of the time?

Higginson: We don't use the word "overappropriated" -- [we] use "fully" appropriated.

Storey: Alright, fully appropriated part of the time. I'm not a professional at this (chuckles) so I apologize.

Higginson: I think it's pretty common in most of the western states -- it's common even here in the Northwest where our water supplies are a little more abundant, but we have many streams here in Idaho, as we had in Utah, that are fully appropriated during the average water supply condition. We are, every year, in Idaho, shutting off priorities as early as the 1880s, and saying, "Unless you have a priority right earlier than 1885 or some such date, you don't get any water." So the people with the 1910s and the 1920 priorities, unless those are storage rights which we'll fill during the winter months when nobody's irrigating, you're probably not going to get any water this year. That's pretty common.

Storey: At that time in Utah, was there any concept or consideration for in-stream flows?

Higginson: No. The in-stream flow concept was not a big thing in most of the western states in the 1950s.

It's a concept that's come into its own in the last fifteen to twenty years.

Storey: Okay, so at that time, there wasn't anything like that in Utah.

Higginson: No. If an appropriator had a scheme where he could take the last drop of water out of a stream, he was allowed to do so.

Storey: Did that cause the State Engineer's Office any problems?

Higginson: It did, from the perception of some people who were a little out in front of the rest of the people, thinking that there is some value in leaving water in streams. But that's not been what the public perception has been, until the last fifteen to twenty years.

Storey: What other kinds of things did you do in Utah besides clearing up your filing cabinet full of protests?

Higginson: Well, I eventually ended up, as I indicated, Chief of the Water Rights Branch, and our responsibility had to do with the watermaster functioning -- that's those who are out in the summer months, actually turning the headgates on the rivers -- and also the adjudication and determination of water rights through the court system was under my branch of the Office. So that involved a lot of field work and preparation of court information to be presented, preparation of proposed findings of water rights to be filed with the court and furnished to all the claimants, and then defended in court in the adjudication process in Utah.

Storey: Of course water rights law in the West is very complicated.

Higginson: No it isn't, it's fairly simple.

Storey: It is?! (**Higginson:** It is.) Tell me about it.

Higginson: Well, it's simple: it's just "first in time is first in right." And as long as you understand what that

means, it's very simple, it's not complicated at all.

Storey: If that's the case, why are there so many attorneys specializing in water rights law?

Higginson: Because there are people who are asserting rights that conflict with other assertions of rights, and somebody has to straighten that out by a court adjudication of the relative rights of the parties. "A" and "B" both divert from a particular stream, and they both claim the first right on the stream. Well, it's obvious they were not both first, unless they were part of a parcel that was split at some point in time. So who has the first right? And so you have to go into the history of the settlement of the area and whose property was homesteaded first, and when did great-granddad actually divert the water? Did he post a notice in the county courthouse under the procedure involved during territorial days or early days of statehood? Did he file and get a permit from the Department when that process was put in place beginning in the early 1900s? Or did he make a constitutional appropriation of water by "divert and apply to beneficial use without injury to somebody else"? and you establish a right. How was the right established? When was it established? What proof do you have of a settlement? That's why you have lawyers.

Storey: Well (laughing) I guess it still sounds complex to me! What role did the State Engineer's Office in Utah have in adjudicating water rights, before you got to the court system?

Higginson: The State Engineer's responsibility was as an adjudication of a given river basin, the river system was initiated. Then the State Engineer was charged with the preparation of a proposed finding of water rights, which entailed doing field surveys, somewhat like I did for that Virgin River country, of determining where water is used, and then taking the records of the Department and trying to relate them to what you found in the field, and taking the claims that were filed in connection with the adjudication, and trying to verify that in fact water is being used as claimed, and then making a recommendation to

UTAH STATE ENGINEER
PREPARED PROPOSED
FINDING OF WATER RIGHTS
FOR ADJUDICATION OF RIVER
BASINS

the court and a proposed finding of water rights. (goes to bookshelf) [I've] got a copy of a proposed finding here somewhere.

Storey: Three-quarters of an inch thick!

Higginson: Well, that's just one, and it's several volumes. That's Book Number Three. (**Storey:** This is Book Three, yeah.) So that's a Utah-proposed determination of the water rights in the Bear River Drainage, which we share with Utah -- that's why I've got it, of course. And in here, in each case, is a recommended source: it's a well, it's a type of right, underground water claim at point of diversion. All of the elements of the water right are described, the amount of water annually that can be diverted from that source. And so that information is prepared by the State Engineer's Office, and then filed with the court. And a copy of that is served on everybody who claims a right in the Bear River, and they have an opportunity to examine what is recommended for their right, and what's recommended for all their neighbors. If they object either to their own right or to what's recommended for their neighbors, then they can come into the court, and the judge resolves the conflicts. But the Department is there, or the State Engineer's Office is there, to explain the basis for its recommendations, as an independent.

Storey: So the State Engineer's Office is providing information to the courts who are really adjudicating the water rights.

Higginson: Right, the State Engineer doesn't adjudicate, but is responsible for doing this kind of work to assist the courts in the adjudication.

Storey: So for instance, when you had an application for a water right

Higginson: It wouldn't come into this process. It's only in connection, unless there has been a lawsuit filed, which has as its purpose, a general determination of all the water rights in a watershed like the Bear River drainage, (**Storey:** Okay.) then you would go in and do this kind of work. On a

normal case where there was an application, you wouldn't get into this kind of a filing -- you would determine that application and its ramifications by itself.

Storey: So that would be done by the State Engineer's Office then.

Higginson: That would be done by the State Engineer.

Storey: Without the courts.

Higginson: Without the courts.

Storey: But adjudication is not the proper term for that.

Higginson: That's not an adjudication. In Colorado, it might be the proper term.

Storey: I don't know. (chuckles)

Higginson: Because the Colorado system is different than most western states: their rights are issued by the courts. You go to a water court to initiate a water right in Colorado.

Storey: So in Utah, the State Engineer issues the water right?

Higginson: Here [in Idaho], the Director.

Storey: Or here, the Director, yeah. And it's only when you go to adjudicate a watershed
(**Higginson:** . . . that you need to bring the court in.) Bring the court in, okay.

Where I started to go, quite a few minutes ago, was that it would sort of seem to me that heading up the Water Rights Section would be an attorney's job, rather than an engineer's job.

Higginson: An attorney might do it, but you've also got included in there, issues related to permits for the construction of dams and approval of plans and specifications for building dams. You've got distribution and measurement of water, where you've got to approve measuring devices and records of watermasters, water commissioners, on what they've measured and what it means, as

far as whether a person is in excess of their water right. I keep saying in this business that if you could bring me a three-headed monster, I would hire them, as long as one of the heads was an engineer-geologist, and one was an attorney, the other one is somebody who could get along with people. That's the kind of employees we need.

Storey: That's quite a big order.

Higginson: Yeah.

Storey: Let's see, where was I going to go with that question?

Higginson: We were talking about an attorney heading up the State Engineer's function?

Storey: No, I think you had responded to that, and I came up with another one. (pause) Oh! The watermasters! Are they under the control of In Utah, that would have been the State Engineer, right?

Higginson: Right. In Utah they're called the water commissioners. They are locally-selected and locally-salaried, but their appointment is under the State Engineer, and the State Engineer supervises their activities. The local people pay the costs of the salary of that water commissioner.

It is that way because of the charge to the State Engineer to be responsible for the proper distribution of water in the state, pursuant to water rights. Because the State Engineer is the focal point for information on who's entitled to water, he supervises the water ~~master~~ commissioner [there in Utah] and water master here in Idaho.

Storey: Now would that be the same, for instance, on a Bureau of Reclamation, on a Federal government project?

**FEDERAL WATER PROJECTS
ARE SUBJECT TO STATE
WATER LAW**

Higginson: Not on the project, but the water that the Bureau takes out of the river is subject to regulation by the state, because it's under a state-granted water right.

Storey: But then the distribution from that point on?

Higginson: Is usually some irrigation district that has a contract with the Bureau for the acceptance or for the delivery of storage water from some Federal facility. Here on the Boise, there are three reservoirs [which] store about a million acre-feet of water -- two of them built by the Bureau, one built by the Corps [of Engineers] -- but the Bureau appropriated the conservation, the storage space in the Corps of Engineers' reservoir.

Storey: That's Lucky Peak?

Higginson: That's Lucky Peak. So they appropriated Lucky Peak, and they managed all of the storage conjunctively. And then they have contracts with irrigation districts in the valley to deliver water from those reservoirs to the irrigation districts. So they tell our watermaster how much water they're delivering to what canal headings, and he sees that it happens. And then he further distributes the natural flow of the river, which has to be bypassed through the reservoirs, and makes the calculation as to whether the water you see in the river is "blue" water that comes out of the reservoirs, or "green" water that's coming, it's natural flow, being passed through the reservoirs, during the irrigation season. We have some fairly sophisticated accounting systems that are put in place in several major rivers in Idaho, to keep track of whether it's natural flow or storage in the river in a given canal heading at any one time. So you know who the water belongs to, and how to account for it.

HOW THE NATURAL AND
STORAGE WATER IS KEPT
TRACK OF IN THE RIVER
SYSTEMS

Storey: And it was very similar in Utah?

Higginson: Very similar in Utah, only they're not as large a system. I guess the Weber River system and the Provo system are about as complicated as anything that you would have here. But the Upper Snake, for example, there's four million acre feet of storage in the Upper Snake River system, and a watermaster has to keep daily records of what's in the reservoirs and how much is coming through the reservoirs and how many natural flow rights are on, and whether when a

canal is diverting 100 second-feet of water, that 80 second-feet of that is natural flow and 20 is storage, and charge it against their storage accounts.

So it's very complicated at times, but we've reduced it to computer now. That's one of the good things I did when I was Commissioner, at one time in the '77 drought, you remember, we were in a real drought situation in the West and Congress passed a Drought Assistance Bill, giving the Bureau, I think, \$100 million to be used for drought assistance grants in the western states. And one of the grants we gave was to the Upper Snake River system here in Idaho to automate their accounting system -- remote gauges, computerized program for accounting for natural flow and storage

END OF SIDE 1, TAPE 2. MARCH 22, 1995.

BEGINNING OF SIDE 2, TAPE 2. MARCH 22, 1995.

Storey: You were saying that Reclamation gave a grant to the Upper Snake River to automate their system.

Higginson: That's one of the grants that were made -- there were a lot of others. In the first year I was Commissioner, we had that, I think it was a \$100 million program, to assist irrigation districts and systems in taking care of problems related to the drought -- better accounting was one of the things that we were trying to accomplish.

Storey: As the head of Water Rights in Utah, were you ever placed in the middle of a hot dispute over water rights in the state? (**Higginson:** Yes.) Do you remember any of those in particular?

Higginson: I remember one bloody nose that resulted from one of the disputes -- very well. Two individuals who were arguing over whether one of them should be allowed to drill a well -- they had been sharing a well at an old sugar beet factory that had been discontinued but they had bought the property, the company housing that was in connection with that, and they shared a common well. I think there were three families that hooked to the same well, and it had some

limitations.

And so this one family had got tired of having to share with their neighbors, and not having an adequate capacity in the well, he wanted to drill his own well and let them have the old well. And the neighbor didn't want him to, because he didn't want him to not share the maintenance costs of the old well. He was going to have his own well, independent, he's not going to help pay for the costs of maintaining the old well. So they were arguing whether the old well was adequate or not: "It is too!" "It is not!" "It is too!" "It is not!" "You shut up!" Bang! right in the nose. (laughter) A bloody dispute, and I had to step between them, break up fights.

You know, you get into some real disputes once in a while, those kind of fisticuffs. But some nasty disputes -- we've got a number in this state right now that are pretty bitter. I've got one groundwater dispute where I've got one irrigation district that has filed a call for delivery of water against the owners of 7,200 other wells that they want shut off, so their water supply level improves. So it's one irrigation district against 7,200 well owners, and I had to lease the high school auditorium to hold the prehearing conference.

Storey: When you were talking earlier, you were saying it's simple, but it doesn't sound so simple, still.

Higginson: Well, the principle is very simple, _____ can't understand the principle. The principle is very easy. "I was here first, I'm entitled to water first."

Storey: But when you have 7,200 people out there, what happens if one of them has a priority

Higginson: That's what'll happen to this case: the district had the priority over those 7,200 later users, and they want all the 7,200 users shut off. Well, that's the simple process -- just order them shut off. But you're probably going to devastate the farming economy of Eastern Idaho. Then it becomes complicated. But the water right system is simple: "You know what the law says, there it is, do it!"

Storey: Uh-huh. Could you tell me some of the other things you were involved in while you were still in Utah?

Higginson: Work-related you're talking about? (**Storey:** Yeah.) Well, I think we probably covered it. There was just a normal flow of new applications coming through that we had to process; the normal flow of people who had completed their development and submitted their proofs of development and we had to examine that and determine what certificates to issue. There was the work on the various adjudications that were underway, and there were several river basins that were subject to adjudications and we had a staff working in that area. I don't know of any other areas.

There were a few kind of extra-curricular activities that the State Engineer had me involved in -- matters related to the Bear River drainage, where it's an interstate stream, and some of the interstate issues. We were involved in a precursor for the Western States Water Council, the Southwest Interagency Committee, and a few other bodies that involved opportunities to "caucus," if you will, with other states and Federal agencies over issues related to water.

Storey: Did the Engineer's Office have to turn down a lot of applications for water rights?

Higginson: I think so. Probably more so than when I first came to Idaho, because of the more limited resources. We had a number of basins that were actually closed, and we wouldn't even consider an application for a permit in a number of closed basins -- mostly the desert areas that had seen groundwater development, that had pretty limited recharge. So for that matter, they were pretty well closed. And there were a lot of heavily-developed river systems that we didn't consider permits, because for the most part, people didn't file, because they knew that their priority would be so late that the watermaster would shut them off every year anyway, and there wouldn't be any water, so they weren't applying. So it pretty well self-regulated, but once in a while somebody would make an application, and you'd go through

**WATER RIGHTS APPLICATIONS
TURNED DOWN IN UTAH**

a hearing process and turn them down.

Storey: Did the State Engineer's Office do any studies [on] how to improve water supply? (**Higginson:** Yes.) Where we have problems, what the alternatives for dealing with the problems are?

Higginson: There were two units in Utah government: one of them was the State Engineer's Office. And in that office, the other branch opposite the branch that I was in and responsible for, was the Water Resources Branch, where they did basic information-gathering on water supply: stream gauging, groundwater level monitoring, all that kind of information. But there was another department or division of state government: it was the State Board of Water Resources, and they had a staff, and their responsibility was development of the state's resources. They had a loan program for small project development, and they had a state water plan development responsibility, and that was in this other agency. So [although] we meet them and assist them on occasion, but it was not in our area of responsibility.

Storey: A theoretical question: Say Joe "X" came in and said, "I need a water right here," and the State Engineer said, "Well, we can't give you a water right because the water is fully appropriated." And then a project developed water which then came (chuckles) into that area and made water available. Could Joe then apply?

Higginson: No, because the water coming into the area would already be appropriated and be under the control of the entity that brought it in, and he'd have to go contract with that entity to receive water, and it wouldn't be appropriating public water.

Storey: So that would be the case of the Bureau of Reclamation, say, in Central Utah where it's moving across basins and so on.

Higginson: Yeah, and you know, there have been problems and been litigation over the issue of what happens to the return flow from lands that are

LITIGATION OVER RETURN
FLOWS OF BUREAU OF
RECLAMATION WATER

irrigated with Bureau-imported water. Who owns the return flow? It gets into a drain or runs back into a river or it recharges a groundwater basin. Whose water is it? And the fight has always been that it becomes public water, subject to control by the state, or it still is project water and the Bureau can reclaim it. Decisions have gone both ways on that.

Storey: Were there any in Utah at the time you were there?

Higginson: Not that I remember.

Storey: Have there been in Idaho?

Higginson: There have been occasions.

Storey: And it goes either direction, huh?

Higginson: It has gone, depending on the circumstances If the water can be identified as having come only from the Federal project, and is still in some manageable form, then generally it can be recovered by the project and redistributed. For the most part, that doesn't happen. The water joins the groundwater table, or runs off into a river. Once it's there, it belongs to the river.

Storey: Well, I would like to keep going, but my two hours with you is almost up.

Higginson: Shall we take a break and see how much more time you want to spend? I've got a few more minutes.

Storey: Well, I think it might be just as well -- I think another two-hour interview would be a good idea, if I could, later on.

Higginson: Alright.

Storey: I'd like to ask you whether or not the material on the cassette tapes and in the transcripts that will result can be used by researchers.

Higginson: Yes.

Storey: Good, thank you.

END OF SIDE 2, TAPE 2. MARCH 22, 1995.
BEGINNING OF SIDE 1, TAPE 1. APRIL 19, 1995.

Storey: This is Brit Allan Storey, Senior Historian of the Bureau of Reclamation, interviewing Keith Higginson, former Commissioner of the Bureau of Reclamation, in his offices in Boise, Idaho, at the Department of Water Resources, on April 19, 1995, at about ten o'clock in the morning. This is Tape 1.

Last time, Mr. Higginson, we got you back to Idaho, as the Director of Was it in those days called the Department of Water Resources?

Higginson: Initially it was called the Department of Reclamation. Then it became the Department of Water Administration, and then the Department of Water Resources. So it's had its name changes.

Storey: And then of course in 1977, you became the Commissioner of Reclamation. (**Higginson:** Yes.) One event that is particularly important in Reclamation's history is the failure of Teton Dam. And I was wondering if you would talk about your perspective on the development and construction and so on of Teton as the head of the Water Resources Agency in the state, and then of course about the failure, and that'll lead us right into, I think, your commissionership.

THE FAILURE OF TETON DAM

Higginson: Well, obviously, the Director of the Department of Water Resources in the State of Idaho has some responsibility for the construction of water storage facilities, and for the design approval and so forth with regard to those facilities. But that authority and responsibility does not extend to Federal structures, and our law says that the Federal government will file plans for comity only -- just as a courtesy to the state -- to let the state know what's going on.

And so once the state has gone on record by supporting the construction of a Federal project, the state has no real handle on the design or the construction of the dam. We are, of

course, interested, our Safety of Dams people do participate in periodic reviews by the safety people from the Bureau and Corps and FERC [Federal Energy Regulatory Commission] and Forest Service and other Federal agencies that have structures. But we review them for information and courtesy only.

So when the Teton Dam failed, the first thought in the state I remember that Saturday morning very well. I had been out playing golf on Saturday morning and returned to my home and found that I'd had a phone call from our State Adjutant General, responsible for public safety -- a General of the National Guard is who it was -- and he had wanted to alert me that Teton Dam had failed. And I told my wife, "Aw, that can't possibly be correct, that's a Bureau of Reclamation Dam. No way in the world that Teton Dam would have failed."

So I called the man, and the General told me, "Yes, indeed the Teton Dam has failed, and even now the flood is progressing down the Snake River Valley." So I called my Deputy and he and I went to the office and retrieved from our files the set of the plans for the dam, so that we'd have something to talk from, what kind of a structure it was and so forth, and went to the Governor's Office and found Cecil Andrus in his office on a Saturday morning. He had been alerted, of course, and was preparing to fly to Eastern Idaho to overfly the flood area and to observe and meet where he could with local officials.

And as I walked into the Governor's office, he looked over the top of his glasses at me and said, "Who's responsible for the safety of that dam?" And I think the question [really] was, "Do we have any legal or other responsibility for the design and construction of the Teton Dam?" And I assured him that it was a Federal structure and that our statutes do not place any legal responsibility for safety on the state, that we cooperate with the Federal government and they file their plans with us for comity only.

And he said, "Okay, let's go to work."

And from then on, I stayed in the Governor's Office, the rest of Saturday, answering his telephone for him, while he got on

a National Guard plane and flew to Eastern Idaho and came back later in the day. And then over the weekend, I drove to Eastern Idaho and went into the flood area, and from a state standpoint, we mobilized all of our field vehicles that had two-way radios in them, and put them in Eastern Idaho with some of our engineering staff to assist the local canal companies to the extent that we could, to provide assistance to them in getting their irrigation systems and diversion dams and structures back in operation and so forth. And we set up a field headquarters in Idaho Falls, and coordinated our assistance activities from there.

We worked with Bureau contractors and local canal companies and irrigation districts in assisting them in putting the system back in operation. It was rather miraculous, I think, that most of the irrigation systems were back in operation within a month, and delivering water to whatever crops were left in fields that had not been destroyed in the flood.

And then the Governor and Secretary of Interior, who was then Thomas Kleppe, determined to organize a blue ribbon panel to investigate the cause of the failure of the dam, and they asked that I serve on that panel to provide input from the [Idaho] Department's standpoint, and liaison with the state. And that was the [Chadwick]. . . . I can't think of his name, the chair of the panel. (pause) I've taken the report home.

**GETTING IRRIGATION SYSTEMS
BACK IN WORKING ORDER
AFTER THE TETON DAM
FAILURE**

Storey: (laughs) Well, that can be looked up easily enough.

Higginson: Anyway, it had some very prominent experts on it who were specialists: Tom Letts [phonetic spelling], Arthur Casa Grande, and others. And we spent the next six months in reviewing, picking apart the remnant of the dam, and writing and preparing the report, interviewing people, interviewing contractors, Bureau personnel, and others connected with the construction of the dam, and watching video tapes of the failure and various other sources of information, and put together a report to the Secretary and to the Governor on the cause of the failure.

It so happened that during that six-month

period that that report was being put together between the June date of failure and the next January, I made the transition to Commissioner. So I ended up in Washington with Cecil Andrus as the Secretary of Interior, receiving the report from the panel that had investigated the cause of failure. So I was involved to that extent in the Teton Dam failure/disaster.

Then as Commissioner, with regard to Teton, we did several things related to it. One of them was the processing of the claims against the Federal government. One thing that happened fairly immediately after the failure was an Act of Congress which in effect assumed responsibility and liability for replacement of public and private property that was lost. So there was a process put in place to take claims and to review and process those claims and then grant damage awards in connection with claims. And while I was Commissioner most of those were processed, and I think initially it was something like \$400 million in claims. Congress, through an act, declared that the United States was responsible, and it was responsible for replacement. Normally, when you pay an insurance claim, you pay the depreciated value. (**Storey:** Uh-huh.) So the result was that most everybody in Eastern Idaho ended up with new pickups and new houses, completely replaced structures. I think many of the claims people were just going around, just measuring the outside dimensions of the foundations of houses that were gone, and paying so much per square foot in a damage claim for the cost of replacing the structures -- just on a square footage basis. And all of those claims were processed during the four years that I was Commissioner.

**PROCESSING CLAIMS AGAINST
THE FEDERAL GOVERNMENT
RESULTING FROM FAILURE OF
TETON DAM**

Storey: What was the conclusion of the report you worked on?

Higginson: It was a design error, that the designers had failed to take into consideration the fractured basalt in the abutments, and the right abutment where the failure took place, there was a keyway constructed. In the main body of the dam there were transition filter blankets between the very erodible loess soil that was used as the core of

the dam. And the outer shell, it was transition of sands and gravels to filter out any material that might have a tendency to move through the force of water. But up in the keyway, they put that material right against the foundation, without any transition. And all it took was a fracture of that. It was highly friable material, it was fracturable, and when the stresses got too great, apparently the fracture opened up a path for water movement, which then caused the material to begin moving into or along contact with the foundation in the keyway. And where it failed was right at the right groin of the dam, to and across that keyway. So it was a design error, not necessarily a construction error problem but a design error. The responsibility rests firmly with the Bureau.

Storey: And you personally agreed with that report?

Higginson: Yes. Yep, I think all nine members of the panel were firmly in agreement. Chadwick was the Chairman. His was the name I was trying to remember.

Storey: Yeah. You came to Reclamation with that experience, as you said, a half-year before. Did that cause you any problems as the Commissioner?

Higginson: Yes it did. It caused me some problems because there were those in the country who saw the failure of the Teton Dam as the means whereby they could accomplish either reform of the Bureau and its policies and programs, or abolition of the Bureau. This was the reason to get rid of the Bureau, because they can't be trusted to build a safe structure. So during the four years that I was there, there were continued efforts from inside and outside of government to try to force changes in the Bureau, using the Teton experience as the bad example of why we've got to do something.

We made an effort internally in the Bureau, and I feel that the Secretary that he wanted to convene an internal review panel to look at the design, construction, maintenance, continuum within the Bureau, and to recommend

**USE OF THE TETON DAM
FAILURE TO TRY TO FORCE
CHANGES IN THE BUREAU OF
RECLAMATION**

changes. He was prepared to bring in outside consultants and look at the Bureau as to how the design process, the preliminary work, construction supervision and the maintenance program in the Bureau operated. I appealed to him, telling him that those people will only learn whatever we agree to tell them, and that we're better able to tell you what our problems are, internally, than to have you bring a "furriner" from outside to investigate in a mode of suspicion. And he agreed finally, that we'd do that.

And so I convened a panel for an internal review of the entire design, construction, maintenance process, and commissioned them to take a look at how we do our job, and recommend changes that appear to be necessary. And that was done. They made, oh, two dozen recommendations.

**INTERNAL REVIEW PANEL
CONVENED AFTER THE
FAILURE OF TETON DAM**

Storey: Do you remember who was on the panel or who headed it?

Higginson: I wish I could. I don't remember the panel members now, but they were all internal Bureau employees. I think Bill Lang was the chair. He was the administrative head of the E&R [Engineering and Research] Center, in Denver -- the Assistant Commissioner. I can't tell you what his [exact] title was, he chaired the panel. And we brought in design people and O&M [operations and maintenance] people, and various other disciplines, put them on the panel, and gave them this charge, "You review what we do, how we do our work. Tell me what changes you recommend we make, so that Teton never happens again."

One of the changes they recommended, for most major structures, that there be an independent review before we go to final approval of design. That we call in some private design experts, and have them look over our shoulder, just before we approve the design. In other words, not all knowledge rests within the Bureau of Reclamation -- there may be somebody out there that has a different view of whether it's adequate or safe or whether we incorporated all of the water up-to-date, state-of-

**INDEPENDENT REVIEW OF
DESIGNS FOR MAJOR
STRUCTURES INSTITUTED AS A
RESULT OF TETON DAM
FAILURE**

the-art considerations. And I think that was put in place, and I don't know whether it's being followed today, but I assume that it is.

Storey: Of course we don't have any major dam construction nowadays. (chuckles) (**Higginson:** Right.) Anything else that you remember coming out of that?

Higginson: Well, that was the major thing, but I know that we were constantly under attack in the press. I felt like the years that I was there, that I was spending all my time holding the four walls apart from collapsing in on us, because of Teton and the criticism that came as a result of Teton.

The other thing that hit us was the President Carter "hit list" of water projects. We spent a lot of time responding to the challenges against Auburn Dam and the Garrison Project, Central Utah, Central Arizona, and various other major projects that were underway in the Bureau. That was a difficult period of time because of that.

PRESIDENT JIMMY CARTER'S
"HIT LIST" OF WATER
PROJECTS

Storey: It must have been uncomfortable for you to be the head of Reclamation with the "hit list" out there an officially -- an official Executive Branch policy, and how did you respond to that? What was going on?

Higginson: Well, I think what was going on was that in the White House there were individuals who had a personal agenda, and who were not in favor of the western Reclamation program, and they had the ear of the President and were calling the shots.

We keep talking about the two "kids," Kitty Sherber and Kathy Garrison or whatever her name was -- anyway, there were two women in the White House domestic policy staff who were pretty well calling the shots on things. I found myself in [a] very uncomfortable position, because I was working for the Secretary of Interior, who was my former boss as Governor here in Idaho, whom I admired and respected, and he was under policy direction from the White House, and I was under policy direction from the White House -- a policy direction that I didn't

necessarily agree with, but I guess you have the choice of either following the policy and being a good soldier, carrying out the policy of those who were responsible; or resign. I chose not to resign, but to do what I could to implement the policies, and try to influence those policies by making whatever arguments I could make when the policy was being developed. It was not a very comfortable position to be in, but it was one that I felt that I could provide at least a different viewpoint.

I remember a number of meetings in Washington where policy positions were being proposed that I didn't necessarily agree with, and I stated my views. I remember one time an attorney for the Justice Department, he said, "Anyone who feels the way you do concerning this policy issue has no business working for the Federal government."

And my response to him was, "Anybody who feels the way you do concerning this policy issue has no business working for the public." Because he was proposing a policy position completely opposed to what I thought was the public's interest. But it was the Justice Department position on the issue. So we had a lot of those kind of discussions.

There were policy positions formulated within Interior that I disagreed with, and I would write memos, make phone calls and personal contacts with the Secretary. I was in a situation where of course I knew the Secretary personally, but I had an Assistant Secretary, Guy Martin who was a man that I respected, and I did not want to violate my respect and relationship with Guy Martin by continually going over his head to the Secretary on any manner. I think he and I both recognized that I probably could do that any time I wanted to, because I knew the Secretary, and I knew the Secretary's Appointments Secretary, but I did not abuse it, and only on a rare occasion did I ever call the Secretary's Office directly and try to get a decision on some matter. There were issues related to the safety of dams where I went to him on a matter, we agreed how to handle it -- this is related to an Idaho dam, one of the structures we were modifying under the Safety of Dams Program, and I went directly to him on

that. Other than that, I didn't abuse the relationship in any way. So it made for a little strained relationship because the people in the Interior Department knew that I had this connection, that I could make if I wanted to, if I chose to. And I didn't try to [use it].

Storey: Yeah. The "hit list," of course, is widely recognized. I think one of the things that isn't widely recognized is that actually very few dams bit the dust, or projects. Auburn was one of them, and I think there were a number of others.

Higginson: Well, Auburn; and Garrison has never been fully realized. And there are a few others that are still out there that were on that list, that have never been fully-implemented or constructed.

Storey: Yeah. I would think that Western politicians were probably very active at that period. What kind of contacts and pressures did you feel from that direction, if any?

Higginson: I don't know that I felt, directly, too much pressure or contact on the hit list. I can tell you how I first learned of the hit list. I was still working for the State of Idaho, and Andrus had gone to Washington and become Secretary. And we were in the middle of a 1977 drought, probably the lowest single year in western water history, and there was some concern among all the western states about how we're going to respond to this drought. And the Secretary had agreed to meet with the Governors of the Western states on a Sunday in Denver at the residence of Governor Lamm, who was Governor of Colorado.

He had asked me to go over there with him. The Governor of Idaho had asked me to go -- John Evans, who had taken Andrus' place -- asked if I would go over there and represent the State of Idaho at that meeting. So I got on the plane that Sunday morning, and Andrus was on the plane, because he'd been in Boise for the weekend. And I picked up the morning paper, and in the paper was announced President Carter's "hit list" on western water projects.

I came down the aisle and I said, "Good

morning, Secretary Andrus. Have you read the morning paper?"

He said, "No, I haven't had a chance to read it yet."

I said, "Well here, take mine. You'll need to read this because you're going to be met in Denver by eighteen angry governors."

"What have they done?" he said.

I said, "The President has announced a 'hit list' on western water projects."

His response was, "They told me they wouldn't do it this way, that they'd give me an opportunity to have a meeting with the governors to explain the rationale for the hit list before they announce it."

I said, "No, they've gone ahead and announced it. You're going to be faced with these governors who are going to want to know what's going on. That'll be more important to them today than the drought."

So we went to Denver and the first thing that happened is the Governors and Secretary went into a room by themselves, had a meeting concerning the "hit list," and then came back into the general meeting and had discussion of the drought.

When I first went to Washington, it was before I was confirmed. I knew what position I was being designated for by the White House, so I couldn't act in that capacity. The Secretary asked me to serve in a consultant capacity to the Secretary for a period of month or so, and asked if I would go to various sites in the West where hearings were being held on the "hit list." The Interior Department convened a panel to go out and get public input on the "hit list" proposals.

So I went to California to Sacramento to a hearing on the Auburn Dam. I went to North Dakota to Garrison Project. I went to Salt Lake City with the Central Utah Project. I attended the hearings that were held by Interior as just an anonymous attender, not in any official capacity, but took notes. I think I wrote a memo to the Secretary with my observations of what I heard at those meetings. Then shortly thereafter, my appointment came back from the White House and it was announced that I was to be Commissioner. So I was involved in the "hit list"

more as an observer than a participant in targeting projects for the "hit list" (unintelligible). But then we had to work through the Secretary's Office to provide whatever justification was necessary for continuation of any work on those projects or for modification of projects, or a scale-down of the projects, or whatever was being proposed by the White House. That was tough times.

I remember an occasion when I was in Washington, just before going out to the hearings, and the Governor of North Dakota -- can't think what his name was -- whether it was Governor Sinter, or who -- the Governor of North Dakota was sitting in the restaurant in the hotel, and I heard him talking to his staff and found out who he was. So I went over to his table and introduced myself to him. Told him that I was going to be working for the Department of Interior, and be attending hearings in connected with the "hit list." I had just heard and I wondered what his comments were about what had happened with the Garrison Project.

"Sit down," he said, and he pulled out a chair for me. So I sat for the next hour and visited with the Governor of North Dakota -- his views concerning the "hit list," and what the Garrison Project meant to North Dakota, and the commitment that he felt that the United States had made to the State of North Dakota in giving up the bottomlands for the main stem reservoirs on the Missouri River. That was to be compensated for by building this Garrison Diversion Project. Turning _____ lands into irrigation, and he felt very strongly about it. The Garrison Project any number of times since. So that was my involvement in the "hit list."

Storey: Were there any other major events during your commissionership that stand out for you, in retrospect?

Higginson: Oh, I remember that we started the process of the Reclamation Reform Act. We apparently, at the Bureau, had been under court order to implement the 160-acre limitation on Reclamation lands, and that had been delayed for one reason or another, and the court had given some time

ACREAGE LIMITATION
IMPLEMENTATION
REGULATIONS AND THE
RECLAMATION REFORM ACT

deadlines for the implementation of that, so we proceeded to publish regulations as to how we would implement the 160-acre limitation.

I think we did it a little bit with tongue-in-cheek, saying, "This is what the law requires. We don't think it's equitable or appropriate to have this 160-acre limitation in present-day farming practices, but we have no other alternative. The only way we're ever going to get the law changed is to threaten to implement the law as it presently stands." (**Storey:** That was the acreage limitation?) The acreage limitation. (**Storey:** Regulations, yeah.) Right. So we went out with regulations, and I went out as one of those that held some hearings around the country and participated in that hearing process. I remember sitting in Yakima, Washington, all day, and practically all night long, listening to people complain about the 160 acre limitation of Reclamation law. And

END OF SIDE 1, TAPE 1. APRIL 19, 1995.

BEGINNING OF SIDE 2, TAPE 1. APRIL 19, 1995.

Higginson: I remember very clearly being in Yakima and a whole parade of people wanted to come up and say the same thing that had been said by the previous witness, and I kept reminding the people that if what you wanted to say has already been said, you don't need to repeat it, except to say that "I agree with those who have previously testified," and that would be sufficient. But, we still had his continual parade of people. They thought they had this bureaucrat from Washington, and they were going to keep him as long as he could stand it. So we met from early morning until late after midnight that day before the last person had testified and given their views concerning the 160-acre limitation, and the proposed regulations to implement that.

And then, of course, the result was the passage of the Reclamation Reform Act, and the changing of the 160-acres to the, I think it was 960[-acres]. And the many other provisions -- that Act is still not yet fully implemented.

Storey: Was there a really conscious political decision made to use the acreage limitation regulations as

a way of bringing the issue to a head?

Higginson: I don't know that we ever really had a formal meeting where we discussed doing that, but I think we reached the conclusion that we were under a court order to do something, implement the 160-acre limitation provision, because of outside pressure mostly from environmental groups. And that we didn't expect that the 160-acre limitation would ever be fully implemented because Congress would impose its option that it has and change the law.

So I don't know that we ever reached a strategy that "this is what we'll do and this is what will happen." We didn't politically discuss the matter with the Congress, saying "we'll do this, and then you do that." But I think we all anticipated that the 160-acre limitation would never be enforced, that the law would be changed before that would happen. Because the only way you'll ever make sure that the law is changed, is to propose to implement the present law. People will find that they can't live with it.

Storey: Do you remember any of the people in Reclamation who were involved in that effort, in drafting the regs and so on?

Higginson: No, I can't remember the names.

Storey: Did you have an assistant of any kind in Washington?

Higginson: I had a Deputy that I brought in from Montana, Warren Farris.

BRINGS IN DEPUTY AND INITIATES TOP-LEVEL MANAGEMENT COMMITTEE MEETINGS

Storey: Now, was he titled Deputy Commissioner?

Higginson: Deputy Commissioner, right. I had Assistant Commissioners who were long-time Bureau employees, but Warren was from the State of Montana, and was in the western water circles. So I brought him in as Deputy. And he was there for the duration of my term as Commissioner. And then we also organized a top-level management committee -- I think it's still functioning -- where the Assistant Commissioners, Commissioner, and the Regional

Directors, meet periodically to discuss issues and problems and policies. I think that management committee of the Bureau is still functioning. (**Storey:** Yeah it is.) We organized that during the time that I was Commissioner.

Storey: They alter the composition every once in a while, but it's

Higginson: Probably call it something different.

Storey: Yeah, a lot of different names, but it's basically the same idea.

Higginson: Same idea, and I did that as Commissioner -- I think the first time. The only other time that the Bureau get together, would be getting ready for the budget presentation. There would be a conference held where each Region would come in and make its presentation

Storey: The so-called "skull sessions." They used to be called that.

Higginson: Right. And so we had those on a regular basis. But I pulled together the top management of the Bureau periodically, around the country. And we'd have a management committee meeting. And I thought they were very productive, very effective.

Storey: In what way?

Higginson: Just getting people talking with us, same page, a chance to communicate with all of them together in one meeting, rather than sending a memo out and you wonder how it's received in Billings, how is it received in Salt Lake and Boulder, Sacramento, or wherever? Have the people all in one room talking about the issues and you have some broad experience in those regional managers as well as the Assistant Commissioners. So I found it very helpful to me, very effective.

Storey: Uh-huh. These so-called "skull sessions"

Higginson: Well, that relates to the budget presentation

TESTIFYING BEFORE

process. I'd find myself in trouble every once in a while, appearing before the appropriation committees of Congress because I wouldn't follow the script. But through the skull sessions and through the dialogue back and forth between the Bureau staff and the committee staff, there would be a colloquy outline between the member of Congress from the particular state that had a project that he was concerned about providing funding for, and the Commissioner. A member of Congress would ask a question, which prompted a certain answer, which prompted the next question. So if I didn't give the right answer, or if I improvised, that didn't lead to the next question, and it would foul the member of Congress up, so I'd continually get elbows in the ribs saying (whispered) "Follow the script, dummy."

Storey: (chuckles) This would be from your Deputy?

Higginson: Yeah, Assistant Commissioner for the Administration worked all of this out during hearing process.

Storey: Must be very complex, with probably dozens of different projects going on at any one time and so on?

Higginson: Right. And those that I felt I was familiar with, I thought I could wing it. I was told very soon, "You don't try to wing it because you foul up the process."

CONGRESSIONAL HEARINGS
WERE SOMETIMES USED TO
GET SPECIFIC INFORMATION
INTO THE RECORD

Storey: Now what I'm hearing could be interpreted to mean that this was sort of a set dialogue that the Congressman knew what you were going to say and he knew what his next question was supposed to be? Is that a correct impression?

Higginson: That's a correct impression.

Storey: So the Congressman would know what was going on.

Higginson: In certain areas of testimony. I'm talking about primarily the budget-setting process, particularly if a member of Congress had something that they

wanted to add to the President's budget. There was a series and a line of questions that they would ask, and you would give a certain responses which would lead them to the position where they could then propose to add to the budget certain funds for certain things that they wanted the Bureau to do in their state. And that was a particular thing.

Storey: How did you decide which of those you wanted to support and which you didn't?

Higginson: Well, I don't think in any case we indicated that we supported. We were providing information for a record, on which the Congressman could base a request to amend the budget. So what would it take? How many personnel? How much money? Those kinds of questions. What would have to be added to the budget, and if it was added to the budget, what could you accomplish in the next fiscal year? And we'd just answer those kinds of questions. Because, obviously, when you go up on Capitol Hill and testify, you are up there to support the administration's budget -- you're not up there with a hand out, asking for additions to the budget. But if people on the Hill want to add to the budget, they want to ask you questions, then you have to give them straight answers. So it's that kind of discussion that's going on back and forth.

Storey: But they would come down and talk to somebody about wanting to do this then?

Higginson: Yes, they'd want to ask questions about this project or that project, or we want to add some funds to have you do this, can we develop the dialogue so they can get into the record what the Bureau could do if we had it in the budget. That's what would be developed.

Storey: You wouldn't be blindsided and they'd be getting what they wanted.

Higginson: They'd be getting into the record And then it's up to them to see if they can get their colleagues to agree to add to the budget.

- Storey:** Yeah. Did they come down and talk to you, or talk to the Assistant Commissioner? Or how did this work?
- Higginson:** They talked to the Assistant Commissioner.
- Storey:** And who was that, do you remember?
- Higginson:** Anderson. What's his first name?
- Storey:** Anderson was his last name?
- Higginson:** Yes.
- Storey:** I don't remember any of these folks.
- Higginson:** How many years has it been? It's been a while.
- Storey:** I think you would have left about fifteen, sixteen years ago, something like that.
- Higginson:** I left in '81, so it's been fourteen years.
- Storey:** Yeah.
- Higginson:** I can't remember.
- Storey:** Did they ever ask questions that caught you off guard, that blindsided you?
- Higginson:** Oh, I'm sure there were times, but I can't remember any incidents. I remember one occasion on another subject matter which is not really appropriations but was the hydropower initiative. We had done a study of existing dams to see what of those dams could be modified to add hydropower facilities. When originally built, they were irrigation and water supply only -- no hydropower and hydropower [and hydropower wasn't justified by a] dam that has releases only during the summer months for irrigation for example. We had done an inventory analysis of all of the Bureau dams and determined which ones might be candidates to add hydro to aid in the national concern for energy. And we had identified these projects, and we had proposed to the administration the we be given authority to proceed with construction of some of them. And

the White House and OMB [Office of Management and Budget] had denied that request.

So here I was up on the Hill at the request of Congress, explaining the study that we had done and what projects would lend themselves to hydropower additions. I remember the Congressman from Arizona

Storey: You're not talking about Morris Udall?

Higginson: Yes, Mo Udall. And he asked about this. I gave the administration line that the reason we were not proposing to build these hydro facilities is because of economic considerations or other things, which was the administration line. It was not the Bureau's position. Because, the Bureau was prepared to go ahead and build these structures.

Morris Udall said, "Mr. Higginson, may I assume that even though you're not here from the administration in support of an appropriation to start construction of these hydro facilities, that if Congress in its wisdom chooses to authorize them anyway and provide funding for them, the Bureau will go ahead and build them?"

I said, "Yes, that's correct." I mean, what else could you say? The administration position was that they were not proposing to build the hydro facilities, but Morris Udall and others wanted to see us move ahead with those, on some of the major dams that didn't have hydro facilities. So, we were in that kind of a position sometimes, where you were there from the administration, propounding the administration point of view -- you may personally feel otherwise, but again its a question of you either support the administration you work for [or leave]. And he could see right through what I was saying. He knew that the Bureau had proposed to build these hydro facilities and wanted to build them, and felt that we should build them, so he asked the question and I gave him the answer he wanted.

Storey: Yeah, these politicians get very used to this, I'm sure. Were there any other major studies or activities that you recall while you were

Commissioner?

Higginson: Well, I know that we looked at a number of Bureau practices relating to public involvement, we looked at contracting policies. I'm not sure that those were all fully implemented while I was Commissioner, but changes in opening the process, seeing that the contracting for water supply or water service contracts or repayment contracts was all kind of done in a closed room between the Bureau and the irrigation district, or the entity that was contracting. And there was an interest in opening up that process to public participation and the participation of people.

Storey: Where did the impetus for that come from? From within Reclamation? from outside Reclamation?

Higginson: It was primarily from outside Reclamation, and mostly from the environmental community that felt like that water was being committed to agriculture and municipal-type uses, when there were other concerns that ought to be brought into the mix and that they be able to participate in the process to raise objections. So we began changing the process during my term. I'm not sure we fully implemented that change, but we at least started the process of changing, contracting policy.

Storey: Of course you would have been there '77-'81. (**Higginson:** Right.) And the environmental laws had been in effect, oh, going on ten years, at the time.

Higginson: Right. Would be (inaudible comment).

Storey: Uh-huh. Did you find any resistance within Reclamation to implementation of the environmental laws and so on? Have problems with it?

Higginson: Oh, I think there was not resistance as such. I think it was kind of grudgingly participating in it. "I guess we have to do this," kind of an approach. But I don't know that anybody really resisted it. Some questions were raised concerning what'll

happen if we open up this process we're not going to be able to do this or do that. But I don't think anybody really resisted.

I think if I felt any resistance anywhere in the Bureau in the four years that I was Commissioner, it was at the E&R [Engineering and Research] Center. I think they kind of felt autonomous there, and they didn't want anybody to tell them what to do or give them any kind of direction. They felt a bit superior, if you will, in the areas of engineering and design and construction. And we had to remind them periodically that some of the rest of us are also engineers. We had some exposure to design and construction and Teton Dam failures and these other things. Anyway . . .

Storey: Who was heading the Let's see, Harold Arthur, I believe, left soon after you came in.

Higginson: Right, that was not a happy experience. His departure was not a happy experience.

**HAROLD ARTHUR LEAVES
RECLAMATION AFTER THE
TETON DAM FAILURE**

Storey: For you?

Higginson: For me. And for him.

Storey: Would you care to elaborate on that?

Higginson: Oh, I would. There were people who were looking for some person to pin the Teton Dam failure on. And as the Secretary and the politicians looked around for people that were involved in Teton that might be tabbed as the culprit, they found that most of the people involved in the original design had left the Bureau, were no longer with the Bureau, and the only remaining person that was still there was Harold Arthur. And, under instruction, I called Harold and asked for his resignation. And he offered his resignation, said some things to me, and wrote me a letter which I have long since disposed of, giving his views concerning that course of action. But I was under instruction to ask for his resignation.

Storey: And then he had to be replaced. Who did you replace him with?

- Higginson:** We brought in Bob [Robert B.] Jansen from the State of California. Who had served as the staff director for the independent panel that investigated the Teton Dam failure. And I had become acquainted with him in that period that we'd done the study of the failure of the dam. And I brought him into Denver. . . .
- Storey:** And did he stay throughout your tenure as Commissioner?
- Higginson:** He stayed only part of the term. A couple of years, I think.
- Storey:** Was there a reason that he left so quickly, that you're aware of?
- Higginson:** I think he had an offer with a major engineering firm to go I think he had expressed some concerns along the way about whether he was getting the kind of cooperation he thought he needed from the E&R Center. It's hard to bring an outsider in to a place, a big organization like the Bureau and put them ahead of people who have worked there their entire career. So they are now taking direction from this "foreigner," this "stranger." And it wasn't an easy thing for Bob Jansen nor for me as Commissioner. I was a "furriner." Took over from Gil Stamm, Gil was a career employee [who'd] come up through the ranks. And he wasn't
- Storey:** Do you know anything about why Stamm left? Was it simply the change of administrations?
- Higginson:** I assume that. I don't know anything different than that.
- Storey:** But he chose not to assert his civil service status and go back into the ranks, as it were?
- Higginson:** I don't know. During that transition period when I was being considered See, when I went to Washington first, at the request of Cecil Andrus, I think I told you in our last interview about being offered the position as Director of the Water Resource Council.

Storey: Initially, yes.

Higginson: Initially. And then he eventually asked me to serve as Commissioner of the Bureau. That [invitation] was by the Ford administration and then evolved into that other position. Andrus was wanting to employ me as a staff assistant to the Secretary for Water Resource Issues, because of the "hit list" and emphasis on national water policy, that's where I wanted to work. What I wanted to do. During the times that I was back there interviewing in connection with that appointment, I went to the Bureau and visited with Gil Stamm. And I said, "I don't have any idea what the Secretary has in mind for this position. I want to tell you I'm being considered for a position in the Secretary's office. Will be working, probably in the water area. Will be working with the Bureau." That's as much as I knew about it at the time. And the next visit back there he [Cecil Andrus] asked me if I'd be Commissioner. So at that point I notified Stamm. He was out, and I was in. So I don't have any idea what Stamm's decision process was, deciding whether or not to remain. I just assumed that he was disappointed that he was being replaced, decided it was time to step aside.

Storey: What was Stamm like? You probably knew him as the head of the Water Resources Agency here in Idaho also.

Higginson: I didn't, no.

Storey: You didn't? Oh, that's interesting.

Higginson: As a matter of fact, I don't remember that he was ever the head of the water agency in Idaho.

Storey: No, when you were the head of the water agency, hadn't you met him?

Higginson: Yes, I had met him, and I'd been to Washington to visit with him and Ellis Armstrong. And I knew Floyd Dominy.

Storey: Tell me what they were like. Start with Floyd [Dominy] why don't we?

COMMISSIONER FLOYD
DOMINY

Higginson: I don't have a very good or very clear memory of Floyd Dominy. I remember hearing him speak at National Water Resource meetings and so forth. He seemed to be in charge. I think he was a very dominant Commissioner and pretty forceful in his views.

Ellis Armstrong I visited with a couple of times. Ellis came from other engineering work on the St. Lawrence Seaway, I believe.

COMMISSIONER ELLIS
ARMSTRONG

Storey: Yeah, and then he was Commissioner of the Bureau of Roads and various other things.

Higginson: Various other things. So he'd come from other engineering-related work. And I didn't have too many occasions to visit with him. But I remember once when I went to Washington in connection with our policy stand in Idaho, and I was concerned about the Bureau's practice of contracting for water from Palisade Reservoir. And it seemed that they were just simply setting up shop in Eastern Idaho and saying, "We've got this dam we're building, who's willing to contract the water?" and making it available at a very cheap rate.

C O M P L A I N S T O
C O M M I S S I O N E R E L L I S
A R M S T R O N G A B O U T
R E C L A M A T I O N ' S
C O N T R A C T I N G F O R W A T E R I N
P A L I S A D E S R E S E R V O I R

And I said, "You're not doing us any good in Idaho, in utilization of our resources, because people who don't really need the water are buying it and tying it up as insurance." And I complained from the standpoint of best interests of Idaho and best water policy of Idaho. I said, "You should have made studies where water was needed and only contracted the entities where water was needed, where they needed the supplemental water to finish out a season or a crop. But instead you're just simply saying, 'We've got this block of water here available for contract. Who wants it. If you're willing to pay the price, we'll contract it without any investigation being made.'"

I remember Ellis and Gil Stamm were both in the office when I was complaining, and Ellis turned to Gil and said, "We haven't done that. Surely we haven't done that."

Gil said, "Yes we did. That's exactly what we did." That's one occasion where I remember meeting them both when I was in this job, and complaining from the standpoint of the

IDAHO DEVELOPS "WATER
BANKS"

best interests of Idaho that this was happening. As it turned out, that's exactly what's happened. We've got canal companies in this state that have water that they couldn't use even in the worst drought period. We've just found that it was surplus to their needs, and yet people who were short of water couldn't get it. We put into place here in Idaho, a mechanism called the water bank, where now we have flexibility, that these people with surplus can put it in the bank, and a local committee manages the rental approval, and it's made available for others to use. And it works very well. We have three, four water banks that operate most of the time with Federal reservoir water.

Storey: Let me ask another question that interests me. Most states -- and I presume Idaho is this way -- say that you can have beneficial use of the water. I suppose one could argue that you aren't getting beneficial use of the water if it's surplus water. Why doesn't the law kick that out as not beneficial use?

Higginson: It may. It may do that, but it would take a readjudication of the rights of the Bureau of Reclamation. At the time the Palisades Reservoir in Eastern Idaho was completed, the Bureau of Reclamation submitted, under state law, proof of beneficial use of the water. And what they submitted to me was just simply a set of project plans, "These are the service areas and these are the entities that have contracted to use Palisades water." No evidence that the water had ever been delivered from the reservoir to the land, providing a benefit to the crop. So I refused to issue the license.

Well, the Bureau organized the water users, and they all came over here and stormed the state capitol. I was at home on Saturday and got a call from the Secretary to the President of the Senate, state of Idaho. "The Senate has a few people here that would like to visit with you. Could you come down to the Senate caucus room this morning?"

So I quickly got dressed appropriately and went down to the Senate, walked into the Senate caucus room and there must have been

fifty people there. I was on trial, because I had refused to issue the Bureau a license confirming the beneficial use of the water in Palisade Reservoir, because there was no evidence the water had ever or would ever be used beneficially to grow crops on much of the land. And they said, "Why are you refusing and being so stubborn in issuing this license? We've got to have this license to confirm this right in our contracts on Palisades." And I said, because the law will not permit me and I will not violate the law. So I pointed to the section of the law which provided that I couldn't license, if any irrigation district had more than a culmination of five acre-feet of water from both direct flow and storage, I could not issue a license confirming a beneficial use.

And they all looked at each other and said, "Well, if its in the law, then we can't expect him to violate the law."

I took an oath of office, "Scout's Honor, I'm going to follow the law." And I can't violate the law. I will not do it, I'll resign first.

"Well," the President of the [Idaho] Senate said, "What would you do if we changed the law?"

"If you get the law changed, I'll follow whatever the law says." So they changed the law. But it wasn't the best interests of Idaho to have that water tied up in those contracts. The only thing that makes it acceptable now is the water bank process, where that water that is surplus to a canal company's need is made available to the water bank on a rental lease basis to other users that are short of water

END OF SIDE 2, TAPE 1. APRIL 19, 1995.

BEGINNING OF SIDE 1, TAPE 2. APRIL 19, 1995.

Storey: This is Tape 2 of an interview by Brit Storey with Keith Higginson on April 19, 1995.

. . . Eastern Idaho wouldn't have made it through those droughts.

Higginson: Eastern Idaho would not have got through the drought that we've experienced since 1987 through '94, were it not for those water banks.

And it's the water banks that's providing the flexibility to the Bureau to provide water to meet the full augmentation desires for the salmon recovery under the Endangered Species Act.

Storey: Well, these water banks -- do they trigger the priority rights issues in some way? (**Higginson:** No.) In other words, do some people have more right to the water than others?

Higginson: No. The only priority is that the timing at which you make your request to the bank to rent water for a particular season establishes a order of preference for the water that is put into the bank. The last time I had checked here and now in '95, there were requests for large quantities of water from the bank, and not very much had been put in it. No one has yet been willing to commit water to the bank. Most of the commitments are made by about the first of July, so here we are in April, not much water committed to the bank, but there is a lot of requests to take water out of the bank, including the Bureau wants to take, wants to rent several hundred thousand acre-feet of the bank for salmon.

And our State Water Board, following legislative direction, wants about 300,000 acre-feet Upper Snake Bank, for artificial recharge. By running it out through canals in the fall of the year and the spring of the year before irrigation starts, to get it into the ground to recharge the Snake Plain Aquifer. So that flexibility is there, and these, quote, "excessive contracts," [unquote], for water that people have not found a need for, except in very rare dry-year conditions, make that available, make that possible.

Storey: Would it be fair to say that Reclamation's approach to selling its water has resulted in the creation of these banks?

Higginson: I would say that with regard to the specific example of the Minidoka Project in Eastern Idaho. I'm not saying that's a general practice throughout the Bureau, but with regard to that Project in Eastern Idaho, that the contracting policy has made it possible for us to create and successfully operate a water bank.

Storey: Does the Department of Water Resources -- did it create and operate the system? Or are you using "us" more generally?

Higginson: When I say "us," the State Legislature enabled the creation of water banks, through the State Water Resource Board, which is a part of the Department of Water Resources. (**Storey:** Okay.) The Water Resource Board established by rules and procedures to be used to create a local rental pool. Then there's a local rental pool, acknowledged by the Water Resource Board. They have the authority to manage the bank in their local area. So for Eastern Idaho, it's the committee of nine, which is the advisory committee of Water District One of the State Water Board.

Storey: Okay, so let's see if I'm interpreting this correctly. You have these water banks which do not operate under the same kind of water law. They have a priority. There are priorities for each of the people, the groups or whatever, who can put water into the water bank.

Higginson: Let me go back. (**Storey:** Okay.) If I was the owner of a reservoir somewhere, and I found that in a given year I had more water available in my reservoir than I needed and I wanted to sell the surplus, or contract it for that season, and give it to my neighbor who wanted to put it on lands that were not authorized service lands for my reservoir, I would have to file a transfer application with the state. Say [in that application that] I want to amend my water right for this season to allow the place of use to be expanded to cover my neighbor's lands.

So to avoid the processing of all of that paper, the Legislature said, "We will allow these annual water bank transactions to go on, and that will serve as a waiver of the transfer provisions of law, as long as other rights are not injured."

So I have to make a determination that use of water in this manner is not hurting anybody else's water right, and approve the form of the contract for water bank rentals. And once we have done that, then the local committee manages the water bank. Put the water in --

somebody else leases out, they account for it, and there's money changes hands for value. There's a price set that's approved by the Water Board -- it's very nominal, just covers the contract costs to pay the Bureau for payment for the water fees. So that there's not much in the way of what you'd call "profit" made off the water. And that is something the Bureau has insisted on, that you can't profiteer off the Federally-provided water, but you can cover your costs for the year.

So cover your repayment contract and your O&M costs for the year. Then there's a transaction fee cost to the local rental pool committee for their managing the system. And the transaction fee costs to the State Water Resource Board for its responsibility for supervising and making sure that everything is "according to Hoyle." We're still talking about water that costs \$2.95 an acre-foot, in eastern Idaho.

Storey: Okay. So say I was a junior water right holder

Higginson: Natural flow, water right holder?

Storey: (laughs) See! I don't know enough to be able to ask intelligent questions, I'm afraid.

Higginson: Well, see, if you're a junior water right holder if you're a natural flow user, then this doesn't affect you, because the natural flow is already calculated and assumed in the management system. We have a fairly sophisticated accounting computer model with satellite transmission of data from data platforms at gauging station and phoned-in information from canal gauging stations by canal ditch riders and watermasters, that all comes into a central office in Idaho Falls, tied into the Bureau's computer network, so that on a daily basis we can make calculations of what water is in the river, and decide whether it's blue water or green water.

And if it's blue water, it's storage release. (**Storey:** Okay.) It is storage water being delivered to some contract space holder. And if it's not that storage water, it is natural flow water, that belongs to the priorities on the river system.

So when you as the watermaster for a canal go to the canal heading and you crank up the gate and increase your diversion from 100 second-feet to 200 second-feet, then the computer will say, "Of the water you are diverting, this percent of it was natural flow, and this percent of it was storage water being delivered to you, and therefore charged against your account in the Bureau's storage allocation. (**Storey:** Uh-huh.) And that's a very sophisticated system, but it's in place in the full Upper Snake and Boise River System, and in the Payette River System, and several other river systems in the state.

Storey: So if I'm understanding this, you could have a junior water right holder on natural flow water who would not be receiving his full allocation (**Higginson:** Because of drought.) even though there was water in the water bank.

Higginson: That's right. But he could go to the water bank

Storey: And request more.

Higginson: Right. He's saying, "I've got an 1895 priority right. It looks like because of the drought year that we're in, my 1895 right will not be receiving any water this year, there will not be sufficient natural flow in the system. I would like to contract for a thousand acre-feet from the water bank." And if the water is in the bank, and if his request comes in, in order, such that it can be honored, then he will be allotted 1,000 acre feet of storage, even though he's not a contractor with the Bureau of Reclamation.

Storey: But because he was an 1895 water right holder, that doesn't give him any priority, say, over a 1920 water right holder who comes in before him?

Higginson: For the water bank water?

Storey: For the water bank water.

Higginson: That's correct.

Storey: Okay. Well, you know, I tried to say before that water is very complex, and you said, "Oh no, it's very simple -- it's who gets there first." (**Higginson:** It is fairly simple.) But the way the details work out gets very complex sometimes.

Higginson: It is very complex. We have a very good, sophisticated system. Part of it, by the way, you remember the 1977 drought, and the Bureau, I think we had \$100 million allotted to the Bureau to be used for drought-related grants to irrigation districts and companies, and one of those grants was to the Upper Snake River System, to help them set up this computerized management system for water. And part of the grant helped put in the, remote PCP platforms out at gauging stations, satellite to downlink to a computer system so we could get instantaneous, almost, management of resources. Because of periods like 1977 or other drought periods where we have to very carefully manage the resource.

A canal company, for example, if they've contracted with the Bureau for a thousand acre-feet of water, of storage space -- you don't contract for the water, you contract for storage space, in Idaho. It's otherwise elsewhere in the Bureau, but in Idaho you contract for storage space, and if your space has a thousand acre-feet of water in it, if you want to know during the season how much of your storage you use, if you pull the water from the river and if your 1895 isn't any good, then the water you're pulling from the river has to be charged against your storage. [The] 1895 natural flow isn't any good, we're not delivering 1895 water, we're delivering 1993 water. But your priority isn't any good, so you don't get any natural flow, so anything you're taking is charged against your storage. But you need to know that, because you want to know how carefully to manage your diversions.

IN IDAHO YOU CONTRACT WITH RECLAMATION FOR STORAGE SPACE INSTEAD OF FOR WATER

Storey: While you were Commissioner, do you remember any movement, any concern about moving water from irrigation purposes to M&I [municipal and industrial] purposes?

TRANSFER OF WATER FROM IRRIGATION TO MUNICIPAL AND INDUSTRIAL USES

Higginson: I remember there was some concern about it, but I didn't think it was a major issue. As a matter of

fact, I think there was some thinking that, for example, California continues to complain that they don't have enough water, and they need to import water from Alaska or the Pacific Northwest or wherever they can get it. And I think it's constantly pointed out that there is something like 10 or 12 million acres of irrigated farmland in California, which water use can be converted to take care of the growing municipal and industrial demands. But I don't think there was any particular concern about it, but I think there was discussion. California's probably got all the water it would ever need, but it would have to give up some ag[riculture] in order to expand municipal uses.

- Storey:** Yeah. Of course you became Commissioner one or two years, I believe, after the Westwide Study was published. Do you happen to remember the Westwide Study? **THE WESTWIDE STUDY**
- Higginson:** I remember the Westwide Study, yes.
- Storey:** Did that have any effect on what was going on in Reclamation at the time?
- Higginson:** I don't think anybody paid any attention to the Westwide Study.
- Storey:** Okay. Is there a reason for that?
- Higginson:** I don't know. I don't know that anybody gave it much, other than, "Yeah, ho-hum, a study's been done, put it on the shelf and dust it off once in a while."
- Storey:** What about water shortages at the time you were Commissioner? Were people beginning to sense that there were going to be water shortages? Was that issue causing Reclamation any kind of activity or concerns? **WATER SHORTAGES**
- Higginson:** I think that's always been a concern. Primarily it's related to this phenomenon of growth in the West, that we're going to continue to grow and the demands are going to continue to increase, and how are we going to meet those future demands? I don't know that there's any panic

over it, nor is there now. The West has gone through a very serious drought period, and except for some rationing that has taken place here and there, I don't know that anybody's really suffered from the drought.

I think we're probably are seeing the end of the era of large dams. In the West, there are very few places where you can propose to build a dam now, and be successful in getting it authorized and constructed. So I think what's going to happen to take care of these future water shortages is conversion of uses, changes of uses from one to another. And, I think you're going to see continual pressure to take water that is now being diverted for out-of-stream uses, like irrigation, and have those rights return to the stream, for reestablishing the stream flows for fish and wildlife, esthetics, other things. I think that's where the pressure is going to come.

You look at our State of Idaho: we currently have some water shortages for agricultural and other uses in drought periods. But we still have 70 million acre-feet of water running out of the state, on the average. You say well isn't there extra -- there isn't any shortage of water. People are consuming maybe six or seven million acre-feet of water in the state, ten times that is running out of the state. Why are you short of water? Well, because that water running out of the state is all committed to navigation, power, fish and wildlife, and other concerns downriver. Can we expand what we're consuming in Idaho? Well, not very much, because we have internal conflicts. I think that's what the Bureau is faced with -- managing what it now has, better, with the demands being made, and I see in what's coming out from the Bureau now in water conservation and water spreading policies and those kinds of things, those issues, as an effort to reallocate the water that is committed to agriculture. Ed Osann doesn't fool me when he says that's not the purpose.

Storey: What do you think the mechanisms are going to be for shifting water use?

Higginson: Oh, I think the Bureau will probably account for some of it through their contracting policies,

CONVERSION OF WATER USE
RATHER THAN DAM
CONSTRUCTION WILL OCCUR
IN THE FUTURE

BUREAU OF RECLAMATION
ISSUES IN IDAHO IN 1995

which will require the contractors to develop water conservation plans, and implement those plans. I think unauthorized use or water spreading is going to become a means whereby the Bureau will identify waters that are currently used for agriculture that might be available for consideration for something else the Bureau's going to run right square into the problem of state water rights. The Bureau has to recognize that it is a holder of a state-granted right. It can't just arbitrarily decide that it's going to change the use of the water that the state gave it a right to use for some other purpose -- can't do it. Someday there's going to be a big grand lawsuit over that issue. But, I'm convinced that the states will win.

Storey:

And that seems to be one of the areas where the problems are. We have seventeen western states we deal with, not completely different water rights systems in each one, but maybe three or four major competing ones with a lot of minor variations. (**Higginson:** Right.) How do you see that Eventually the states' water laws are going to respond to the social needs. (**Higginson:** They have done that.) What do you see as the tenor of those changes?

**HOW WESTERN WATER LAW
MIGHT CHANGE TO PROVIDE
FOR NEW USES OF WATER**

Higginson:

I think if you were to go back thirty years, there was no consideration in any of the Western water law for environmental concerns. The laws were developed by and written by agricultural interests. They saw that they got through their legislatures, and so the only consideration was, "How do you get water out of a stream, apply it to land, and grow potatoes? And how do I protect my investment in doing that so that there is a certainly of supply on which I can base my without the farm operations for the future?" So you adopted the Western mining law, prior appropriation doctrine, when here comes along the Reclamation program, Congress tells Reclamation, "You have to comply with state law." So Reclamation applies for a permit to build Arrowrock Dam here on the Boise River in the early 1900s. And they apply to the State of Idaho and get a permit saying "We want to build this dam for the purpose of providing flood control for the Boise Valley, but primarily as a

**ISSUES RECLAMATION MUST
CONFRONT IN CONVERTING
WATER TO NEW USES**

water supply for the Boise Irrigation Project. And this is how we intend to use the water," just as a farmer would do the same thing, applying to the state for a permit to divert water from the Boise River and use it for some purpose. So the state issues the permit on the premise, that what the Bureau says, "We intend to use the water for," and that's the limit of the right.

Now we come to 1995 and now suddenly the Bureau says, "Oh, by the way, we want to use some of the yield of the Arrowrock Dam that you authorized us to build back in 1912, or whenever it was, and told us that it was alright to use the water to irrigate this Boise Project out here, through this canal system, and we've been doing that for seventy years, but now we want to use some of the water to send down the river 500 miles in hopes of augmenting the flow of the Lower Snake and Columbia Rivers for the benefit of anadromous fish."

We say, "Fine, if that's what you propose to do, there is a provision under Idaho law where you can change the nature and place of use of the water of your authorized water right, here for the Boise Project. Say we want to add a use of anadromous flow augmentation, at sites outside the State of Idaho. You file under our law, and propose to do that, and we will determine whether it interferes with other water rights that we've authorized on the Boise River and Snake River system, whether it's an enlargement of the right that was originally granted to the Bureau, whether it's in the public interest, and it's a beneficial use of water."

The Bureau doesn't want to file that application, because they don't think they can show those four items that our law requires. So that's where the conflicts have come. The Bureau was saying, "Oh," and we've been told this already by the Solicitor. "Oh, the Endangered Species Act supersedes state law."

And we say, "Baloney, we'll see you in court, if you try to take it without complying with the law. Because the Reclamation Act, Section 8, says you will comply with state law. And you did! And on the strength of your application, we said, we will support the construction of these dams and the operation of

these dams to serve the purposes for which they were originally authorized, and we supported construction and we issued permits."

Because the Bureau of Reclamation doesn't provide all the water in the Western United States. (**Storey:** Maybe one-fifth.) The Bureau of Reclamation irrigates maybe one-fifth, of the irrigated land. All the other four-fifths of the irrigation is entitled to know that the Bureau is being treated the same way they are being treated in the case of water rights in the same system. There can't be a superimposed Federal presence that says "Well, we're going to comply with your local water laws, only insofar as it lets us do what we want to do. If we change our mind and we want to do something different with the water that you've authorized us to store under a priority right being granted in Idaho or Montana or whatever the state is, we want to do something different," Then we say, "Wait a minute, that's going to interfere with Joe Blow's right to do something with his water. And the other four-fifths of the irrigated land is impacted by what the Bureau wants to change. Then we've got a conflict. And I keep reminding John Keys, "You've got to comply with state law if you want to use water for salmon."

And he says, "Yes, and I'm going to do that. I'm going to do that someday, I'm going to do that someday." (Storey chuckles: Uh-huh.) So it'll be after my tenure here, but in the month of May the Bureau is going to have to refile or reactivate its applications to amend its water rights to allow water for endangered species uses downriver, out of state, for salmon -- because the presently-authorized uses of the Minidoka and the Boise and the other projects in Idaho do not include release of storage for the benefit of flow augmentation for anadromous fish. It's not the purpose for which those Projects were authorized. Congress did not request it, the state did not approve it.

Now I've given my lecture!

Storey: That's okay. Let me ask the same question in a different way. Not thinking in terms of Reclamation, but thinking in terms of state water law, presumably the water is going to migrate, at

HOW IS WATER USE GOING TO CHANGE IN THE WEST?

least to some extent, from irrigation purposes to industrial and municipal purposes in the West.

Higginson: It'll flow toward money.

Storey: You think that's the way it's going to work, basically?

Higginson: That's the way its going to work, yes. Water is worth so much more for M&I use than it is for agriculture, that ag cannot stand up to the offers of money. The water will flow towards the money.

Storey: Okay, good. That's what I was trying to get at. (chuckles) I was just wondering how the mechanism was going to change. And if I'm hearing you correctly, you don't see that there would be a lot of change maybe in water law. Instead, what you see is that existing water law would be used

Higginson: Would be used to effect those transfers. (**Storey:** Okay.) And it has been used [for transfers]. Example after example. I don't know whether you're familiar with the study report on water transfers in the West by the National Research Council.

Storey: No, I don't think so. I don't believe I am.

Higginson: I was part of the team that did that study and wrote that book on water transfers in the West, and we did a number of case studies showing how water has been transferred. Anyway, part of that

Storey: Uh-huh, *Water Transfers in the West* by the National Research Council.

Higginson: Right, and it's an Academy of Science committee report. I think it covers the subject matter of The concern there was third-party impacts of the water transfers: if "A" sells to "B," there's a process under state law for "A" to transfer the water to "B," and "B" doesn't change the use in place, but what happens to "C" who was impacted by "A" and "B's" transaction over here?

That's how we get equity in the process in consideration of "C's" concerns.

Storey: And have the recommendations been implemented, or is this just a study that shows how it works?

Higginson: A study shows how it works. There isn't much in the way of recommendations, however there's a chapter in the back that has some recommendations and things that ought to be done.

Storey: Going back to when you were Commissioner, were there any particular efforts going on for safety of dam work in Reclamation at that time? (**Higginson:** Yes.) Anything that involved you as the Commissioner?

SAFETY OF DAMS ISSUES IN
RECLAMATION WHILE
COMMISSIONER

Higginson: Well, yes. I think as an outgrowth of Teton, the design criteria for Bureau dams was reviewed and some changes were made, some seismic design criteria, spillway design criteria, various other criteria were modified, and some structural reviews were completed, and we found some structures that didn't meet current safety standards, and we went to the Congress and got authority for reconstruction of several dams, and one of those is the American Falls Dam here in Idaho, a concrete structure where there was a chemical reaction between the cement and the aggregate used to form the concrete in that structure, and it had deteriorated over the years and weakened the structure and needed to be replaced. So we got the authorization to do it, and it was determined to be a design problem -- use of the wrong aggregate with the cement had caused a chemical reaction and in time weakened the structure -- and got it approved as a nonreimbursable Federal expenditure, we didn't have to go back to the contractors and have them repay it.

I remember that was one occasion when I got a check, and I think it was for -- I'm going to be off on this -- but I think it was about \$18 million. I carried it into the Secretary's Office. I said, "Mr. Secretary, I have this check for \$18 million to reimburse the space holders of

the American Falls dam for the cost of replacing the structure that's just been completed. Either you or I can take that out to Idaho, to our home state, and deliver it to the local people." (Storey chuckles) There was no question but what he was going to deliver it. (**Storey:** Mr. Andrus.) Mr. Andrus. So yes, I was involved. And I remember going up and testifying on

END OF SIDE 1, TAPE 2. APRIL 19, 1995.

BEGINNING OF SIDE 2, TAPE 2. APRIL 19, 1995.

Storey: You went up to Congress and talked about

Higginson: On individual projects, whether the costs of the "safety of dam" improvements to the structure should be reimbursable by the project beneficiaries or be a Federal cost, nonreimbursable; and whether the ceiling that was originally put on the authorization, I think it was \$100 million initially, could be raised as we went down the road with review of other structures. And it was one of the occasions when I was testifying and there was one member of the committee sitting there listening, nobody else in the room hardly but you were making a record. It always seemed a little strange to go up there and testify to an important committee of Congress and all you're talking to is one chairman who's conducting a committee meeting and nobody else in the room besides you and he. . . .

Storey: You're just creating a record, huh?

Higginson: Creating a record.

Storey: Did that happen a lot?

Higginson: It happened several times. I wasn't up there that much, but several times I'd go up there, there were few if any other members of the committee present during the testimony.

Storey: On the "safety of dams" issues. At first were there a lot of people in attendance, and were they trying to make political "hay" out of the situation?

Higginson: I didn't see any of that. I think there was a concern, a legitimate concern, as to Federal liability if something should happen to one of those structures that didn't meet present day design standards. There were legitimate concerns that we ought to get it taken care of. We were in the process of going through and inventorying and reviewing the design of all of our dams to make sure that they met present day standards. Those that we identified we'd put them in a report and go get authorization for making modification, decide on the issue of whether it was something that was wholly or partially reimbursable by the project beneficiary.

Storey: Is there anything else about your commissionership that we should talk about?

Higginson: Oh, I think I would just say that it was a great experience as far as I was concerned. I enjoyed the four years tremendously, and met a lot of very competent, very good people; traveled with some of them to foreign countries in a couple of cases -- I made a trip to Spain as Commissioner, and one to China. Went with Don Duck to China -- and we had a great experience.

**TRIPS TO SPAIN AND CHINA
WHILE COMMISSIONER**

Storey: What was that for and about?

Higginson: The Vice-president had been to China and signed a technical assistance agreement with the Chinese government, and they wanted to implement that agreement -- particularly technical assistance for the development of their hydropower potential. So they had representatives of the Corps, the Bureau, Tennessee Valley Authority, and the White House and other government entities went to China. And then they split us up into three groups to visit various sites and projects and areas. And our group went down into Southern and Western China into the foothills of the Himalaya Mountains where they had several high dams proposals. Took a ship down the Yangtze River through the Three Gorges Dam site . . . where they wanted to build the granddaddy of all dams. Tall hydro [dam] 12,000 megawatts. And they wanted to build it on the Yangtze [River].

They took us down from there and showed us the damsite. Anyway, Don Duck was with me, and one of our foreign office people whose name I don't remember right now, and Guy Martin . . .

- Storey:** What was Guy Martin like? Where's he from?
- Higginson:** He spent some time in Alaska, and I think Colorado. He's currently still in Washington. Very capable. Went to Spain because we had a technical assistance agreement with the Spanish government, and providing assistance in design and construction of dams and aqueducts to move some of their surplus water from their northern watersheds down to the southern plains where it was more arid. And we helped them do some planning. Wanted to review that agreement wanted me to come over and sign an extension of the agreement, so I went over to Spain and spent a week touring the facilities and meeting with people. Those were two trips that I particularly enjoyed while I was Commissioner.
- Storey:** How long would trips like that last?
- Higginson:** The Spanish trip was just over a week. The Chinese trip was more like three weeks.
- Storey:** You'd be hosted by the government? This would have been after Nixon had opened it up.
- Higginson:** Right. Mondale, I think had gone over and signed, Vice-President signed the protocol of the agreement and we were doing an annex to the protocol. Went to Beijing, left from there and traveled by train and plane and ship throughout various parts of China.
- Storey:** Did anything actually get started with China or Spain while you were still Commissioner?
- Higginson:** Well, that got started. We got the extension of the Spanish agreement, contingent to provide the technical assistance. The Spanish government has organized almost a clone of the Bureau of Reclamation -- their water program they have regional directors, you know, the same kind of a structure as the Bureau had. And we just

extended the agreement to provide technical assistance at request.

And the Chinese were just getting started, providing technical assistance. The issues that were kind of left on the table were whether when they bring technical people over to the United States for training, do we pay for their subsistence while they're here, or do they have to pay. And when we go to China to assist them, again the subsistence issues. Kind of left on the table. Because it costs more to live in the United States than it does to live in China.

Storey: Yeah, substantially more, I would think.
You've already mentioned currently that instream augmentation for the anadromous fish is one of the major issues with Reclamation right now.

Higginson: It is here in the Northwest. And I suppose it is in the Sacramento Region also because of the Feather-Sacramento River System.

Storey: Yeah, the San Joaquin River and the Sacramento River. I was going to Texas, and I thought, "This isn't the right river!"
What are the other major issues with Reclamation right now in Idaho?

Higginson: Oh, I think there's a lot of concern about this water conservation initiative that's coming forward now. There was concern about it -- initially it came out as a guidelines for water conservation plans to be developed by contract with irrigation districts. Now we see it published in the *Federal Register* as a regulation. So it's gone from a guideline to a regulation and that concerned a lot of people. And some concern expressed this last week by the Western States Water Council to Ed Osann and to Dan Beard about what are we to interpret by changing it from a guideline to a regulation?

So I think we're kind of undecided there. We in this state are concerned about whether we should assume any of the responsibility associated with water conservation plans as offered to us that we might take some of the responsibility for administering those plans and

**CONCERN IN IDAHO ABOUT
RECLAMATION'S WATER
CONSERVATION INITIATIVES**

programs. Several states have water conservation offices, and they're all set up and geared up to do water conservation planning and implementation. A lot of the states are not however, and the question is should we venture into that quagmire or whatever it may become without knowing full well what we're getting into. So that's a concern.

The waterspreading issue, unauthorized use of Federal water is a major concern. We don't know how it's going to be implemented; we don't know how many of our districts are going to be affected by it; we don't know whether it's going to be punitively applied or whether it's going to be, "We've got a problem here, let's take care of it with the least disruption and pain as we can to make sure that we recognize that what you're doing is legal." So that's a major concern with the Bureau.

And I think those two items, coupled with the water for salmon here in this part of the country, are the major issues with the Bureau of Reclamation.

**C O N C E R N S A B O U T
W A T E R S P R E A D I N G A M O N G
T H E S T A T E S**

Storey: Correct me if I'm wrong, but wouldn't waterspreading, as Reclamation interprets it, which is the application of water to unauthorized lands, wouldn't that be outside of the Reclamation water right granted by the State of Idaho, for instance?

Higginson: Not necessarily. It may be that the water right granted by the state is for a section of land, that there's a high 1.5 acre spot that the original Reclamation maps identified as nonarable -- because it was higher than the ditch -- that wouldn't necessarily be cut out in the water right granted by the state.

Further, it doesn't make any sense to be worried about these little one-and-a-half acre or two-acre to ten-acre pieces of land that were classified as nonirrigable in the irrigation classification figures done at the time the project was authorized. If you're not going to have any concern for those tracts of land that were shown as irrigable that are now a shopping mall, somebody's still paying for the Federal water but not using any. I mean, if you're not going to give

credit for the lands that have gone out that were clearly authorized, and the water is still being paid for, then why should you be concerned about a little corner that's been taken out. . . . sprinkler that now rolls up over the high spot and the ditch runs around the field.

Storey: Or where land leveling is feasible now.

Higginson: So I think the thing has been selectively applied, and I complained to Dan [Beard] and to Ed [Osann] several times about "'Til you know what's happening, changes that have taken place, the additions and the subtractions, you don't really know whether you've got a problem." To focus in on the additions and say, "These people are using water on unauthorized lands and are not paying for it" What about that they're paying for it over here, and they're not getting any water, because it's a shopping mall?! What are you doing about that?! Are you going to give them a refund?! No, you're going to collect for this, but you're going to get a refund for that. 'Til you know what those changes are, you can't really apply this unauthorized use policy, but they just ignored that and went right ahead. Terrible people in the West are using this water in an unauthorized manner and the Federal treasury is being ripped off. I pay for water every year in my [property] taxes, the Boise Project. Building a house lot out here, I pay for water with my taxes every year. I don't get one drop of Reclamation water. But am I complaining? There's thousands of acres like that.

Storey: One of the tendencies seems to be that irrigated land is going one of two ways: either it's being absorbed into larger and larger units, or it's being urbanized and turned into hobby farms. Is that a tendency that holds here in Idaho?

Higginson: I think the latter is more typical. I don't see much of the consolidation of irrigation farms. I think farm enterprises are being purchased or given to the son or brother or somebody else to operate and take over. I don't think we see people getting bigger. And I see the urbanization of sites is the

TENDENCIES FOR IRRIGATED
LAND: URBANIZATION AND
CONSOLIDATION

major issue around your larger communities.

Storey: Does that affect a lot of the irrigated land in Idaho?

Higginson: It affects a lot of major urban centers, yes. Where there are irrigated tracts of land near urban centers, yes. It's probably thousands, tens of thousands of acres.

Storey: Is there anything else we ought to talk about, given our limited time?

Higginson: I think we've pretty well explored water rights.

Storey: Well, I appreciate your taking time out. I know your schedule is busy.

Higginson: It's a particularly tough time right now because I'm trying to wind up and get out of here.

Storey: Well, I'd like to ask you whether or not you're willing for the tapes and transcripts from this interview to be used by researchers inside and outside Reclamation.

Higginson: I have no objections.

Storey: Great, thank you very much.

Higginson: You're welcome.

END OF SIDE 2, TAPE 2. APRIL 19, 1995.