## ERIC WILKINSON

**PS:** Today is Wednesday, October 11, 2006. I'm Pam Stevenson doing the interview. Bill Stevenson is the videographer. These are interviews for the Colorado River Water Users Association. We're at the Northern Colorado Water Conservancy District. I'd like to let you introduce yourself.

**EW:** I'm Eric Wilkinson. I'm the General Manager of the Northern Colorado Water Conservancy District, and a municipal subdistrict of the Northern Colorado Water Conservancy District.

**PS:** I'd like to start with a little background about you. Why don't you tell us when and where you were born?

**EW:** I was born in Fort Collins, Colorado, just about 15 miles from here and it was 1951.

**PS:** We've been interviewing a lot of people who are native Coloradans, sometimes several generations. How many generations do you go back?

**EW:** I'm the first native Coloradan in our family. My family came from Nebraska, as many people in Colorado originally did.

**PS:** What did your father do?

**EW:** My father was a water commissioner on the Cache La Poudre River from the time I was about five months old till the time I was 18, then he became the Division Engineer for the South Platte Basin in the state of Colorado at that time and was Division Engineer for about ten years. That's the background that I have in water and that's how I got started in water.

**PS:** You were kind of born into water.

**EW:** Yes. A lot of people say I was weaned on the Poudre River.

**PS:** Tell me what it was like growing up in Fort Collins. What was Fort Collins like back then?

**EW:** It was very, very nice. Fort Collins back then was a population of between 10 and 15,000. Today it's a population of over 125,000. It was dependant upon an agricultural economy. It had the land grant university, state university. At that time, when I was born, it was Texas A&M, but later became Colorado State University. It was a wonderful town to grow up in. It was just the right size. It had a lot of educational opportunities. It has changed an awfully lot in the years since I was born to now.

**PS:** Every place has. Were you a good student in school then?

**EW:** I'd like to think I was. Yes, I was a pretty good student in high school and went on to Colorado State University and graduated in civil engineering.

**PS:** You stayed in Fort Collins? Stayed close to home?

**EW:** Yes, I've never lived more than 65 miles from the place I was born.

**PS:** What made you decide to go into engineering?

**EW:** Basically my father. And my exposure to water and water resources when I was growing up. I spent a lot of time riding around in the pickup with my father as he went up and down the Poudre River looking at the administration of the water in the Poudre. I originally thought he had me along because he liked to have me along, but I think he had me along so I could open the gates for him

when he went up and down the ditches. Actually, we spent some very valuable time together and I really enjoyed that and that's where I ended up in engineering.

**PS:** Did you always think you were going to get into water? Did you ever have any other ideas?

**EW:** I always knew I was going to get into water. There was never a question. From the time I was probably six or seven years old, I knew that was what I wanted to do, and it never varied from that point in time.

**PS:** You grew up in the Vietnam War period. Did you serve?

**EW:** No, I didn't. I did not serve. At that particular time, there was the lottery for the draft. I came within two numbers of my lottery number being called the year I was eligible to be drafted, but I never was drafted.

**PS:** What was your first job then after you got out of school?

**EW:** In my senior year in college, I was the Deputy Water Commissioner on the Cache La Poudre River. Then after I graduated from college, I went to work for the Colorado State Engineer's Office, the Colorado Division of Water Resources in the Dam Safety Branch. I worked there for 11 years.

**PS:** What did you do in Dam Safety?

**EW:** I was a Dam Safety Inspector. I looked at dams throughout the state of Colorado, assessed their condition and then asked the owners of the dams, if necessary, to do corrective actions on those structures to assure their safety. Part of the Colorado statutes is that the State Engineer will inspect the dams

within the state of Colorado to assure that they meet current safety standards and I was part of that program.

**PS:** There are a lot of dams in Colorado. So you got to travel a lot?

**EW:** Yes, there are quite a number of dams in Colorado. Yes, I traveled a lot and saw a lot of the state of Colorado which was a good exposure. Saw the different regions in the state of Colorado and how water was administered in those different basins and the challenges each of those basins faced. It was very, very good background.

**PS:** And a lot of the people you work with today.

**EW:** Yes, a lot of the people I work with today I originally met as a dam inspector.

**PS:** So how did your career progress from there?

**EW:** I then worked for the city of Greeley in their water resources department for three years. Then I came to work for the Northern Colorado Water Conservancy District and I've been here 19 years now.

**PS:** Why did you come to work here?

**EW:** Because of the opportunities this organization had available, looking at planning for the future and water resources management. I was always impressed with this organization, even when I was a child. The Northern Colorado Water Conservancy District with its nexus with the Colorado-Big Thompson Project always had a large role to play in this region because of the water supply that it provides through the Colorado-Big Thompson Project and its ability to supplement existing water supplies. When I was six years old, the

Colorado-Big Thompson Project came online and I remember my father administering the water as it was delivered from Horsetooth Reservoir into the Cache La Poudre River and how that changed things within this area because of that additional supplemental water that the project provided, so I always had quite an admiration for the organization. It's still unbelievable to me that I have the opportunity to work for it.

**PS:** How did the Big Thompson change things?

**EW:** The Colorado-Big Thompson Project really helped by supplementing the water supply in the area within the district boundaries. It added between a third and a fourth of the water supply. In other words, it increased the water supply between an additional 25 to 33 percent of the water that was available in this area before. The area within our district boundaries had been water short since before 1900. The water rights within the district boundaries had really been over appropriated and, because of the development and the scarcity of water in this area, the agricultural industry in this area is quite robust and there's a lot of high quality, highly productive land in this area. All you need to do is have adequate water and it's very, very highly productive. Because of the additional water that it added, it provided an additional opportunity for agricultural entities in this area to really move forward and prosper. It has also provided a significant increase in the economic base because of the need for additional water in this area. The project really met that need.

**PS:** What year did you come to work here then?

**EW:** I came to work here in 1987.

**PS:** What were some of the issues when you came here?

**EW:** When I cam here, there was an effort being made to coordinate water management on the South Platte River to see if there could be additional cooperation within the South Platte Basin to make better use of the CBT Project. At that particular time, the Windy Gap Project which is a project owned and operated by our municipal subdistrict had just come online two years before. There was a lot of discussion on how to integrate it as well into the water supplies of the participants that were part of that project. So there were a lot of things going on. There was quite a bit of growth going on at that time. The district and the subdistrict were trying to figure out how they could integrate the water supplies available from the CBT Project and the Windy Gap Project to the maximum benefit of this area as well. Growth in the Denver metropolitan area had resulted in some of the suburbs in the Denver metropolitan area looking to the area within our district for additional water supplies. So there was, for the first time in the history of this area, a real threat, if you want to call it that, by outside entities coming in and acquiring water rights in our area and taking those water rights out of our area for use elsewhere. This really posed a challenge to the future of this area because it had always been thought that water resources in this area that had been developed would be in this area, in essence, in perpetuity and be available for future economic development. This type of activity where other entities were coming in and acquiring that water to take outside the region really posed a real challenge to that future possibility.

**PS:** The same thing that was going on with the west slope communities.

**EW:** The difference though really is that this was water supplies that had already been developed and were being used in agriculture for the most part, whereas the water on the west slope was in large part waters that hadn't yet been appropriated or put to beneficial use. That was water that was available for use that would otherwise have flowed out of the state of Colorado.

**PS:** How did you resolve that? Did some of the suburbs get some of this water?

**EW:** It ended up that the city of Thornton, after roughly 10 years of litigation, ended up with a decree that allowed them to take, in essence, 26,000 acre-feet of water from about 18,000 acres of irrigated farmland up in this area to be utilized within the boundaries of the city of Thornton. To date, none of that water has been taken out. The decree was rendered in early 1994 for that, but because of the lack of infrastructure to move that water from the area of current beneficial use to the area within the city of Thornton, that water has not yet been moved. We're still awaiting that occurrence.

**PS:** Did they actually buy the land to get the water rights to the land?

**EW:** Yes, they bought 21,000 acres of land, 18,000 acres of which was irrigated farm land. They got just a little less than 50% of one of the major irrigation companies in the Cache La Poudre Basin. Through the Colorado statutes, they had the ability and the right as well to move that water from the original beneficial use to beneficial use within the city of Thornton. And they went through all the measures, people that could be impacted by that move, participated in that adjudication of that change of water rights, and it ended up with a decree being rendered in 1994.

**PS:** What they don't have is the physical way to get it there, is that right?

**EW:** Yes. They continue to work on finding ways to do that. Eventually they will put in the infrastructure necessary to move that water.

**PS:** Would that be a canal? Or a pipeline?

**EW:** It would be a pipeline, and probably one or two, or a series of pump stations to move it from the area of original use to Thornton, since Thornton sits at a higher elevation than the area of original use.

**PS:** How many miles would that be?

**EW:** Around 60 miles. 60 miles of pipeline. A significant investment. It's quite a challenge, as you can see, with the development along the Front Range of finding a pipeline corridor to get the water there.

**PS:** What was your first job when you came here?

**EW:** I was a Senior Water Resources Engineer. My primary job was to interact with entities on the South Platte River and within the South Platte Basin, particularly downstream of Greeley to look at opportunities to better utilize the water resources that were available.

**PS:** Were there any major issues you were dealing with in that area?

**EW:** No. Other than identification of possible flexibility within the various systems to see if we could identify areas of cooperation. Then shortly after that, I was more focused on dealing with the city of Thornton change of water rights. Spent quite a few years dealing with that directly.

**PS:** Are there other cities looking to do that same kind of thing?

**EW:** There are a number of cities in the Denver metropolitan area that are acquiring, or have already acquired, water rights in the South Platte Basin downstream of the city of Denver. The city of Parker, for example, I guess technically the Parker Water and Sanitation District, some of their cooperators down there have acquired some water and lands in the Lower South Platte

Basin, down in the Sterling area. There are a number of other entities as well that are looking up here for the possibility of conversion of ag rights to municipal or domestic rights.

**PS:** How did your career here progress?

**EW:** From a Water Resources Engineer to the General Manager? As I said, I worked in water rights specifically for a number of years as a Senior Water Resources Engineer and then eventually as a Supervisory Water Resources Engineer, then in January 1994, I was selected as the General Manager after the retirement of the former General Manager, Larry Simpson.

**PS:** Was that something you'd always wanted to do?

**EW:** No, I think I hadn't really thought about it. The retirement of Larry Simpson, I think, came as a surprise to a lot of people. He decided to go to work for the World Bank. Many people who worked in the organization at that time thought it would be a number of years before he retired. It was a quick happening of events there for a few months. To be honest with you, I was a little bit surprised that I ended up where I ended up at after those events.

**PS:** So what are your responsibilities here as General Manager?

**EW:** Just basically the management of the district and the subdistrict and its operations to try to address the issues that need to be addressed, and to be sure that the goals and objectives of our Board of Directors and the policies of the district are moved forward and advanced. A lot of it has to do with management of our existing water rights and planning for the future. We cooperate with a lot of entities within our district to try to formulate and implement water management projects. We've put some pipeline projects together, in fact two of them. We're working on two reservoir projects right now. We've got a lot of things going on.

**PS:** Do you want to talk a little bit about some of those projects?

**EW:** For example, in the early 90s, an entity down near Denver, the city of Broomfield, was affected by some pollutants that got into their water supply from the Rocky Flats nuclear weapons plant. As a result, the Department of Energy provided them some funds to develop a substitute water supply. That gave an opportunity for a number of entities to cooperate within the district to build what turned out to be a 90-mile pipeline project that went as far south as the city of Broomfield and as far east as the town of Fort Morgan to provide water out of Carter Lake to those entities. A number of those entities needed that water because of water quality considerations. A number of those entities that participated in that project were dependent on groundwater and the quality of the groundwater had degraded to the point where nitrates and other components were becoming a concern. So it provided an opportunity through an economy of scale for a lot of participants to engage as participants in that project and that project moved forward through construction beginning in 1993 and ending up in about 1998 to help a lot of communities in the area. We've done a cooperative pipeline as well on the north end of our project to help provide a conveyance facility to utilize native water within some filter plants that serve municipalities as well as the areas that surround the municipalities which better utilizes the native water supplies. It also provides the ability to provide water, for example, to the city of Greeley during the winter for the CBT Project to provide a more reliable water supply for them. Those pipeline projects, I think, have been very successful and shows what cooperation can do within the area of water management. We have a water supply project that we're trying to develop now for a firm yield of about 40,000 acre-feet for a number of entities within our district boundaries called the Northern Integrated Supply Project. We're trying to develop infrastructure in agreements to beneficially use available unappropriated water within the Poudre Basin and through exchanges with farmers, provide them a substitute water supply and, in turn, use the water supply that had historically

been used by those farmers which is of a higher quality for first use in municipalities. We're hoping to get that project moved forward and get a record of decision on that sometime in 2007.

**PS:** You said you get a substitute water supply for the farmers. Now what kind of water would that be?

**EW:** There are areas within the South Platte Basin where water is available at certain times of the year, particularly downstream of Greeley, so what we would do is pump that water out of the South Platte, put it in a reservoir during times when it was available, then use that water out of that reservoir to deliver to two large irrigation company facilities during the summer months, then use their water that they had historically diverted and store it in a large reservoir up near the mouth of the canyon of the Poudre Basin to then utilize that water for municipal purposes. So it's kind of an exchange or substitute water supply plan combined with a direct diversion of water and a combination of those two projects yield 40,000 acre-feet of additional firm yield to the project participants.

**PS:** You mentioned the quality. Someone else had mentioned that they thought one of the big issues coming up in the future was going to be water quality. So is that already showing up here?

**EW:** Yes, it is showing up here and has been evident around here for the last 10-12 years. Water quality is becoming a significant concern. The components of nitrates, for example, in groundwater use has, in large part, eliminated the primary use of groundwater for domestic and municipal purposes. Groundwater can still be used but it has to be mixed to meet standards. The other thing that we're looking at is salinity, and how salinity affects crop production and things like that within our area. We, in cooperation with Reclamation, are doing an extensive study on that as well. Then we also have challenges in regard to water quality on our source water and what is happening to the source water because

of development and other factors that affect water quality. So yes, water quality for Colorado is becoming more and more of an issue. In the past, it's been a focus on water quantity but I think you're going to see a focus in the future in Colorado on both quality and quantity. A lot of municipalities are going to, in some cases, reverse osmosis or membrane treatment to get their water quality to the level that they need to have and, of course, that type of treatment presents its own problems in regard to disposal of brine and the by-products. So Colorado is facing some additional challenges due to water quality.

**PS:** It sounds like what you're talking about, that exchange, that the higher quality water would be for municipal use and the agricultural would get the lesser.

**EW:** Yes, and we'd have to pay close attention to the quality of water that was provided to agriculture to assure there wasn't an adverse impact on agriculture, such as elevated salinity or other components. The last large project we're working on is called Windy Gap firming. When our Windy Gap Project was constructed in 1981 through '85, it was constructed as a diversion project that would divert into the Colorado-Big Thompson Project and use excess capacity in the Colorado-Big Thompson Project to store and convey that water to the east slope. When the project was originally designed and was permitted, it was recognized early on that there needed to be a storage component as part of that project. It was originally envisioned that the individual participants would develop their own individual storage or use existing storage for that Windy Gap Project water. Because of the cost of the project, and because of the availability of use of the CBT Project, early in the use of that project, the emphasis on providing storage for that project was not as acute as it is today. Because the Windy Gap Project was built to have the participants grow into the project, in other words, it was built to a size that was anticipated to be needed by about 2005 to 2010, the full demand on the project hasn't been developed yet. But as we grow in this area, and we are growing quite quickly, it's envisioned that the growth into full demand and the need for that storage that had been delayed was becoming

more and more acute. It was decided about four to five years ago that instead of individual storage, that the participants would cooperate and develop one large single storage facility to basically again realize the economies of scale and lessen the environmental damage. So those participants in what we call the Windy Gap Firming Project now are cooperating to develop a large storage project that will utilize water diverted by the Windy Gap Project, stored in years when there is adequate or abundant water supplies and then carry it over into years when the more junior water rights of the Windy Gap Project would not be able to divert or would be able to divert less than the average amount. That project is moving forward as well. Again, we hope to get a record of decision early next year in 2007 and be able to move forward with implementing that project and get it online hopefully within the next three to five years.

**PS:** What kind of storage would that be?

**EW:** That would be reservoir storage. It would be offstream. These structures that we're talking about on both the Northern Integrated Supply Project and the Windy Gap Firming Project are all offstream reservoirs. That effort would lessen environmental impact and yet provide the infrastructure needed to manage the water resources.

**PS:** When you say offstream reservoirs, would you be pumping the water somewhere?

**EW:** Yes we would be pumping. In all these facilities, the water would be pumped from the stream into the reservoirs themselves and then be released back from those structures back into existing infrastructure for delivery, in some cases, through the Colorado-Big Thompson Project facilities and, in other cases, through our existing irrigation canals and other facilities.

**PS:** How large of reservoirs are you talking about?

**EW:** For the Windy Gap Firming Project, we're talking in the neighborhood of about 90,000 acre-feet. For the Northern Integrated Supply Project, we're talking reservoirs in the neighborhood of about 170,000 to 180,000 acre-feet for the large storage reservoir and then the exchange reservoir for the agricultural exchange would be in the neighborhood of about a 30,000 acre-foot reservoir.

**PS:** Is it hard to find locations where you can put those reservoirs?

**EW:** It's very hard to find those locations, to find efficient locations, because when you're considering the need to pump as well to fill those reservoirs, you have the continuing concern about energy charges and the pumping energy to put the water in there so you have to find sites that minimize the length of infrastructure, the length of piping to get it there, etc. so yeah, it's definitely a challenge.

**PS:** And to pump it out again too.

**EW:** In a lot of cases, if you position the structures correctly, you can deliver by gravity and at least you're not having to go both ways and, so far, with our preferred alternatives for both of these projects, we've been able to find those type of locations.

**PS:** And you're also going to be flooding a large area.

**EW:** Yes. Again, for example, with the Windy Gap Firming Project, on our preferred alternative site, we were able to deal with one landowner in that area and, in cooperation with Larimer County, the county in which the reservoir would be located, we were able to buy that land. Larimer County would use the land adjacent to the reservoir for recreational purposes and for open space, and then we'll be able to utilize the area that we need for the reservoir, so we're hoping

that through that cooperative effort, we can find a real symbiotic relationship there between the operation of the reservoir and the need for the water resources and the enjoyment of the reservoir and the adjacent open space.

**PS:** In Arizona, one of the problems that comes up, when you need that water, and you lower the level of the reservoir, the recreational users are not always happy.

**EW:** That's very true. That's not only true in Arizona; it's true in Colorado as well. The water in the reservoirs in Colorado are needed as well for beneficial use, for irrigation, domestic, municipal, and industrial, and sometimes, particularly in drier years, recreationalists that are able to use those facilities sometimes don't understand that the reservoirs are there to provide that water in those dry years. We have run into that on our CBT Project reservoirs a few instances in the past several years. Sometimes the people who utilize those facilities for recreation don't understand or aren't aware of the full benefits that that reservoir provides to others as well. So we have an educational challenge ahead of us in that regard too.

**PS:** That's something that a lot of people have talked to me about that we need, more education for the general public about the water in the whole west. Are you doing anything in that area?

**EW:** We have a very active public information program. We have a significant outreach program to try to educate our constituents about the water resources in this area. It ranges clear from giving tours for anyone who wants to participate in those tours of our facilities and explanations of how the projects work, to a Speaker's Bureau that employees from this organization at the request of just about anyone, will go out and speak about water to help that educational effort, to what we call Children's Water Festivals, which have been extremely successful. We sponsor many, many Children's Water Festivals at various areas

within our district boundaries to educate the children and the teachers about the water resources in this area. It's what we term our trickle up theory, where we hope to put that knowledge in the minds of children, 4th, 5th and 6th graders, and then they'll go home and tell their parents about what's going on. We found those to be very successful. You go to a Children's Water Festival, it's quite rewarding to see those kids learning about water. It's almost like they're sponges just trying to absorb as much information about water as they can. They have a lot of fun. The people that participate in those Water Festivals likewise have a lot of fun trying to educate those people. Education about water is probably one of the biggest challenges the water community has in the western United States, not just here in Colorado, not just here in the northern district, but everywhere in western Colorado. A lot of people have moved to the west and they've moved here from areas where water supply may not have been as critical a concern as it is here and it's important that we get the word out as to how critical water resources are in Colorado or in the western United States, and the real need for conservation of those resources, whether it be conservation by use, or conservation by storage. When you live in the desert, you need to value every drop.

**PS:** In the northern Colorado water area, what are the biggest issues or problems that you confront here?

**EW:** In regard to water resources, it's actually growth and where our future water is going to come from. The Colorado Water Conservation Board which is, by statute, the planning agency within the state of Colorado, initiated a study in 2003 called the Statewide Water Supply Initiative. That study was to look at existing supplies and existing demand and then project forward to 2030 what the supplies and demands would be and also look at the planned projects that would help to meet some of those future demands. In the South Platte Basin, of which we're a large part, it was found that there would be a need for an additional 409,000 acre-feet of water for municipal and industrial purposes. And the

question is, where is that going to come from? In surveying the entities that are faced with that challenge, it's going to come from a variety of sources. Obviously conservation is the biggest source of that water, the most important source, not the biggest, but the most important source, but we're also faced with the challenge of where do you make up the other part of that. Identified projects and processes, as the study called them, has identified by the year 2000 about 80% of that demand will be met if 100% of those identified projects and processes are implemented. If they're not, of course, that gap gets bigger. But a large part of that future water supply will be the conversion of agricultural water to municipal and industrial water which is a grave concern to the communities around here particularly the more rural communities that have a significant dependence upon the agricultural economy. There are areas of the state, for example, the Arkansas Valley, that has been significantly impacted by the conversion of ag to municipal use of water rights. It has a detrimental impact as the lands are dried up, as economies are dried up, as the tax base is reduced because agricultural land when valued as dry land is not nearly as valuable as irrigated land. It really reverberates throughout the community what happens when you convert ag to municipal. In the South Platte by 2030, it's forecasted that anywhere between roughly 130,000 to 230,000 acres of irrigated farm land will be dried up to meet the municipal uses. So you couple that type of dry up with the need to develop the infrastructure that's necessary to not only manage the converted ag to municipal water, but also to manage the available water supplies that we have, such as the two projects that I mentioned earlier. There are a lot of challenges facing the water community within the South Platte. As we all know, life doesn't stop at 2030. What happens after 2030 is another major concern. For example, within our district boundaries, the southern half of Weld County is the second largest area of growth in the United States, second only after, it's my understanding, Las Vegas. Its proximity to the Denver metropolitan area makes it very attractive and as people move into that area, they're going to need water to sustain those developments, so a very, very large challenge.

**PS:** Are those developments being built on agricultural land?

**EW:** Some of them are being built on agricultural land and, as they assume that land they, in some cases, can use that agricultural water supply. In some cases, the agricultural water supply isn't of a quality that really makes it conducive to that use so, in those cases, they're having to put in membrane plants and reverse osmosis plants. But in a large part of that growth, it's onto lands that weren't previously irrigated so you're going to have to get that water from somewhere else to move into those areas so that you can supply that growth. I would say that growth and the meeting of the water demands of that growth are probably by far our biggest challenge, not only for us here but for the communities within our district boundaries and for the state as a whole.

**PS:** How do you think you'll find solutions to those problems?

**EW:** I think you're just going to have to look at all the alternatives. You need to look at every alternative that's out there and not take anything off the table. I think you're going to have to think outside the box. I think the time of cooperation and collaboration is really upon us and I think there's movement toward that in the state of Colorado. And there needs to be. I think you're really going to have to figure out how you maximize the beneficial use of the water in the state of Colorado, not only for the conventional or the more traditional beneficial uses, but also people are interested in recreational use and the impacts on the environment. All that has to be figured in. We're challenging ourselves to find methods and means to provide those water supplies for a number of beneficial uses. It's going to take some real innovation, some real cooperation and looking at everything possible.

**PS:** When you look at finding solutions to the challenges you face, who do you see as your allies that you're working with?

**EW:** I think you have to look at everybody as your ally because, if you don't, you won't have that cooperation. Obviously, the people that are in need are going to coalesce hopefully together to try to find ways to cooperatively solve their problems, if that's possible. But you also need to look at the community as a whole, and the state as a whole. Because if you don't have that widespread support for a water project, chances are that water project's not going to go forward. The human engineering is probably as important as the structural or technical engineering that goes into a water project nowadays.

**PS:** Who are the opponents?

**EW:** Traditionally, those that oppose water projects are looked at as opponents, but they oppose water projects because they feel that they could have an adverse impact on specific interests. I think we've got to get over that. I think you've got to get over the people for and the people against, and try, to the degree that you can, integrate those interests into the project. The people that are going to be against a project are going to be those that look at the project and find out that their needs or interests are not being met or are being impacted adversely by that water project. So if you're going to move a water project forward, somehow we've got to find a way to address that and address it in a reasonable manner. There's going to have to be a lot of give and take, probably as much give as there is take. With the limited water supplies in Colorado, you can't be everything to everybody.

**PS:** It seems like all these water conservation districts that were formed years ago are taking on a new importance or a higher visibility. Do you see that?

**EW:** Yes, I do. In Colorado, 1937 was kind of, excuse the expression, a watershed year. There was authorizing legislation for the first water conservation district in the state of Colorado, the Colorado River Water Conservation District. There was authorization on a generic basis for the formation of water

conservancy districts. There are a number of water conservancy districts in the state that have been formed under that statute. The Northern District was the first one. I think there's been either 47 or 48 since us. The Colorado Water Conservation Board was also formed in 1937 so that was kind of the year where, as you'd refer to, the water conservation and conservancy districts were really envisioned by the state of Colorado to be some of the prime movers in looking at the water resources in the state. As we move forward, the conservation and conservancy districts are the entities in the state of Colorado that kind of span, if you want to call it, the political boundaries or the geographic boundaries or the community boundaries to where if cooperation is moving forward, or going to move forward, in some cases it makes good sense that you use those conservation or conservancy districts as that common denominator to try to bring people together. I see a larger role for not only the conservation and conservancy districts to try to find ways to cooperate and coalesce interests, but also the state of Colorado. The state of Colorado is going to have to, as an entity, look at the state as a whole. I think entities are going to have to start looking at the state as a whole as well. Unfortunately, or fortunately, they may have to be a little less parochial and a little more global in their thinking, if that's possible.

**PS:** I guess those were sort of drought years in the '30s. More recently, nobody paid much attention to the water, certainly the water people did, but not the general public. But now the drought again has sort of focused attention.

**EW:** That's very true. I think people pay attention to specific issues based on crisis. When you have a drought, it does bring out the attention of a lot of people because water issues have, in essence, reached out and touched almost every citizen. As long as the water managers and the water entities were able to supply the water that was needed with little or no controversy or little or no problems, and Mother Nature cooperated, everything's fine. But when you hit a shortage or there's a controversy, of course then that issue raises to the top, and

water's no different than any other issue. We have been blessed, I think, in Colorado to have survived a number of years without water really being a controversy. The drought has made everybody acutely aware of what the future may look like in a normal year, if adequate planning isn't done to provide those water supplies we need for the future.

**PS:** I've heard people say the 1922 Water Compact that western water is based on, was done on projections that may not have been as accurate…

**EW:** Yes, I think that everyone who is familiar with the 1922 Compact and the hydrologic basis on which it was formed all would agree that it was probably an optimistic forecast of what the long-term yield of the Colorado River Basin would be. But hindsight is always 20/20.

**PS:** I've heard some people say that the Compact should be reopened and looked at. What are your feelings on that?

**EW:** Being in Colorado, my personal opinion would be no. There's been a lot of planning and, in some cases, historic reliance placed on the availability of that water provided by the Compact. I think to reopen that would obviously introduce a great degree of uncertainty as to what would be the result of that. I think the Compact as it stands does provide some certainty. There are still some areas that need to be defined, particularly the long-term yield of the project and particularly for the state of Colorado, where we stand in regard to the development of our Compact entitlement and how we would administer a need, for example, of a Compact call within the state of Colorado. But I would be personally and, as a water user in the state of Colorado, opposed to any reopening of the Compact. I would definitely be opposed to that.

**PS:** Who do you think is supporting the idea? Nevada is the state that seems to have gotten the short end of that Compact. Are they the ones?

**EW:** It's my understanding that there is concern in the Lower Basin States because of the development that has occurred in the Lower Basin States. Nevada, California and Arizona have developed ahead of the Upper Basin States That talk about reopening of the Compact is basically coming from the Lower Basin. I don't think you hear that reopening of the Compact coming from the Upper Basin States.

**PS:** Some people have talked about the good ole days of water politics are over. How would you describe the good ole days and are those days over?

**EW:** I'll say right off the bat, I don't know what people refer to when they say the good ole days of water politics. I think that's kind of in the eye of the beholder. What they are considering in that arena of water politics. Water is a political thing. There's no question about it. How water is handled and managed has become more broad-based that it was in the past. As people realize that water supplies in the west are finite, rather than infinite, I think there's more attention being paid to it. There are more players now than there have been in the past. There's more attention to the recreational and environmental needs than there have been in the past. I think, if you want to call it the politics of water, have probably broadened in regard to the spectrum of participants that maybe was present 50 or 60 years ago. The water arena is changing, and it is political. Yes, I would say if you want to call it the old water politics are probably gone. We're in a new era.

**PS:** How would you describe the new era?

**EW:** The new era is probably more encompassing, just because of the fact that it needs to be. People are more interested in natural resources and there are entities, groups, individuals that are actively involved. Those concerns that they

represent are concerns that are also expressed by their supporters and their constituents.

**PS:** Would you be more specific?

**EW:** For example, the environmental community. They have a large constituency out there and they're a very involved and educated constituency and very active, so if you're looking at building a water project, you can't do it in a vacuum anymore. You have people that are affected by any water project. They don't have to be recreational interests, they don't have to be environmental interests. They could be communities, for example, that are affected by a conversion of ag to municipal water. They're looking at it from a livelihood or a way of life standpoint. You're at the point now in water development in the west where whatever you do is going to benefit someone and it's going to adversely impact someone. So what you're trying to do is maximize benefits and minimize impacts. I'm not sure I'm answering your question, but I think that's how things have really changed. The realization that we don't have much wiggle room within the system anymore. The impacts are direct and they're definable.

**PS:** It does seem like it was pretty much municipal use vs. agricultural use and the recreational and environmental components are new. I don't even hear as much about them in Arizona as I do here.

**EW:** Colorado has done a number of things over the past several years. They've recognized recreational in channel diversions as a beneficial use. In 1973, Colorado recognized instream flows as a beneficial use. At that time, very progressive. Colorado probably has one of the best instream flow programs in the western United States, so those interests in Colorado are recognized and probably more highly developed than they may be in other western states for a number of reasons.

**PS:** Originally the whole water law has developed on the prior appropriation doctrine talking about first in time, first in right. Do you think that's going to continue to survive in this new era when we're talking about population, recreation and all those things?

**EW:** My personal opinion is yes, it needs to. In Colorado, I think we have demonstrated that the prior appropriations doctrine has the flexibility that is necessary to adjust to changing conditions. As I pointed out earlier, we've incorporated an instream flow program that is workable. The ability to change water rights within the state of Colorado has been shown to be workable. The incorporation of recreational rights within the Colorado statutes has caused definitely some challenges but it's still in its formative stages. We're working through that as a state. It's been a difficult thing to work through, but I think we're working through that. I don't see a reason to change the prior appropriation doctrine. It provides definition and, in a way, it provides certainty, because people know what they have. At this point in time, I think that's very important to the water community. There is some advocacy for reallocation of water resources. Then the question becomes what is the basis of that reallocation. I think the reallocation of water rights through the marketplace is one mechanism that at least in Colorado has been shown to work. I think there are a lot of attributes of the prior appropriation doctrine that are not recognized and I think people need to be aware of the attributes of that before they advocate changing the system.

**PS:** What do you see, looking back, what were the big projects or legal developments that set Colorado on the road to where it is today for water development?

**EW:** Heavens, that's quite a question. That's more a question for an historian than for me, but I'll take a shot at it. Probably one of the first things in Colorado water law that made a huge difference, and this was clear way back in the 1800s,

was a case law interpretation by the Supreme Court that allowed transmountain diversions. Transmountain diversions or transbasin diversions are a big thing in Colorado. In Colorado, about 80 to 85% of the demand for water is on the east slope, whether that demand be for irrigated farm land or population. About 80% of Colorado's water resources are located on the west side of the Continental Divide, so that was probably one of the more influential case law interpretations. I think the next landmark project was a project I'd call the Grand River Ditch. It was the first large transmountain diversion project that would bring water from the headwaters of the Colorado River over to the eastern slope. Then you'd probably have to look at the Colorado-Big Thompson Project as being a significant benefit, both to the South Platte Basin and to the Colorado River Basin. Then you'd have to look at the Aspinall Unit as being on the Gunnison along with the Frying Pan-Arkansas Project that helped the Arkansas River. Obviously, very early on, the Grand Valley Project around the turn of the century. It was one of the first Reclamation projects that was built in the state of Colorado. It really helped the agricultural water users in the Grand Junction area and the Grand Valley Area around Grand Junction. The Uncompadre Project in the Gunnison, again a very landmark project. Recently, the Dolores Project down in the Dolores River basin with McPhee Dam has very much helped that area of the state. That's a very incoherent answer, I know, but there are a number of projects that have contributed a great deal to the history of the state of Colorado.

**PS:** Some of these questions are more designed for some of our 80 and 90 year old interviewees. Are there any of these milestone projects that you've played a part in?

**EW:** No. I'm a little young for that. I'm one of the beneficiaries, as are all the citizens in the state of Colorado, beneficiaries of our forefathers' efforts and diligence in moving this forward. I think sometimes we take that for granted and we surely shouldn't.

**PS:** But you have been in water a good number of years. How have you seen the whole western water issues change during your career?

**EW:** I think, simply stated, is a realization that it's a finite water supply that we have. Early on, probably 40 years ago, people were looking at water as there is plenty to go around, we just need to be careful how we use it to now looking at it as we're not so sure that there's plenty to go around. It may be one of the controlling factors in our quality way of life. I think whereas you used to worry about 50 or100 or 500 acre-feet of water and what happens to that. We're in Colorado now, worried about one acre-foot of water and in the water rights change case what effect that has. You're down to almost gallons per minute when you're talking about rates of flow rather than cubic feet per second. I think the real change has been really brought about by the pressure on the resource and the recognition that it obviously is an essential component to our way of life. How we manage it and how we administer it has become probably a broader concern to the citizenry than it has been in the past. It's really become more of a micromanagement of the resources rather than 40 years ago, it was more of a micromanagement of it. Not a micrometer on the putty ball as we're looking at now, it was more of what's the shape of the putty ball 40 years ago? Now everybody is trying to put a micrometer on that putty ball and justifiably so. It used to be a question of the water's available, how do we put the infrastructure in place to get it where we need to beneficially use it and now it's become a question of really, is the water available? And once we move it, how do we get the maximum beneficial use out of it? It's a progression or an evolution of the challenges we're going to face, and it's just going to continue.

**PS:** That was my next question. What do you see for the near future, and then for the more distant future?

**EW:** For the near future, in the state of Colorado, I see a lot of focus being placed on the Statewide Water Supply Initiative results, and the attention that has

now been placed on water resources. I think we've got it on the radar screen to where I think Colorado needs to take advantage of this opportunity and really plan for the future, decide where we're going for the state as a whole. I think that's going to occur over the next five years or so. The Basin roundtables that they have formulated under Colorado statute are really going to immerse themselves into some of the challenges that we face and hopefully come up with some solutions. In the future, long term, I think we're going to have a continuation of that where people are going to continue to look at ways to cooperate and look at projects not as single entities but as groups of entities or as cooperators in the project. I don't think unless you have a project that is going to serve a number of constituents not only the traditional beneficial uses but other beneficial uses as well. If you can't formulate those projects to do that, I think you're going to have a difficult time moving those alternatives forward. A lot more consensus building, a lot more participation.

**PS:** You mentioned the roundtables. Are you involved in that process?

**EW:** Yes, I'm involved in that process. I'm a member of the Colorado Water Conservation Board, representing the South Platte Basin so, as a result, I'm a liaison with the South Platte roundtable. I'm also the representative of the South Platte roundtable on what they call the Interbasin Compact Committee which is the statewide roundtable, if you want to call it that, representing the nine individual roundtables within the state of Colorado. So yes, I'm involved in the roundtable process.

**PS:** Can you venture a guess, how productive do you think this roundtable process will be? Do you think it will be successful?

**EW:** Yes, I do. I think there's people that are working in that process that recognize the importance of it being successful and I hope for the sake of the state of Colorado, that it is successful. I think it's very timely that it has moved

forward now. It's been authorized by the State Legislature, and I think it's an opportunity to really tackle the tough problems. It needs to be successful. I think, if it isn't successful, it's going to be a detriment to the state of Colorado, because it will be looked at as an effort that was attempted but was not successful and I just don't think Colorado, at this point in its history, can afford not to be successful in trying to cooperate on its water resources.

**PS:** So often, with roundtables, people do reports and nobody ever reads them. Is that going to happen with these?

**EW:** I definitely think there's a possibility that could occur but I think it behooves all of us to make sure it doesn't occur. A study setting on the shelf does nothing to create additional water supplies or to manage existing water supplies. And that's where we are at this point in time. The drought that we're experiencing has really brought that to bear. As I said earlier, we can take this drought as being an example of what could happen in regard to our water supplies in a normal year in the future if we don't do adequate planning now. You'll always have those times where you have a drought, water is in short supply, and you're going to have to do measures to be sure that you can endure those droughts. You don't want that to become a matter of course. You have to do the planning to be able to have those adequate supplies in a normal hydrologic scenario and yes, you'll rely on curtailment and more aggressive conservation measures in a drought period, but that long-term planning for the adequate water supply is always going to be there.

**PS:** It seems in the past when people looked and needed water, they looked for some kind of a big project. Do you think there'll be more big projects or do you think we've seen the end of big projects?

**EW:** I'd always be hesitant to say we've seen the end of big projects. There are some possibilities for large projects out there yet. They're extremely limited

because most of the low-hanging fruit has already been picked, but I think you can't take any alternatives off the table. I think, by and large, most of the projects that have been identified in the Statewide Water Supply Initiative are more focused on smaller projects but there are those larger projects out there that need to be considered and, in some cases, may need to be pursued. Just because of economies of scale and the flexibility that those large projects may bring to the overall management of water resources.

**PS:** And which ones were you thinking of?

**EW:** Obviously, the ones we're pursuing we think are worthy of moving forward and those are considered large projects. There are some large transbasin projects that are out there on people's radar screens that I don't think you can dismiss. I think you need to look at those as well. It would be unwise to take anything off the table at this particular point in time.

**PS:** One person mentioned that we should bring water from the Mississippi River over here.

**EW:** I know people have talked about that. People have talked about bringing water from the Columbia River. There are a number of alternatives that have been looked at, possibly augmenting water supplies to the Lower Basin states and providing some additional water up here. California desalting the Pacific Ocean, that's been talked about. At some point in time, that may not seem a far-fetched idea, although right now it does seem a little beyond the pail right now, but you never know what the future will bring.

**PS:** And cloud seeding is mentioned off and on.

**EW:** It has its proponents and its detractors. There's a lot of science out on that. There are a lot of people on both sides of that argument. And I know in

Colorado there are a lot of entities that are exercising cloud seeding and have the belief, and they feel they have the proof, that it's beneficial. It definitely is not an exact science. The Colorado Water Conservation Board has provided, for the last several years, non-reimbursable grant money to help promote cloud seeding operations and the studies associated with it to try to advance that science, so again there's opportunities out there that may need to be really explored and studied to see what those opportunities hold. I don't think that cloud seeding, as any other alternative, should be taken off the table. It may have promise.

**PS:** Looking back over your career, which isn't over yet, what accomplishments are you proudest of?

**EW:** I have never thought about that. One that has to rank up there is what we've been able to do with the Colorado-Big Thompson Project, just in advancing the evolution of that project and trying to adjust the demands placed on this project to the way the project operates in adapting some of the policies that we have in regard to the operation of this project to more closely meet the needs of the project itself. I didn't have that much to do with it because it was done by staff members and others before me, but the development of the Southern Water Supply Project, which is the pipeline we discussed earlier, was a very good example of cooperation that was initiated by this district by many within this district that proves that cooperation and collaboration really can benefit everyone. We have high hopes for the two projects I mentioned, the storage projects of moving forward. This region very much needs those and if the district can effectuate those and implement those projects that will be of an extreme benefit to this area and I think the district should be quite proud of that. Again, that would not be a personal accomplishment. That would be an accomplishment by the district, but one that I think the district really needs to explore and move forward with because of the benefits it provides. One of the things the district has done, as well, is a very concerted effort on water conservation. We've got a wonderful demonstration project here on water conservation both for agriculture

and turf and landscape. Again, I had nothing to do with that, other than to encourage people to move forward with it but I think it's on the cutting edge of anything that I've seen or I'm aware of in regard to practical demonstration of how to save water, both in agricultural applications and in conservation. Another thing I'm proud of this district for doing is its educational efforts. We spend a lot of time and a lot of resources on education and I think it's really working. I think people are taking an interest in the efforts we're putting forward. I think are really returning that investment. It's really hard to measure but you can see a difference when you talk to people. They recognize the challenges of our water resources and are really becoming interested and engaged and that is very significant. I think our attempts to collaborate on projects is probably one of the best accomplishments for the district as well. That started with the Southern Water Supply Project and has propagated through a number of activities we've been doing and are continuing to do. The adaptation of our project to the changing needs from an infrastructure standpoint. We've done a lot of changes on the CBT Project over the years where we've fortified some weak links in the project and we continue to look forward to where we need to modify structures within the project to meet that growing municipal industrial demand that we know is here and is going to continue to increase. Credibility of the district, hopefully we've improved that as well over the years.

**PS:** How large is your staff at the district?

**EW:** We have 104 people here now. We're looking to add two or three more in the next six to twelve months, just because of the demands we have here and the resources it takes to meet those demands.

**PS:** How large was it when you joined?

**EW:** When I came here, it was about 70-75 employees.

**PS:** Are there any things you've worked on that you would have done differently?

**EW:** I haven't thought about that question either. I just do things, and then move on to the next day. I'm sure there are, but at this particular point in time, I can't think of any.

**PS:** Have there been surprises for you, dealing with Colorado water? What has been the greatest surprise of how things might have changed?

**EW:** I think the biggest surprise for me has been the significant attention or pressure that's been placed on water in the last five years since the drought. The manner in which the issues associated with water have really accelerated and increased. It seems like each year we shift to a higher gear and we think we're running as hard as we can in regard to addressing water problems, statewide and west wide and, yet the next year, it seems like you're in a higher gear and running even faster. There are a lot of different challenges that five years ago you would have never seen. Water quality that you brought up earlier is one of them. Recreational and environmental pressures are another. Really, an acceleration of issues at a rate I would have not imagined or believed to be possible. I don't want to call it the feeding frenzy, but a real concern by just about every water purveyor if they're going to have adequate water supplies and the energy and intensity with which they're really looking at that now. There's a lot of scrutiny as to future water supplies and where the water is going to come from that is far more intense than it was even five years ago, and I think that's been brought about by the drought. People were, I don't want to use the word complacent because that's not applicable, they were comfortable with the direction they were going but the drought has really accentuated their concern.

**PS:** What problems relating to Colorado water resources do you think are most critical today?

**EW:** I think I'd refer back to the answer earlier, I think the biggest challenge is where is our water supply going to come from? And how, as a state, are we going to meet that demand? Not only the conventional demands, but the non-traditional demands as some people call it, or the non-consumptive demands as represented by recreation and environment. And how are we going to balance everything. Balance is probably the biggest question. Balance of water use, whether it be for the consumptive or non-consumptive use, balance of land use planning, balancing the economy. Do you sacrifice the ag economy for the other economies or do you try to balance that out and, if so, how? Do you put limits on land use that may in some way limit water use? Do you put in ordinances as to landscape requirements? Do you vary your rate structure for your customers in a municipal or domestic type system to where you have a significant escalating rate structure? How do you value, on a community level, the amenities of landscape and things like that? How do you charge for your water? Is it per thousand gallons? We have a number of communities around here that are doing individual water budgets for individual customers and that's the way their rate structure is set. A lot of progressive things going on that are in response to some of those challenges.

**PS:** Some people have said that if water was more expensive, we wouldn't have people using as much of it.

**EW:** Yes, that's true. And I think that's been proven out by some of the rate structures and some of the pricing structures that have been put in place since the drought started here in 2000. But at the same time, you can have what we call demand hardening to where you don't have any softness in your demand. In other words, if you're running in a normal year with a specific demand, and then a drought year comes and you're a little short on water, can people really cut back or have they already cut back to their minimum level at that particular point in time. There are communities in our district that made the conscientious

decision during the most severe part of the drought to go out and rent water from ag so they had adequate water supplies because they were seeing adverse or detrimental effects on their community's landscaping. In other words, they had large trees dying, lawns dying, and the appearance of their community and their quality of life, there were communities that felt that the preservation of that quality of life was worth the expenditures of money for renting water supplies and things like that, so likewise there's going to be an examination of community values as well.

**PS:** Some places they're talking about prohibiting lawns, Las Vegas, Tucson.

**EW:** There are communities around here that have let that pass over their lips too. And in Colorado right now, I would say turf dry up would be considered probably toward the one end of the spectrum.

**PS:** How do you see the water issues facing the whole southwest region, the seven states, how do they impact Colorado's water?

**EW:** I think the definition of the Compact and the terms and conditions of the Compact, will impact all of the seven Basin states. And there are those issues that have been out there for a number of years and they will continue to be out there. We all know what they are, and the discussions that are now going on in regard to shortage criteria within the Basin, have brought some of those out. I think it behooves the seven Basin states to sit down and talk about those issues.

**PS:** Hopefully, they are doing that.

**EW:** They are. I think they're doing a very conscientious effort and again, that's kind of an evolutionary process with the quantification settlement agreement in California. Things are progressing in steps to help better define what that Compact means to everybody. A very positive step.

**PS:** This is probably a question more for people who have retired, but what advice do you have for people who are operating Colorado water resources today? And you're one of them.

**EW:** I think they have to be more innovative and try to find ways to make things work within limits. I think they have to probably find ways to cooperate, put projects together that are more multi-purpose. Obviously, conservation has to be at the top of the list as well as looking for alternatives for not only the development of new water supplies, but alternatives to manage the existing water supplies and how to do that. You have to also look at what additional infrastructure is needed. A lot of people don't want to look at the possibility of needing additional infrastructure, but as you come down to the narrow part of the funnel and you're trying to figure out how to stretch those water supplies, you're going to have to probably look at infrastructure and how best to utilize it to meet the needs, not only the consumptive use needs, but the non-consumptive use needs, additional or existing infrastructure…..

**PS:** What kind of infrastructure?

**EW:** For example, if you want fish flows, environmental flows, it may take a small dam or a small structure to capture those very, very large flows that may occur in the spring and carry those over to supplement late summer, early fall flows for the health of the fish. If people want rafting or kayaking, it may be necessary to provide structures to hold water temporarily and then release it in larger volumes to get the Wow factor that you want from a kayak course. You need to probably think outside the box. Developing infrastructure for environmental needs in some people's way of thinking is an oxymoron. That shouldn't be done. Infrastructure and environment don't rhyme. There again, you don't preclude those type of alternatives.

**PS:** I think I've covered most of the questions I had for you. Are there any things you want to bring up that I didn't ask you?

**EW:** I don't think you've left one rock unturned to be honest with you.