

IMPACTS OF DROUGHT ON RECLAMATION PROJECTS IN NEW MEXICO

HEARING BEFORE THE COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

TO EXAMINE THE IMPACTS OF DROUGHT ON RECLAMATION PROJECTS
IN NEW MEXICO, PARTICULARLY THE RIO GRANDE AND PECOS RIVER
BASINS

JULY 2, 2002
ALBUQUERQUE, NM



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IMPACTS OF DROUGHT ON RECLAMATION PROJECTS IN NEW MEXICO

TUESDAY, JULY 2, 2002

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Albuquerque, NM.

The committee met, pursuant to notice, at 2 p.m. in room 119, U.S. Army Corps of Engineers Albuquerque District Office, 4101 Jefferson Plaza, NE, Albuquerque, New Mexico, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. Why don't we go ahead with our hearing, since we have got everyone's attention. This is a good time to do it.

Let me welcome everyone. This is a hearing of the Senate Energy and Natural Resources Committee, which both Senator Domenici and I serve on, and its purpose is to examine the impact of this year's extreme drought on the reclamation projects in New Mexico. Discussion is going to focus on the Middle Rio Grande and also the Pecos River basins, and testimony will be provided by a number of expert witnesses, who are on the front lines trying to deal with these complicated issues, which have been made even more difficult this year because of the extreme drought that we are living with.

I want to, first, thank Senator Domenici for attending and participating. I know he has got another obligation a little later on, which he is going to go down to a dedication of a facility expansion down here at the Biopark—and I think the mayor's going to leave for that, and a few others, as well, but I very much appreciate his involvement at this hearing. He's been very involved in these issues, and works on them on a day in, day out basis.

Let me just say a few more things, that from my perspective, I hope the hearing will not only tell us something about what the current situation is and the plan to deal with the current situation, but also, what we can see in the future as far as the situation we are getting ourselves into as we hear about the drawdowns in the various reservoirs, as we hear about the calls we are making on the available water supply. How do we deal with the situation if the drought continues, and what do we do next year?

Obviously, the Federal Government is not the total solution to any of this, but it has a very significant role. The State has also been playing a very constructive role. The creation of the New Mexico water trust board is one example of this, one example of the constructive activities the State has been engaged in. I know there

are also very significant local resources and efforts going forward, and we will undoubtedly hear about those, as well, so I hope the purpose will be served today. The purpose is, of course, to educate us all on the issues and provide us with some insights into what we need to be doing. I think the best chance of progress toward the goals, that we all probably agree upon, of developing reliable supplies of water, protecting traditional water uses, respecting the environment, rests in our ability to work together and find collaborative solutions to the problem. So let me defer to Senator Domenici for any statement he has, and then we will start with the witnesses.

**STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR
FROM NEW MEXICO**

Senator DOMENICI. Thank you very much, Mr. Chairman, and it is good to be here with you. And I want to personally apologize to all of you, as I have to Senator Bingaman, about not being able to stay all afternoon. I actually had a full day when I was informed that Senator Bingaman would like to do this. He tried to move his around and I tried to move as much as I could. And we started out, this morning, in this building, except that the issue was the departure of the good colonel, but I am back here and very pleased to be.

I would like all of you to know that I am very lucky, at this point, because for the last 6 years, I have served on a committee, Appropriations, that I have been either chairman or ranking member of, that funds the entire Bureau of Reclamation annually, and one of the inquiries by Senator Bingaman has to do with the impact of the drought on the Bureau of Reclamation and its activities here.

I would just say, in opening remarks, Senator Bingaman, that anything the Bureau of Reclamation has asked for the last 2 years, that apply to New Mexico, they have received in the appropriation bill, except one item, and that one item has to do with \$4 million that we need for—which one is that for?

UNIDENTIFIED SPEAKER. For the water of Albuquerque.

Senator DOMENICI [continuing]. For the last settlement that Albuquerque made with reference to the minnows, and the reason it is not in there is because the settlement came after the work was done. We will still try, Senator, to put it in the supplemental, and then we will have taken care of all of the requests. And I hope that you understand that we are permitting one entity to buy water from somebody else, but it is all short-term purchases. It is one year.

So it is not as if we are transferring, and the precedential value of the one year is literally stated there, that this is not selling or transferring, it is a right to use the water, and they pay the fee for that. By moving that around, we have, thus far, been able to provide everyone with sufficient water to this point, including allocation to the minnow, the farmers, the city of Albuquerque and the like.

One issue that I cannot leave this hearing without saying on the record that I thoroughly, thoroughly disagree with, and that is the decision by our Federal judge that the endangered species has pre-

edence or takes precedence over the San Juan-Chama water that was imported across the mountains by the city of Albuquerque and put into this basin. The year before I was chairman of the city commission, and I was chairman 46 years ago, so I think they paid for it over 50 years and brought it from one basin to another, and I feel very much that we must have an appellate court decide whether that is correct or not.

And if that is correct, then I think things are out of balance. If it is not correct, I want to be optimistic. I believe unless we continue to have the worst droughts ever, if we keep the Bureau of Reclamation, the Corps of Engineers with us, in terms of resources, and if the other parts of our State work as hard as they have the last year, I will tell you, Senator Bingaman, in 30 years, being Senator, I have not seen the instrumentalities and agencies of this State be more proactive and do more positive things that are moving us toward a solution in the last year-and-a-half or two than the whole 30, including the thing you mentioned, very exciting idea, the \$30 million that they put in, that the legislature put in; two of them, one they put in increases our spending, and we can use it for matches with our Federal Government money.

But many other things, in various districts, that are going on are positive, and I don't think everybody is quite at the other guy's throat as much as they were when we started this. They are understanding they all have to try to end up solving this problem, and as soon as we get everybody saying, "What do I have to do," instead of, "Get the hell out of here, you have got nothing to do with this," I think we will move ahead.

Thanks for calling the hearing. I am pleased to be here.

The CHAIRMAN. Well, thank you. Why don't we go ahead with our first witnesses here, and they are all sitting up here at this table, ready to go. Rick Gold, who is the Regional Director for the Bureau of Reclamation, is here; Joy Nicholopoulos, who is the Ecological Services Director, as I understand it—is that right?

Ms. NICHOLOPOULOS. Yes, sir.

The CHAIRMAN. For the U.S. Fish and Wildlife Service.

Colonel Ray Midkiff, you're here.

Colonel MIDKIFF. Yes, sir.

The CHAIRMAN. And your successor is here.

Colonel MIDKIFF. Yes, sir. He is actually the boss now, sir.

The CHAIRMAN. He is the boss.

Colonel MIDKIFF. As of about 4 hours ago.

The CHAIRMAN. So you are the has-been and he is the boss.

Colonel MIDKIFF. Yes, sir.

The CHAIRMAN. Why don't we go ahead. I guess maybe the place to start, why don't we hear from you, Mr. Gold, and then we will just go in the order that I announce folks.

Mr. GOLD. Thank you very much.

The CHAIRMAN. Let me just also urge, if witnesses can, we will include your entire statement in the record, but would you please try to give us 5 or 6 minutes to make the main points that you think we need to be made aware of. We would appreciate it.

Mr. GOLD. Okay. Thank you very much. Can you hear me? Is this mike working?

Ms. MINER. It doesn't seem to be. Did you turn the on switch?

Ms. NICHOLPOULOS. It's on.

Ms. MINER. Okay. I'll find someone to correct that.

Mr. GOLD. I'll be bold.

The CHAIRMAN. Just speak up and we will all hear you.

**STATEMENT OF RICK L. GOLD, REGIONAL DIRECTOR, UPPER
COLORADO REGION, BUREAU OF RECLAMATION**

Mr. GOLD. Thank you very much. Mr. Chairman, Senator Domenici, and the other members of the committee, my name is Rick Gold and I'm the Regional Director of the Upper Colorado Region of the Bureau of Reclamation. I appreciate the opportunity to appear today to discuss Reclamation's role in meeting the water management challenges in New Mexico. My comments today will focus primarily on the Rio Grande and the Pecos River basins.

From the headwaters of the Rio Grande to El Paso, water year runoff into reclamation reservoirs for year 2002 has averaged 17 percent of normal, with about 10 percent of average in the Pecos River basin. The forecast for the remainder of the year is equally dismal, and 2002 is rapidly approaching a record dry year. Transmountain diversions from Colorado to New Mexico, from the San Juan-Chama project, have been reduced to 7 percent of normal; 7 percent. The conditions we're experiencing this year have been exacerbated by the fact that this is the third year in a row that we've had below average precipitation and runoff. These severe drought conditions throughout New Mexico are impacting all aspects of the water—of water resource management; however, along with these challenging conditions come opportunities to test the resiliency and the management skills of all our stakeholders.

As Reclamation celebrates its centennial year, the present drought demonstrates, once again, the valuable and important role reclamation projects have played in these two river basins. The existence of reclamation storage projects in these basins has created significant benefits to agriculture and municipal use that otherwise would not exist in a 3-year drought of this magnitude. These projects not only have allowed for the ability to carry over some needed supplies, but also to provide some limited flexibility in managing what little water is available.

Water year 2002 is shaping up to be the driest on the Rio Grande, making it extremely difficult and costly to meet contractor and environmental demands; nonetheless, we're very pleased to be a party to an agreement between Reclamation and the city of Albuquerque that allows for additional water to be made available for the endangered silvery minnow.

It's also important to note that the city of Albuquerque reached a separate agreement with the Middle Rio Grande Conservancy District that assists in lengthening the irrigation season. These agreements are an example of the involvement and collaboration necessary by all parties to manage water efficiently.

In spite of these efforts, the river is experiencing some drying below San Acacia due to the infiltration and evaporation rates which just simply exceed the low flows available. Despite the severity of the hydrologic conditions and the fact that the situation has been compounded by 3 years of drought, carryover storage has provided the flexibility for water releases that otherwise would not

have been available. In the first 2 years of this drought, the district, Middle Rio Grande Water Conservancy District, was able to provide a full supply in 2001, and the irrigation season was only shortened by 2 weeks in the year 2000.

Current operational predictions indicate that Elephant Butte Reservoir's active storage will reach a 2002 low level, by mid October, at a little over 13 percent of full. These projections are the lowest since February 1979. Carryover storage, however, has made the difference in project deliveries to water users. The Rio Grande project will provide 100 percent of its annual supply this year with 100 percent being provided in both 2001 and 2000.

The Pecos River basin also presents a bleak situation. Total storage in the four reservoirs on that river basin; Santa Rosa, Sumner, Brantley and Avalon, have dropped to about 13 percent of normal with delivery for the Carlsbad project down to about 23 percent of their entitlement. Some sections of the river have gone intermittent. By way of contrast, the project delivered 63 percent of entitlement in 2001 and 89 percent of entitlement in 2000.

In response to the severe situation and due to the low reservoir conditions, an interim operating plan was recently developed by the Carlsbad Irrigation District, Fort Sumner Irrigation District, the State Engineer and Reclamation for a 6-week period. This collaborative effort provided for the establishment of a minimum pool in Sumner and set guidelines for bypassing Fort Sumner Irrigation District's direct flow right through upstream reservoirs. Next week, these parties will reassemble and evaluate the continuity or the continuation of that agreement.

I would like to, once again, emphasize the importance of these kinds of cooperative efforts with all stakeholders sharing in shortages and pulling together to look for ways to stretch each drop of water. Unfortunately, because of the circumstances provided by Mother Nature, difficulties exist in meeting minimum flows for the threatened bluntnose shiner in the Pecos River. We are pursuing collaborative efforts with our partners to try to meet minimum flow targets.

In an effort to ameliorate some of these drought effects, Reclamation has some funding available for drought programs under its drought assistance program. To date, we have five applications—at the time of this writing. I think we're up to, like, now seven, and we're working hard to stretch those dollars for maximum efficiency. We have a long history of being—providing water in good times and bad, and it is our pleasure to help the citizens of New Mexico in water management in both the Rio Grande and Pecos basins.

Thank you and I'll be happy to answer any questions.

The CHAIRMAN. Thank you very much.

Next, Joy Nicholopoulos.

STATEMENT OF JOY NICHOLOPOULOS, SUPERVISOR, NEW MEXICO ECOLOGICAL SERVICES FIELD OFFICE, U.S. FISH AND WILDLIFE SERVICE

Ms. NICHOLOPOULOS. Mr. Chairman, members of the committee, I am Joy Nicholopoulos, Supervisor of the New Mexico Ecological Services Field Office for the U.S. Fish and Wildlife Service. My regional director, Dale Hall, was scheduled to be here today, but he

was just recently announced as a permanent regional director and he had to return to Region 4 to take care of his new position, so he sends his apologies.

Thank you for this opportunity to appear before you today, to provide our perspective on the impacts of drought conditions in the Rio Grande and Pecos River watersheds. The Southwestern United States is enduring one of the worst droughts in decades, and New Mexico has been particularly hard hit. Snowpack runoff is less than 25 percent of average in both the Rio Grande and Pecos watersheds, and there has been very little spring rain. The current drought conditions demand collaborative efforts in managing for water use while protecting threatened and endangered species. Much of my testimony and the testimony of others will focus on two species that are protected under the Endangered Species Act. First of all, the Rio Grande silvery minnow.

The silvery minnow was listed as endangered on July 20, 1994 and the Pecos bluntnose shiner was listed as threatened on February 20, 1987. Throughout much of their range, the decline of these species has been attributed to modification of the flow regime and channel drying due to impoundments, water diversions for agriculture and municipal use, stream channelization and declining water quality.

Most of the population of the Rio Grande silvery minnow now occurs in a 168-mile reach of the Rio Grande, while the majority of Pecos bluntnose shiners is found in a 194-mile reach of the Pecos River. These areas encompass a small fraction of the historic ranges for these species. The Rio Grande silvery minnow is most common from the San Acacia diversion dam south to Elephant Butte reservoir. The Pecos bluntnose shiner is most abundant from Old Fort Sumner State Park downstream to Roswell. During the recent drought, significant portions of these reaches have been subject to intermittent flows or drying.

The Service is committed to working with our partners to find creative solutions that will protect watershed-dependent species, including the Rio Grande silvery minnow and the Pecos bluntnose shiner, while ensuring that the State of New Mexico and its residents will have water to meet their needs, as well as the water compact commitments to the State of Texas. The Service and our partners, including the State of New Mexico, the U.S. Bureau of Reclamation, the U.S. Army Corps of Engineers, the Middle Rio Grande Conservancy District, the New Mexico Interstate Stream Commission, the city of Albuquerque, and many others share in the burdens created by the current drought and are prepared to deal with the drought effects, including river drying.

For example, field crews are working daily to rescue silvery minnows as a lack of water in the Rio Grande creates drying conditions. I have two full crews out today rescuing minnows in this 100-degree heat. The Service is fortunate to have partners willing to work proactively and who have given generously of their expertise and ideas to resolve the suite of drought-related problems facing all of New Mexico, including the protection of endangered species and their habitats. I would like to take a moment to bring you up to date on our efforts to find balanced solutions.

On June 29, 2001, the Fish and Wildlife Service issued the Programmatic Biological Opinion on the Effects of Actions Associated with the U.S. Bureau of Reclamation, the U.S. Army Corps of Engineers and Nonfederal Entities' Discretionary Actions Related to Water Management on the Middle Rio Grande in New Mexico. Federal agencies are required to consult with the Fish and Wildlife Service under section 7 of the ESA if actions taken, permitted or funded by that Federal agency may jeopardize the continued existence of a listed species. That consultation process led up to the June 29 biological opinion. That was a collaborative effort that included the city of Albuquerque, the New Mexico Interstate Stream Commission and the Middle Rio Grande Conservancy District. In addition, it is important to acknowledge that the pueblos in the middle Rio Grande have been leaders in Rio Grande habitat restoration efforts which benefit wildlife and their habitats.

Concurrent with the issuance of the June 21—or of June 2001, excuse me, biological opinion, the State of New Mexico helped forge a conservation water agreement that calls for storage of up to 100,000 acre-feet of native Rio Grande water and the release of that water up to 30,000 acre-feet annually for 3 years to augment river base flows for the silvery minnow. The availability of this water is dependent on snowpack runoff.

The Bureau of Reclamation initiated formal consultation for water operations on the Pecos River with the Fish and Wildlife Service in 1991. The consultation concluded in August 1991 with the issuance of a biological opinion that concluded in a jeopardy finding with a reasonable and prudent alternative. The alternative called for the development of a memorandum of understanding between Reclamation, the Carlsbad Irrigation District, and the Service for the purpose of formulating annual plans for Pecos water operations.

Through the collaborative planning process and with the help of above normal precipitation, the numbers of bluntnose shiners has gradually increased over the past decade. The bluntnose shiner population had been considered stable until the onset of the 3-year drought currently gripping New Mexico. The Service is now working with our partners to find innovative solutions that will protect the bluntnose shiner during this drought; for example, we are pursuing collaborative efforts with our partners to try to meet minimum flow targets.

Partnerships have been instrumental in stabilizing the silvery minnow and the bluntnose shiner status. Successful Endangered Species Act implementation must be inclusive and the Service is working hard to include all stakeholders in this process. The Service remains deeply committed to collaborative processes to resolve ongoing water management and Endangered Species Act issues.

Mr. Chairman, this concludes my statement, and I'm happy to answer any questions that you might have.

The CHAIRMAN. Thank you very much.

Colonel Midkiff, do you want to go right ahead?

STATEMENT OF LT. COLONEL RAYMOND G. MIDKIFF, DISTRICT ENGINEER, ALBUQUERQUE DISTRICT, ARMY CORPS OF ENGINEERS

Colonel MIDKIFF. Mr. Chairman, Senator Domenici, members of the committee, I'm Lieutenant Colonel Ray Midkiff, and up until about 4 hours ago, I was the District Commander of the Albuquerque District. Lieutenant Colonel Hurst is now in command. Thank you for the opportunity to testify on the impacts of drought on Corps projects in New Mexico. Included in our written testimony is a series of graphs we will go through as I proceed with the testimony.

The current drought in New Mexico is having a dramatic impact on the water resources available to meet the diverse needs within the State. To give you a historic perspective on how severe the drought situation is, the following graph compares this year's flows with that of 1977 for the Rio Grande at the Embudo river gauge located in north central New Mexico. In the graph, you can see the blue line is the flows at Embudo in 1977, which, previous to this year, was the drought of record. And then you can see on the purple line that we're well below that here in 2002.

The Embudo gauge was the first river gauge installed by the Geological Survey, with a continuous record dating back to 1889. The driest year on record was 1977, and as you can see, the snow melt runoff period of 2002 is drier than that of 1977. Clearly, this reduction in water supply creates many challenges. A map of New Mexico showing the different river basins is provided as an attachment in our testimony.

Focusing on Corps of Engineer projects, I would ask your permission, while it's not in the Pecos or Rio Grande basins, I would like to talk about Conchas, which is on the Canadian River basin. On March 1 of this year, the storage in Conchas Lake was 103,000 acre-feet of water. On July 1, 2002, the storage is 82,000 acre-feet of water. Although this is a fair amount of storage remaining in the project, the reservoir elevation is not sufficient to enable the delivery of water into the Arch-Hurley Conservancy District irrigation canal.

Moving over to the Pecos River basin, Santa Rosa Lake, on March 1, 2002, had a storage of 14,500 acre-feet. On July 1, 2002, this project has 600 acre-feet in storage. There was only one delivery of irrigation water to Brantley Reservoir for the Carlsbad Irrigation District this year. With an average inflow this summer, the storage in Santa Rosa Lake could reach 15,000 acre-feet by November 1, 2002. If the drought conditions persist, the November 1 storage could be much less.

Moving over to the Rio Grande basin, there are three Corps projects that normally would have storage. One of these, Jemez Canyon Reservoir on the Jemez River, was completely evacuated in 2001, and is currently operated as a dry flood control facility. Abiquiu Reservoir on the Rio Chama had a storage of 151,000 acre-feet on March 1, 2002. The storage, on July 1, 2002, is 98,000 acre-feet. Of the water released from Abiquiu so far this year, 27,000 acre-feet was conservation agreement water that was stored in 2001. We anticipate that the storage in Abiquiu Reservoir would be 35,000 acre-feet on November 1, 2002, due to a recent agreement

between the city of Albuquerque and the Middle Rio Grande Conservancy District.

The third major Corps reservoir project on the Rio Grande basin is Cochiti Lake. Cochiti is operated for flood control, sediment control, and also to maintain a permanent pool with a surface area of 1,200 acres, which is approximately 50,000 acre-feet of water.

I would like to note that the Corps does have limited authorities under Public Law 84-99 to provide drought assistance. This assistance would most likely be in the area of emergency well drilling or in the transport of water. The Corps can drill a well for an applicant if the Secretary of the Army determines an area to be drought-stressed, the applicant cannot obtain the water from the private sector within a reasonable time, and if the applicant agrees to pay for the drilling. The Corps can also transport water by vehicle or pipeline in cases where local, State and other Federal agencies' capabilities have been exhausted and the applicant meets other requirements.

Mr. Chairman, this concludes my statement. I would be happy to answer any questions you or the other committee members may have.

The CHAIRMAN. Okay. Thank you very much. Let me ask a few questions and then defer to Senator Domenici for his questions.

An obvious question for both the Corps of Engineers and the Bureau of Reclamation is: As we look forward, what are we expecting with regard to carryover storage? I mean, we talked about how—I think all of you have testified that there has been reduction in these reservoirs as a result of the demands that exist in the drought situation and that we have been able to get by using up this carryover storage. Someday here, it is going to be gone. Mr. Gold, did you have some thoughts on that, and then Colonel Midkiff.

Mr. GOLD. Mr. Chairman, I think that the key element is basically as you described it. When you're in the third year of a drought, it is really tough to make choices about carrying over any substantial amounts of water, because to do so, directly cuts the amount that you can utilize this year, and of course, that's been happening for 3 years. We're in a situation where there is not much carryover in system reservoirs. My sense would be another drought as severe as this year's drought would put us in very, very serious conditions for water supply across both the Rio Grande and the Pecos basins.

Lt. Colonel MIDKIFF. Mr. Chairman, I would concur with that. I think as that carryover water gets used and if you have another year like this next year, that there is some risk there in releasing that water into the system.

The CHAIRMAN. Well, let me ask the Fish and Wildlife Service, as you see it, what are the prospects for long-term recovery both in the Pecos and in the middle Rio Grande of these endangered species? I mean, is this something that is fixable, or is this just something that, given existing uses, we are sort of postponing the inevitable? What's the situation, as you see it?

Ms. NICHOLPOULOS. Mr. Chairman, I'll start with the Rio Grande and the Rio Grande silvery minnow—the Fish and Wildlife Service does believe that that problem is fixable. The species that

are listed in the middle Rio Grande are moving towards recovery. We've seen great strides with the flycatcher and we're seeing some baby steps, if you will, with the Rio Grande silvery minnow. The Rio Grande silvery minnow, as everyone knows, was in much worse shape than the southwestern flycatcher. I think it's fair to say that the silvery minnow was on the brink of extinction.

This year, we saw a very successful spawn. We had an average year last year. The river was kept wet, and this year we documented spawning in upper regions. This occurred for the first time, so we're encouraged by this news.

The answer to recovering the silvery minnow will be to repopulate the silvery minnow in upper reaches, the northern reaches, if you will, and also outside of the Middle Rio Grande. We have several tools available to us under the Endangered Species Act, one of which is under section 10-J of the ESA.

Senator DOMENICI. What is that?

Ms. NICHOLPOULOS. It's an experimental nonessential population designation. That allows an extreme amount of flexibility in dealing with the endangered species while allowing them to be put back in a place where they once occurred and they may proliferate, and that will take the stress off of the lower parts of the middle Rio Grande, so that the area from the San Acacia diversion dam south will no longer be the place where most minnows are located. It's vital to move the minnows upstream and to move them into different watersheds to recover the species.

We have a little bit of a different situation on the Pecos. The Pecos bluntnose shiner is restricted to certain areas of the Pecos. We're fortunate in that its status is much better than the silvery minnow, so we need to continue our efforts with the Pecos bluntnose shiner to continue to have them distributed throughout all reaches in the Pecos and to continue our scientific investigations into their habitat needs, their water needs. And for the first time, we're putting them into captivity, which should provide some interesting answers in the scientific realm.

The CHAIRMAN. Let me ask you one more question, then I will defer to Senator Domenici. This biological opinion that you folks issued in 2001, it has certain conditions attached to it. If those conditions are not met as we get into 2003, is there a contingency plan? Could you enlighten us as to what that plan might be.

Ms. NICHOLPOULOS. Absolutely. All biological opinions have a shelf life, if you will. The shelf life of the June biological opinion was 3 years. It was supposed to go until December 2003. Under the Endangered Species Act section 7 regulations, we are allowed to re-initiate consultation. The Federal action agencies may contact the Fish and Wildlife Service and say, "We have new information" or "We are no longer able to meet the elements of the RPA you prescribed in the biological opinion."

So what we would do is, we would take another look at the aspects they could not meet or the new information that was provided, and we would try to do our best to remain flexible and allow a little bit of a different prescription during this time of drought.

The CHAIRMAN. Let me defer to Senator Domenici.

Senator DOMENICI. First, I want to thank you very much, Joy. I am not sure I am as good as Senator Bingaman at saying your last name. Could you help me with it.

Ms. NICHOLOPOULOS. Nicholopoulos.

Senator DOMENICI. Nicholopoulos. I may not say it as well, but I guarantee you that nobody appreciates what you just said more than I. I am not at all sure we would have heard that testimony last year or the year before. And I have a question. A permanent director has been appointed, Mr. Hall, Dale Hall. Does he agree, in your opinion, with the analysis you have just given Senator Bingaman with reference to these species in both rivers?

Ms. NICHOLOPOULOS. Yes, sir, I would say that Dale Hall, our new regional director, agrees with me philosophically and procedurally, and the Fish and Wildlife Service is moving in a new direction.

Senator DOMENICI. Well, I would think that you all have to get ready for another lawsuit, but I urge that you in no way shirk from this based upon litigation—litigation in this area, as soon as anybody that can get to the courthouse disagrees, and you understand that.

First of all, I want to tell you that what we agreed upon last year—you were not in charge—but we did put together, at the last minute, the 3-year agreement that my friend, Senator Bingaman, just alluded to. It barely got done, but I think it was a marvelous effort on the part of many people to do something positive, rather than let a crash occur, and I compliment you for that, and the Bureau, and the others who were part of it.

Today, we have solved—for 2 years now, by making agreements, we have solved an issue, and I want to say the city of Albuquerque could not be more progressive. I will not try to burden putting equality on them, because I do not know whether they just like to be called good citizens, people who represent the water of the city of Albuquerque well, but in all events, they also have been tremendous in trying to alleviate the excess burdens that might have befallen this district, if they had not got in and lent some of their water—they did not lose it, they lent it, got paid for it and will again, and if they had not engaged in a great scientific effort in reproduction in the refugia, which I will go see this afternoon, Mr. Chairman.

I also suggest that about a year and a half ago, it came to me that we should take the fish to the water, instead of the water to the fish, because it seemed to me that it's just natural that it should be cheaper to bring the fish to the water than to adjust the water consumption of this whole river so as to adjust the availability of water at the bottom end, to save the fish. You never used those words, but I believe you are moving toward a preferred approach that says that; am I correct?

Ms. NICHOLOPOULOS. Yes, sir, you are correct. We had to ensure a spawn, and unfortunately, most of the minnows were located in that lower stretch; however, we were pleasantly surprised when we saw evidence of a spawn in the upper reaches, as well. The captive propagation efforts that have been led by the city of Albuquerque, without their bio park and the research they have been doing, we would not be nearly as far as along as we have in captive propaga-

tion. The Service has been blessed with many, many partners, and the city of Albuquerque really has lent a great hand in captive propagation, and also, in scientific endeavors of the biology of the spawn, and now they're doing swimming studies so that we can study fish passage around the diversion dams.

Senator DOMENICI. And I am quite sure the mayor will speak to those, so I do not want you to take his testimony.

Ms. NICHOLPOULOS. You're exactly right.

Senator DOMENICI. He has been looking forward to this day, and I am looking forward to hearing it. In any event, I want to say, Mr. Chairman, we are also blessed by having some very cooperative Indian leaders, and Mr. Sulnick here, I believe he represents one group in terms of the expertise. They lent us some other expertise, as you know, through this, and I want to thank you.

Let me say because we are so short of water because of the drought, we are not close to a solution, but the drought will not last forever and we are going to be finding a solution pretty soon, and I thank everybody for working on it.

Thank you.

The CHAIRMAN. Okay. I think we have four panels, so I think probably in the spirit of moving the hearing along, we will release this panel and call the next panel. Thank you very much.

The CHAIRMAN. Why don't we start with you, Mr. Mayor. Thank you very much for being here.

**STATEMENT OF MARTIN J. CHAVEZ, MAYOR,
CITY OF ALBUQUERQUE, NM**

Mayor CHAVEZ. Well, Mr. Chairman, members of the committee, I do want to welcome you to Albuquerque. Absent the smoke from Arizona, we've got a beautiful day for you.

I am pleased to testify today on the effects of drought in the Central Rio Grande Valley and specifically in the city of Albuquerque. This region has experienced drought three times over the last 7 years, and 2002 may prove to be the driest year of record. This committee recognizes the obvious effect of long-term drought is the availability of water in upstream reservoirs to meet demands.

Today, I'll focus on the long-term water supply issues facing the city of Albuquerque, what the city is doing during this year's drought, and the effect of the Endangered Species Act on local water supplies considering if the current goal is adequate for our future.

Water conversation, by itself, will not solve the city's dilemma. We must transition to surface water; namely, our San Juan-Chama water, to preserve the aquifer for peak demands in times of drought. In 1965, the city signed a contract with the Secretary of the Interior for 48,200 acre-feet of water annually from the San Juan-Chama project, and I want to recognize and thank Commissioner Domenici for his support at that time.

When the city signed the contract for the San Juan-Chama water, the purpose was to secure a water supply for the future, and that future is today. The need for supplemental water supplies in the Central Rio Grande was recognized in the 1930's when the hydrology plan documents were prepared for the Rio Grande Compact. The San Juan-Chama Project was intended to provide supple-

mental water, and the project history clearly shows that the city of Albuquerque was the primary beneficiary of the project.

The San Juan-Chama project was completed in 1971 and provides 96,200 acre-feet of imported water from the Colorado River into the Rio Grande at Heron Reservoir. The city's contract obligation is to repay the Federal Government for the proportional share of the project allocated for municipal and industrial purposes. The total repayment, including interest, over the 50-year period is \$56 million. In addition, the city's responsible for about half of the annual operation and maintenance costs for the facility. Annually, the city pays around \$2 million for our share of the San Juan-Chama Project water and has invested more than \$45 million in water to date.

Since operations on the San Juan-Chama Project started in 1971, the city has been generous in providing the city's San Juan-Chama water to help others, primarily the farmers in the valley. Since 1996, the city has entered into the agreements with the Bureau of Reclamation to provide supplemental water supplies for endangered species. During this year's drought, the city signed agreements with the

Central Rio Grande Conservancy District, read that "farmers," and the Bureau of Reclamation, read that "minnows," for supplemental water.

The 2002 Bureau agreement is to provide up to 40,000 acre-feet of water to supplement current supplies such the Bureau can comply with the target flows for the Rio Grande silvery minnow established by the Fish and Wildlife Service. Since 1996, the city has leased more than 200,000 acre-feet of water to the Bureau to provide supplemental water in order to meet endangered species responsibilities; however, the city must now begin to use our San Juan-Chama water or face the consequences of a depleted aquifer and land surface subsidence.

The question that everyone asks the Bureau is, what are you going to do once the city begins diverting and using the water for drinking water purposes? A coalition of environmental groups filed a lawsuit in 1999 against the Bureau and the Corps of Engineers, citing failure to fully consult on the discretionary responsibilities and the need for continuous flows in the Central Rio Grande. The city intervened to protect our interest in the San Juan-Chama water, and ultimately our future viability.

U.S. District Court Judge James Parker recently ruled the Bureau had the discretion to consult on water deliveries and ultimately to reduce water deliveries to the city and farmers in the central Rio Grande. Judge Parker stated in the memorandum opinion and order that provisions of the 1965 contract gave the Bureau discretion to unilaterally reduce the amount of water to the city, depending on the needs of the minnow. In other words, the Bureau must look to the needs of the silvery minnow first, and then decide whether Albuquerque families get any water.

Judge Parker also stated that—and I quote, "It is certainly proper and advisable to seek water elsewhere so as not the damage the economy of New Mexico, and the Federal Government may consider compensating the contractors for delivering less water to them under these contracts." I emphasize the judge stated the Federal

Government “may consider compensating” us for taking our water. The problem is, we can’t drink money. The city of Albuquerque has filed an appeal with the Tenth Circuit Court of Appeals. The city contracted for the San Juan-Chama Project water and has invested tens of millions of dollars in the project. We have met all of our obligations under the contract, and we clearly have a serious need for the water. The long-term effect of reducing deliveries to the city is to drain the aquifer, leading toward land surface subsidence.

As I stated previously, there is no extra water in the central Rio Grande, which is why the San Juan-Chama Project was constructed in the first place. The requirement, under the Endangered Species Act, that the Bureau look to needs of the species in deciding whether the residents of the Albuquerque or the farmers received water is preposterous. If the city’s contract signed in 1965 has the provisions that allow the Federal Government to reallocate water as they see fit, how many other States, cities and irrigation districts in the Western United States will be affected?

The Bureau, originally established to ensure the existence of humankind in the West, by court order construing the Endangered Species Act, is now on a mission to exclude humankind in favor of the silvery minnow. I understand, support and embrace the concepts in the Endangered Species Act; however, we must provide for our citizens and will be requesting that Congress transfer the title to the San Juan-Chama Project back to the city of Albuquerque and the other contractors. This will obviate the need for future Federal consultation regarding our water.

As mayor of Albuquerque, I implore you to adopt the policy that protects families in the central Rio Grande. Push has come to shove. The choice between protecting species and providing for our children is now before you. Albuquerque can no longer afford for Congress to have it both ways. I respectfully implore you to help the families of Albuquerque.

And thank you very much, and I’m happy to stand for any questions. Thank you for your time.

The CHAIRMAN. Thank you very much.

Let us hear from our State engineer, Tom Turney.

**STATEMENT OF THOMAS C. TURNEY, NEW MEXICO STATE
ENGINEER, SANTA FE, NM**

Mr. TURNEY. Thank you, Mr. Chairman, Senator.

It seems like New Mexico is long dependent upon a partnership with the Federal agencies for management of many of the waters within the State. It appears that the Endangered Species Act has basically turned our partnership on its ear. The stream flows this year are at a record low. My office is getting inundated with calls from people that are flat running out of water. The Federal agencies, meanwhile, appear to be draining upstream reservoirs, trying to maintain a continuous flow in the river in the middle valley for endangered species purposes.

It is my belief that this type of flow is not sustainable, and it will fail. If this current drought continues, hard choices are going to have to be before us. What is going to happen if this drought continues 1, 2, or 3 years? Will there be any storage left to continue the existence of the fish at that time?

New Mexico has developed a policy relating to the conservation of endangered species. First, the water should be acquired by the United States and not taken, and we would like to thank both Senators for their help on that issue. Secondly, the water should be acquired in accordance with New Mexico water law and administration, and that is partially being complied with, and we'd like to see if we could see a little bit more compliance with New Mexico water law.

Finally, we don't want any diminishment of New Mexico's ability to deliver our obligations underneath the compact, as well as water to downstream users. I would like to acknowledge all the Bureau's efforts that they have done on Pecos River in obtaining offsetting water rights; however, I want to turn back to the Rio Grande.

The inaction of the Federal agencies are going to impact New Mexico's ability to deliver water into Elephant Butte. Today is a very, very special day. There is a compact condition within the Rio Grande Compact, it talks about when the water—we call it usable water within project storage, and that's basically water within Elephant Butte and Caballo, drops below 400,000 feet or 400,000 acre feet, certain things are triggered. What this type of an impact is going to have is on any reservoirs that are constructed after 1929 may not increase their storage. We do have Santa Fe Canyon's reservoir supplies and El Vado, which fit underneath this quote, "impacted" by this compact provision.

Meanwhile, Reclamation is having a very difficult time in maintaining the channel running into Elephant Butte Reservoir. We do need a temporary channel running into Elephant Butte Reservoir. Without this temporary channel, the water literally just runs out, spreads out and evaporates. Last year, there was an attempt to do a channel. The design failed. And at this point, we have finally finished the design of the channel to where we wanted it to be last year, but the water, meanwhile, in the Elephant Butte is continuing to recede. And we anticipate that by the end of the irrigation season, it will be about 11 miles downstream. The extension of the channel, we understand, cannot begin until this next winter because of environmental law approvals have not yet been secured.

The Federal funding we feel is inadequate. We recently received a letter from Federal agencies requesting that the State replace worn out Federal equipment, saying that it could double productivity. We would like to request that the Federal—see if we can find Federal funds to buy Federal equipment. The State has bought some equipment that we've turned it over to the Federal agencies, but we do have limited resources.

Senator DOMENICI. Have you asked for it?

Mr. TURNEY. Yes.

Senator DOMENICI. Who?

Mr. TURNEY. I believe we had actually sent a letter to your office.

Senator DOMENICI. And when was that?

Mr. TURNEY. And I don't want to give a time frame. It seems to me within the last month or so.

Senator DOMENICI. Okay.

Mr. TURNEY. On the city of Santa Fe, I am very, very concerned about the city of Santa Fe. Their reservoirs are getting very, very low. If we have a bad fire up there this summer, if they lose one

of their major Buckman wells, the city is going to be in very, very serious position. The city has a proposal for a new supplemental well. Apparently, they haven't been able to get approval to do that because it's on Federal lands, and we would like to get your help in trying to see if we can get Santa Fe a dependable water supply.

On the Pecos River, we are working very hard on trying to address Pecos River issues. The State has developed a long-term compliance plan. This was developed with a lot of stakeholders up and down the Pecos River. The State has appropriated major funds to address these issues. We are, however, not out of the woods on the Pecos River. We will—still looking at some sort of a limited priority call. We are in the process of developing rules and regulations for this priority call. We do continue to be very worried about some of these cities up and down the Pecos River that have junior water rights; for instance, Roswell, or on some of the tributaries like Ruidoso, Ruidoso Downs, the Alto Lake area. These people have senior and junior water rights.

The cities do want to grow. They're going to have to get a new water source in the Sacramento Mountains, which is where Ruidoso gets its water from. There is a very, very limited water supply. A lot of the waters in the Ruidoso basin are currently being exported out of the basin for use by the people of the Tularosa basin. I know that, Senator Domenici, you have introduced a bill for desalination. In the future, if desalination becomes a reality, I'd like to see if there's some way we could do a study about returning of water originating in the Ruidoso area to be used in the Ruidoso area, and see if we can get some of the users in the Tularosa basin to get water coming out of a desalination plant. And thank you.

[The prepared statement of Mr. Turney follows:]

PREPARED STATEMENT OF THOMAS C. TURNEY, NEW MEXICO STATE ENGINEER,
SANTA FE, NM

New Mexicans have long depended on a partnership with the water management agencies of the United States to develop water and operate federal works upon which New Mexico water supplies and flood protection rely.

This historical partnership has been turned on its ear by the Endangered Species Act. Drought conditions this year are the worst ever. Stream flows are at record lows on rivers across New Mexico. Yet, on the Rio Grande, federal agencies are draining the remaining stored water from upstream reservoirs to try and maintain a continuously flowing river through the Middle Valley to aid endangered species. These actions are simply not sustainable and will fail this year. In future years, if the current drought continues, hard choices will hit us squarely.

The policy of the Governor is that New Mexico can and will allow water supplies to be provided for the conservation of endangered species provided that three simple conditions are met:

First, water must be acquired by the United States and not just taken. Thank you, Senators, for your support of this important policy by your insistence that federal agencies purchase water and by providing the necessary appropriations that they may do so.

Second, water must be acquired and used in accordance with New Mexico water law and water resources administration. We need the United States to acquire state permits for their changed uses of water, including uses of water for endangered species. The Bureau of Reclamation has partially complied on the Rio Grande but has ignored this requirement on the Pecos River.

Third, there must be no diminishment of New Mexico's ability to comply with interstate stream compacts and make deliveries of water upon which downstream water users, both in New Mexico and in other downstream states, rely. I acknowledge and appreciate Reclamation's efforts to lease water to offset their depletions of scarce Pecos River water associated with their changed river operations to provide additional water in the river for the Pecos blunt nose shiner. However, actions,

and perhaps more importantly, inactions by agencies of the United States in the Rio Grande have materially impacted New Mexico's ability to deliver water to Elephant Butte Dam.

This is particularly important because today, for the first time in 24 years, the amount of water in Elephant Butte and Caballo Reservoirs that is legally available to water users in New Mexico and Texas below Elephant Butte Dam, will drop to less than 400,000 acre feet. Under these conditions, the Rio Grande Compact requires that New Mexico not allow increases in native water storage in reservoirs in New Mexico that were built after the Compact. That storage prohibition applies to most of Santa Fe's canyon reservoirs and to El Vado Reservoir, which supplies water to the farmers and other water users in the middle Rio Grande.

Meanwhile, Reclamation is having a very difficult time with their responsibilities to maintain the channel of the Rio Grande to convey flow downstream. A temporary channel is needed to connect the Rio Grande through the sediment delta at the head of Elephant Butte Reservoir to the reservoir pool. Without this channel, the water spreads out and evaporates. The temporary channel start was delayed for two years due to ESA Section 7 consultation. The originally designed channel was partially constructed but failed at the first high flow. Inappropriately designed channel construction features, which I understand were required through ESA Section 7 consultation to mimic stream channel habitat in the reservoir delta, doomed it to fail under any high flow condition. Today, the channel has been constructed to its originally planned endpoint. But in the meantime the reservoir pool has receded many more miles downstream and will be 11 miles downstream at the end of this irrigation season. Extension of the existing channel can't start until this winter, at the earliest, because the required federal environmental law approvals have not been secured.

Endangered species issues have also caused substantial changes in the maintenance of the channel of the Rio Grande through the Middle Rio Grande. Formerly when the channel of the Rio Grande shifted to a location where it threatened to erode the levee, simple and cheap fixes were used. Now, Endangered Species Act consultation has imposed extremely expensive approaches. The result is a backlog of maintenance sites and levees that are exposed to failure at flood levels that can be expected from intense thunderstorms once every two years.

Most recently we have learned that the Fish and Wildlife Service proposes the Elephant Butte reservoir as critical habitat for the Rio Grande silvery minnow, even though the reservoir is very inhospitable habitat for the minnow. What additional restrictions will come from this designation?

Federal funding for this crucial federal responsibility is inadequate. Reclamation recently wrote the Interstate Stream Commission asking the State to pay to replace Reclamation's worn-out equipment used for channel construction and maintenance, saving Reclamation's productivity would be doubled with new equipment because their existing equipment is broken so much of the time. I request you arrange for federal funding to meet this critical need. The State of New Mexico has recently completed replacement of the State-owned equipment that is on permanent loan to Reclamation for completion of their maintenance responsibilities.

Thank you, Senators, for federal funds to be used to provide temporary emergency wells for the City of Santa Fe for use until their river diversion for San Juan-Chama water can be approved, designed, and constructed. Your additional assistance to encourage federal agencies to provide timely compliance with the requirements of the National Environmental Policy Act is also needed, so these funds can be expended. As each day passes, the severity of Santa Fe water supplies grow more serious.

The current situation on the Pecos River is materially different compared to this time last year in three very important respects:

1. A long-term consensus solution for New Mexico's compliance with the Pecos River Compact and U.S. Supreme Court decree was developed by a committee of Pecos water users working with the New Mexico Interstate Stream Commission and the Office of the State Engineer.
2. Due to the support and emphasis of the water users committee, the New Mexico Interstate Stream Commission delivered additional water across the Texas state line. New Mexico remains in continuous compliance with the U.S. Supreme Court 1988 decree and has a small but important accrued state line delivery credit that it will need to draw on in this drought year.
3. The Legislature and Governor passed and approved substantive legislation authorizing the long-term solution, providing very significant funding, and setting criteria for implementation of the long-term solution.

I want to acknowledge and thank the members of the water users committee. They have worked hard and accomplished results that are very significant and valuable.

The Legislature and Governor appropriated and approved very generous funding for implementation of the long-term consensus solution, but expenditures are contingent upon compliance with the Legislature's criteria. Total extraordinary appropriations to the New Mexico Interstate Stream Commission for this purpose, and for continued short-term compliance, are approximately \$37 million. Rep. Joe Stell and Sen. Tim Jennings were instrumental in the Legislation and in providing the appropriations. The New Mexico Interstate Stream Commission thanks them both for their leadership.

Long-term compliance with the Pecos River Compact and Decree require that water uses in New Mexico be reduced and that we get water through the last dam in New Mexico for delivery to the Texas state line. This will be accomplished by the State of New Mexico's purchase of 18,000 acres of land and the associated water rights. The Legislation provides that 6,000 acres of assessed land be purchased within Carlsbad Irrigation District and 12,000 acres of irrigated land be purchased upstream between Sumner Dam and Brantley Dam. Groundwater also will be pumped from the Roswell basin aquifer, where it trapped by gravity even though water levels in the aquifer are steadily increasing, to increase downstream supplies for Carlsbad Irrigation District and for compact deliveries.

The Legislation sets two important and difficult criteria that must be met before state funds are expended to buy land and the associated water rights.

- The decades old adjudication must be settled; and
- The New Mexico Interstate Stream Commission must enter into contracts with Carlsbad Irrigation District, the Pecos Valley Artesian Conservancy District, and Ft. Sumner Irrigation District to ensure that the State's expenditures are permanently effective in providing New Mexico's compliance with the Pecos River Compact and Decree.

Both of these criteria require the participation and cooperation of federal agencies. We look forward to receiving their participation and cooperation to solve this long-standing problem.

The State is concerned about certain communities along the front range of the Sacramento Mountains which have post compact water rights. These water rights would be subject to curtailment under a Pecos River priority call. Examples of junior water right holders include Ruidoso, Ruidoso Downs, and Alto. The physical supply of water in this area is limited. To serve both existing demand and projected future growth, a new source of water is going to have to be developed for this area. A major portion of the water in originating in this area is now being exported out of the area for water use in the Tularosa area. As I understand, a bill has been introduced in Congress to provide for desalination of the large deposits of saline water within the Tularosa Basin. I would request that if a desalination plant is developed to provide a water supplies for stakeholders in the Tularosa basin, that as a part of the long range planning, serious consideration be given to develop a plan to allow the Ruidoso area waters, now being exported out of the area, to instead allow them to become part of the future available water supply for the existing and future growth that is now occurring in southern Lincoln County.

Thank you for this opportunity to brief you.

The CHAIRMAN. Thank you very much.

Steve, why don't you go ahead.

STATEMENT OF STEVE FARRIS, OFFICE OF THE NEW MEXICO ATTORNEY GENERAL

Mr. FARRIS. Thank you, Mr. Chairman and Senator Domenici.

On behalf of Attorney General Patricia Madrid, I'd like to thank you for holding this field hearing in Albuquerque and for the opportunity to testify to the committee. I'd like to give you an update on the ongoing Endangered Species Act litigation on the Rio Grande, tell you about two recent decisions, one of which Senator Domenici has already referred to, the one in Federal District Court; and the other decision, a decision of the Tenth Circuit Court of Appeals, and tell you what I think this may mean for the citizens of the Middle Rio Grande and for the endangered species.

Both decisions appear to require major water use and management changes on the Rio Grande. In July 1999, the Secretary of the Interior published a final rule designating critical habitat for the Rio Grande silvery minnow. This was done pursuant to a lawsuit filed by the Forest Guardians against the Secretary, and after the Tenth Circuit's decision and remand to the district court, the Secretary was ordered to publish a rule within 90 days.

After the final rule was published, the State of New Mexico filed suit against the Fish and Wildlife Service, claiming that the rule was arbitrary and capricious and not in accordance with the law because it failed to consider the enormous economic impacts that would result from the designation of critical habitat. The Middle Rio Grande Conservancy District and the Forest Guardians also filed a suit on similar grounds.

The plaintiffs in these three lawsuits prevailed and Judge Mechem found that the critical habitat rule was arbitrary and capricious. He ordered that an environmental impact statement be completed and that a new rule designating critical habitat be completed within 120 days, and in so ruling, Judge Mechem noted that the Fish and Wildlife Service has dismissed the serious impacts on all non-Federal entities without regard for their dependence and the interrelationship between the Federal and non-Federal actions on the river. He noted, quote, "an exceptional interrelationship between Federal and non-Federal in the Middle Rio Grande valley."

In the other Endangered Species Act case, the one referred to earlier by Senator Domenici, Judge Parker, on April 19, issued his memorandum opinion and order. In that order, the district court affirmed the biological opinion that had been issued by the Fish and Wildlife Service, and which had been made possible by the conservation water agreement between the State of New Mexico and the United States that was entered into last year, but the order went far beyond affirming that biological opinion. It noted that due to this year's record drought, it may be necessary to reinitiate consultation this year, and in any event, the biological opinion and conservation water agreement were set to expire on December 31, 2003.

The district court then held that when consultation is reinitiated, the Bureau of Reclamation must consult on deliveries of native Rio Grande water to the Middle Rio Grande Conservancy District and the delivery of San Juan-Chama Project water to the municipalities and farmers of the middle valley. While this decision has been appealed by the State of New Mexico, the Middle Rio Grande Conservancy District, the city of Albuquerque, the Rio Chama Acequia Association, then the United States, if it stands, it most probably will result in major water use and management changes.

Just 12 days ago, the Tenth Circuit Court of Appeals rendered its decision in the United States' appeal of Judge Mechem's order in the critical habitat case. While the Tenth Circuit upheld Judge Mechem's decision, it makes two disturbing assumptions in dicta discussing the effect of critical habitat designation: First of all, the court of appeals assumed that the designation of critical habitat will require Federal agencies to reallocate water in a fully allocated river from human uses to the river; and second, the opinion ap-

appears to assume that the Federal agencies have the unilateral authority to make such a reallocation.

While the actions of the Federal agencies may ultimately be found by the courts to be unilateral, as Judge Mechem noted, the consequences of those actions certainly are not. The Tenth Circuit court's opinion states that, "Because extensive reaches of the Middle Rio Grande are dry under current water management practices . . . the designation will require the Federal water manager to reallocate water for the Minnow's use." While this is clearly dicta, I think it may be significant to note that the appeal of Judge Parker's decision is going to this same circuit court of appeals where at least one panel has made these assumptions. We strongly disagree with those assumptions and we'll make our argument, but it is worth noting what the courts have said.

All of this makes the point that litigation in the end may not provide a solution. It will give us decisions. It will bind us all, but it cannot determine the biological needs of the endangered species nor the hydrologic limits on what we may do to meet those needs.

Litigation may result in the involuntary opening of our reservoirs to release water that we have stored for future human needs to the silvery minnow, but such action is not hydrologically sustainable. Not only will it result in economic and cultural upheaval in the middle valley, it will also not serve the long-term needs of the endangered species. We have, I am told, enough water to keep the river wet for its length from Cochiti and Elephant Butte Reservoirs for one year, maybe two. After that, the water will be gone, the river will dry, and the minnow will be in far worse condition than it is now.

The best and only solution, I believe, is collaborative problem-solving. We must address the real limits of hydrology, the real biological needs of the species, and the needs of the citizens of the Middle Rio Grande. The best instrument for collaborative problem-solving remains a Middle Rio Grande Endangered Species Act Collaborative Program. I'd like to thank Senator Domenici and you, Mr. Chairman, for your continued interest and strong support of this program. There was a long period when the program did not appear to be making any headway, but I believe we have turned a corner and we have begun to make progress. We have a long way to go yet. It's a daunting task in front of us, but with your continued support, we can get there.

Thank you.

The CHAIRMAN. Thank you all very much. Let me start by asking Mayor Chavez, the city has this surface water diversion project that you are engaged in. What is the time frame for that? When would you expect to be able to bring that San Juan water on line through that diversion project?

Mayor CHAVEZ. Mr. Chairman, the contract has been certainly fully funded. We anticipate breaking ground here in just a matter of weeks. We anticipate, unless something untoward occurs in the Federal—some court or otherwise—cutting the ribbon four years from today.

The CHAIRMAN. Would you expect that when you do cut the ribbon and the project is operating, that you would use your full allocation of water at that time?

Mayor CHAVEZ. Mr. Chairman, members of the committee, no, we don't. It would not—it's a gradual transition. The idea is to take the pressure off our aquifer, to return it to a situation of being sustainable within its own ecosystem in terms of water replenishment, and so there will be ample room for decades to come to work with other users on this system within the context of our needs. Of course, nobody can dictate or anticipate what will happen if we have more serious droughts than we've had today. My principal interest is in securing our legal right to protect our destiny, to preserve water.

The CHAIRMAN. Let me ask the State engineer, let me ask you to go over this ground once more. You talked about how—under the Rio Grande compact that we have—that if the amount of storage in Elephant Butte drops below 400,000 acre feet, that that triggers a prohibition on us adding additional storage in two other resources—you mentioned, what, Santa Fe and El Vado?

Mr. TURNEY. Yes.

The CHAIRMAN. Tell me the practical effect of that, for example, on Santa Fe. Is there some practical effect that you see from the triggering of that condition?

Mr. TURNEY. There is a very serious practical impact, and where you'll start to see is it is in 2 or 3 years. What we'll try and do, in the meantime, obviously, we're going to have to figure out a way for Santa Fe to store their water in Santa Fe Canyon this winter, so we'll try and do an exchange. But we have run out that scenario for 2 or 3 years, and if the drought continues, there won't be any San Juan-Chama water in storage for the city anymore, and it is going to be a major impact on the city below levels if it continues to stay below 400,000 acre-feet, but in the meantime, we will be able to do this San Juan-Chama accounting exchange.

The CHAIRMAN. But you think that accounting exchange only works for another year or two?

Mr. TURNEY. About 2 more years, and then we begin to have negative—actually conditions on storage of San Juan-Chama water, and so what we'll try and do is let basically—whatever the water that the city of Santa Fe wants to store up the canyon, let's say it's 3,000 acre feet, next winter, if they can get that kind of flow, we will release 3,000 acre water out of San Juan-Chama project storage so that the river is kept whole.

The CHAIRMAN. Okay. Let me defer to Senator Domenici for questions.

Senator DOMENICI. Thank you very much, Mr. Chairman. I assume that when we are finished, that the mayor has to go, too, same as I.

First, let me say to Steve Farris, I have only worked with you one time in my life. It was for a very extended period of time with reference to the time preceding the agreement that was rendered to the attorney general whom you represented as part of that, and I want to compliment the State of New Mexico and the attorney general. Sometimes we wonder whether our State agencies, because they can't pay the high prices that lawyers make, whether they have good counsel, and I want to tell you the people of New Mexico, as far as water counsel is concerned, they have a very good

one for the salary they pay you, and I thank you for your hard work.

Mr. Water Engineer, two things: We have not had an appropriation bill, and won't for another 3 months. We'll try to take care of your equipment issue. And so everyone will understand about Santa Fe, we have been trying as hard as we can to get this piece of land, Senator Bingaman, three or four of them that they can drill on. We've got the money ready, but we are told that since this is Bureau of Land Management property—and I hope you disassociate our government from us, and Mr. Mayor, we're not—Senator Bingaman and I are not on the side of taking Albuquerque's water—but what I want to tell you is, the BLM claims there's a rule that we have to go through an impact statement in order to drill those wells. Now we're trying very hard to just apply common sense and see if we can get that done. If we do, you'll have the money—Santa Fe will have the money very soon.

Now, let me, while I'm at it, because I'm going to have to leave, let me say to the Middle Rio Grande Conservancy District, I know we are referring to you as the farmers now, that's all right by me and that's all right by you, but I want to say that I'm very pleased that we've come to the time when you are professionally recognized, and that was not the case years ago. You have adequate, good staff and, you know, I don't know where all the counsel that's so qualified is coming from, but they have great legal counsel on water issues, Mr. Chairman, so we don't have to worry about their rights, and I thank you for your cooperation.

Now, Mr. Mayor, I want you to know that to say to two Senators that you want the government to quit having it both ways is not quite the way to say it, though I agree you can say it however you like. You see, the Endangered Species Act has been in existence for all the time he was in the Senate and I was in the Senate. No Senator has been able to change that law. Now, we think we're going to change all that.

First of all, we have a Department of Fish and Wildlife that is talking differently, and we thank them profusely, because that may be the big difference in terms of endangered species. Did you hear of the Klamath case? That was the one that rendered agricultural land totally, totally dry; whereas, for many, many years, a number of thousands of acres were planted. That's because the Endangered Species Act won. Nobody can change it, at least not yet, but lo and behold, that was changed when it was too late, when it was found that the professional opinion was inadequate in determining the endangered species, so we're all loaded with all of this, but I'm speaking for myself and I'm hoping that whenever I call on Senator Bingaman, he agrees we cannot let the endangered species take water from Albuquerque and take the future of the water from Albuquerque, but we can expect that we all might work together and you might be assured of your water, but you might use it, in the meantime, in a legally binding approach that helps solve a problem if there's a victory at the other end, and I think that's what you are looking at.

But we're going to help you and our people here, I am, and the Endangered Species Act doesn't make any sense to me in terms of taking that water, and I happen to be on both sides. \$50 million

was put on the burden of these people to pay for, and so you all know it isn't just a piece of water, it's about 50,000 acre-feet. The State of New Mexico, Senator Bingaman, only got this, that 50,000 acre-feet out of the monstrous agreement that sent all the water from the San Juan and the Colorado to the State of Colorado and California. It made them not the green of today but the green of agriculture and growth; and what we got was this, our Senator succeeded in getting us this.

It was measured very carefully as to how much they may need, and that's how it came across the mountains, as a tail end victory for New Mexico of the water that it might be able to get, out of the billions of dollars of projects that took the water to our sister States, so it is important that we not lose it.

Senator Bingaman, I was a little doubtful today, on such short notice, that we would have much here, but it's pretty obvious to me that we now know where the issues are and have a plentiful supply of New Mexicans that are concerned and are professional, and I think there's one exception, perhaps, the endangered species spokesmen, but they all seem willing to see if we can't solve this problem, and I think that was a worthwhile afternoon. I thank you for it.

The CHAIRMAN. Thank you for participating.

Are you going to have to leave at this point? I think you are ready, or not?

Mayor CHAVEZ. Can I respond very briefly?

The CHAIRMAN. Please, go right ahead.

Mayor CHAVEZ. Because here's where I find myself as mayor of Albuquerque, I'm not a legal expert in the areas that are in litigation, that's not what I went to law school for, but one of the concerns I have is that the Federal courts may, in fact, be directly construing both the Federal law and the regulatory aftermath of that law, which—and if that is the case, and they certainly seem to be consistently saying that they are, that leaves me with no recourse, as mayor of the city, but to turn to the body that writes the underlying law, and that's why I thought we may be at that point. But I am the first to recognize the hurdles that one would have to overcome sitting in the U.S. Senate or the House of Representatives when it comes to this legislation. I don't know where else to turn. You all are the ones. Thank you.

The CHAIRMAN. All right. Well, thank you very much and thank this entire panel for your good testimony. We appreciate it.

Why don't we go ahead with the third panel.

Mr. Shah, why don't you go ahead. Thank you very much for being here.

STATEMENT OF SUBHAS K. SHAH, CHIEF ENGINEER, MIDDLE RIO GRANDE CONSERVANCY DISTRICT, ALBUQUERQUE, NM

Mr. SHAH. Senator Bingaman and members of the staff, I would like, first, to thank all of you for coming to New Mexico and address these important issues of drought. I would like to also note that the title of this hearing refers to impacts on Federal projects. The MRGCD has been impacted greatly, but I need to clarify that it is not a Federal project. When the district was forming in 1925,

we tried to become a reclamation project, which was turned down. As a result, it was financed by the locals, private and bonds.

It was not until the 1950's when the United States, through the MRG project, elected to provide a loan to the district to pay off its bonds, and agreed, for a promise of full repayment, to do rehabilitation work on MRGCD dams, diversion dams, and other facilities. So far, right now, we have paid off both the projects, the Middle Rio Grande project and San Juan-Chama project. All water diverted for MRGCD farmers is held under State law, the United States holds no such rights, and with the exception of San Juan-Chama water, the United States delivers no water to MRGCD farmers.

The district was formed in 1925. It has about 834 miles of canals and ditches, about 404 miles of drains, and we have several cities and towns along the Rio Grande and six middle Rio Grande pueblos. We have four different diversion dams we can use for our farmers.

To conserve our precious water, the district has, for the last several years, been upgrading the metering system, to the point where now all the diversions are metered and return flows are also automatically metered. This improved system has allowed us to reduce diversions from the Rio Grande by as much as 15 percent. The farmers have also laser-leveled their fields and provided concrete-lined ditches. They use a piping system and several water conservation tactics they've begun to use.

The district itself has a new rotational scheduling plan, by which, this year, the farmers get their water at certain scheduled times on this rotation schedule, so we have delivery of the water to the farmers as they need it.

Drought recognizes no distinction between water rights. Mother Nature does not respect priorities. When she decides to create a drought, we all suffer. Fortunately, in the Western United States, we have had the wisdom to build reservoirs to guard against drought, and we have managed those reservoirs to guard against the possibility of drought.

The drought we have this time is similar to one in the 1950's. During that time, miles of the river went dry for months at a time. That was because the drought was extended and there was insufficient reservoir storage to cover an extended drought. Had this drought occurred in 1907, the river would have been dry from Albuquerque to El Paso because there was no storage whatsoever. This year, a provision of the Rio Grande Compact will also come into play. Like Tom Turney, State engineer, says, if we go to the point of usable water at Elephant Butte, El Vado will be affected and we may not be able to store water in El Vado. That means we may not be able to provide water to our farmers.

However, because of our upstream storage and the importation of San Juan-Chama water, the district has been able to reach an agreement with the city of Albuquerque to receive 70,000 acre-feet of water, which will last—we are hoping to last until the end of the season. And this water combined with the agreement which the city has with the Bureau of Reclamation, 40,000 acre feet, we can provide for the minnows also. The minnow water will be carried on top of the district water. We are hoping that we will have enough

for the rest of the season. If this dryness continues, then we may have some troubles in the later part of the season.

The ability to meet this year's needs should not be viewed as a solution to the problem of the drought. To the contrary, a host of factors have placed the MRGCD farmers at peril. The first of this is an Endangered Species Act.

The Endangered Species Act has been interpreted as trumping all other needs, even though we now know from the Klamath Falls, Oregon experience, the biology supporting decisions under that Act can be flawed. A similar error occurred here. In the year 2000, the Federal biological consensus was that the minnow needs a constant flow the entire Rio Grande stretch, amounting to some 300 cfs at Isleta Dam. As a result, more than 200,000 acre-feet of water was released from upstream to the Rio Grande in the year 2000.

As a result of a reevaluation of the biology, the amount of water required by the minnow was reduced to 100 cfs for 2002, and intermittency of flow was allowed. Even though an additional 40,000 acre-feet of water has been acquired from the City—acquired from the city for the minnow, this may not be enough for this year.

In short, because of Federal court interpretations of ESA mandates, we have used up our storage. Without major inflows next year, there will be no water for the silvery minnows and none for the farmers. We have not chosen to manage for drought, we have chosen to manage for the ESA. While the MRGCD is happy to receive water for irrigation this year, by ignoring drought and managing for the species, we may not—we may have done a great disservice to both ESA and the farmers.

Another factor is the amount of vegetation which consumes the water in the Rio Grande.

In closing, the MRGCD and silvery minnow will make it through this year, but if this year is followed by another drought year similar in scope, we will all pay for our failure to recognize that Mother Nature is neutral in allocation of water. She is not subject to Federal courts' jurisdiction or injunction, and without properly utilizing available storage, all the Federal laws in the world will not make water for the downstream users.

Thank you, Mr. Chairman. I'll be happy to answer any questions. If you have any questions, we have our legal counsel, Chuck DuMars, here to answer your questions. Thank you.

[The prepared statement of Mr. Shah follows:]

PREPARED STATEMENT OF SUBHAS K. SHAH, CHIEF ENGINEER, MIDDLE RIO GRANDE
CONSERVANCY DISTRICT, ALBUQUERQUE, NM

Senator's Bingaman, and Domenici, members of the staff. I would first like to thank all of you for coming to New Mexico to address the important issues of drought effects on water users in New Mexico, on rivers such as the Rio Grande with highly variable flows. I note the title of this hearing refers to impacts on "Federal projects". The Middle Rio Grande Conservancy District has been impacted greatly, but I need to clarify that it is not a Federal project. When the MRGCD was formed in 1925, it attempted to become a Reclamation project and was turned down. As a result it was financed with state and private capital and bonds.

It was not until the 1950's that the United States, through the Middle Rio Grande Project, elected to provide a loan to the MRGCD to pay off its bonds and agreed, for a promise of full re-payment, to do rehabilitation work on MRGCD diversion dams and other facilities. All obligations for the loan and the rehabilitation for the Middle Rio Grande Project and the MRGCD's share of San Juan/Chama repayment

obligations have been fully repaid. All water diverted for middle Rio Grande farmers is held under state law, the United States holds no such rights, and with the exception of San Juan/Chama water, the United States delivers no water to MRGCD farmers.

The Middle Rio Grande Conservancy District was created in 1925 to provide river flood control, drainage, and irrigation water to the middle Rio Grande valley. Today, the MRGCD extends from Cochiti Dam south for approximately 150 miles to the northern boundary of the Bosque del Apache National Wildlife Refuge. MRGCD encompasses approximately 278,000 acres in four counties. At present, some 11,000 irrigators on approximately 73,000 acres are using irrigation water. Within the District's boundaries are thousands of property owners and many towns and villages, six Indian pueblos, and much of the City of Albuquerque. MRGCD owns and manages El Vado storage dam on the Chama River, three diversion dams on the Rio Grande, 834 miles of canals and ditches, and 404 miles of riverside drains that are capable of delivering water for irrigation and a variety of other purposes.

The value of crops grown by farmers in the MRGCD exceeds \$30 million annually, and with a standard economic multiplier that economic value easily exceeds \$75 million. Migratory birds using the Rio Grande flyway also take advantage of the thousands of acres of farmland as a rich source of food, and many other species of wildlife use the hundreds of miles of riparian habitat that is supported by the MRGCD's facilities. The middle Rio Grande bosque, which is the largest contiguous riparian forest in the southwest, is largely a product of the MRGCD's flood control facilities, and is to a great extent supported by the irrigation water delivery system.

To conserve our precious water, the MRGCD has for the last several years been upgrading the water metering system, to the point where now all diversions from the river and most return flows are now automatically metered. This improved system has allowed MRGCD to reduce diversions from the Rio Grande by as much as 15% without adversely affecting our water users. Farmers themselves have also stepped up to the plate, instituting laser leveling on most of the irrigated land in the MRGCD, and lining many irrigation canals to prevent seepage. In cooperation with the Natural Resources Conservation Service and the MRGCD, a farmer in Socorro County has installed an experimental 4-acre drip irrigation system to water an alfalfa field. To date, he has been able to increase production while reducing water consumption by as much as 30%.

Drought recognizes no distinction between water rights. Mother nature does not respect priorities. When she decides to create a drought, all suffer. Fortunately, in the western United States we have had the wisdom to build reservoirs to guard against drought. And, we have managed those reservoirs to guard against the possibility of drought.

The only drought of record similar to this one was that of the 1950's. During that time miles of the river were dry for months at a time. That was because the drought was extended and there was insufficient reservoir storage to cover an extended drought. Had this drought occurred in 1907, the river would have been dry from Albuquerque to almost El Paso because there was no storage whatsoever. This year, a provision of the Rio Grande Compact will come into play next week, whereby the quantity of water stored at Elephant Butte Reservoir will drop below 400,000 acre-feet. One result of that will be that MRGCD and other entities will be unable to store water in upstream reservoirs until the storage at Elephant Butte exceeds 400,000 acre-feet. That means that if the current drought persists, neither the farmers of the MRGCD nor the endangered silvery minnow will have the benefit of water stored upstream.

However, because of our upstream storage and the importation and storage of San Juan/Chama water, the MRGCD has been able to reach an agreement with the City of Albuquerque and the Bureau of Reclamation for supplemental water supplies to augment the virtual absence of native flows and the MRGCD's San Juan/Chama entitlement. The Pueblos likewise will have a full supply.

The ability to minimally meet this year's needs should not be viewed as a solution to the problem of drought. To the contrary, a host of factors have placed the MRGCD farmers at peril. The first of these is the Endangered Species Act.

The Endangered Species Act has been interpreted as trumping all other needs, even though we now know from the Klamath Falls, Oregon experience, the biology supporting decisions under that Act can be flawed. A similar error occurred here. In the year 2000, the Federal biological consensus was that the silvery minnow required a constant flow the entire middle reach of the Rio Grande, amounting to some 300 cfs at Isleta dam. As a result, more than 200 thousand acre-feet of water was released from upstream drought storage and run down the river in the year 2000.

As a result of a re-evaluation of the biology, the amount of water “required” by the minnow was reduced to 100 cfs for 2002, and intermittency of flow is now allowed. Even so, an additional 40 thousand acre-feet of water has been released from drought storage for the silvery minnow so far this year, and that may not be enough.

In short, because of Federal court interpretations of ESA mandates, we have used up our storage. Without major inflows next year, there will be no water for the silvery minnow and none for the farmers. We have not chosen to manage for drought; we have chosen to manage for the ESA. While the MRGCD is happy to receive the water for irrigation this year, by ignoring drought and managing for the species, we may have done a great disservice to both the ESA and the farmers.

Another major factor limiting the ability of farmers to cope with drought is the emergence of water thieves in the form of non-native vegetation such as Russian olives and salt cedars. We now know that in times of severe drought these phreatophytes are served first before native species, before Pueblos, and before farmers. Without an extensive program to eradicate this vegetation our river will serve these invaders instead of those that really need the water.

In closing, the MRGCD and the silvery minnow will make it through this year, but if this year is followed by another drought year, similar in scope, we will all pay for our failure to recognize that mother nature is neutral in allocation of water. She is not subject to Federal court injunction, and without properly utilizing available storage, all the Federal laws in the world will not make water for the downstream users.

Thank you very much for the opportunity to speak. I will stand for questions, and if there are any legal questions, the MRGCD legal counsel, Mr. Charles DuMars will answer them.

The CHAIRMAN. Very good. Let me go ahead and hear from Mr. Sulnick right now. Thank you very much for being here.

**STATEMENT OF ROBERT H. SULNICK, CAMPAIGN MANAGER,
ALLIANCE FOR THE RIO GRANDE HERITAGE**

Mr. SULNICK. Thank you.

Mr. Chairman, members of the committee, my name is Robert H. Sulnick. I’m the campaign manager for the Alliance for Rio Grande Heritage, the alliance—coalition of environmental organizations working to preserve and restore the Rio Grande in its upper basin. Members include Amigos Bravos, Audubon, Defenders of Wildlife, Forest Guardians, Land and Water Fund of the Rockies, New Mexico PIRG, Rio Grande/Rio Bravo Basin Coalition, Rio Grande Restoration, Sierra Club, Southwest Environmental Center, and the World Wildlife Fund.

New Mexico’s in the midst of a 100-year drought. The drought threatens Rio Grande acequias, pueblos, farmers, cities and endangered species alike. I would like to add that when we talk about the silvery minnow being endangered, we’re talking it as a signal that the entire ecosystem is, in fact, endangered or the species would not be endangered.

Throughout the entire Rio Grande basin, all segments of society are attempting to understand the implications of decreased watershed runoff and declining wells and aquifers. Today responses to the drought have been either reactive or insular. Santa Fe is seeking emergency permission from the State Engineer, as you just heard, to drill additional wells in the Buckner Field. Albuquerque, the Middle Rio Grande Conservancy District, and the Bureau of Reclamation, subsequent to Judge Parker’s decision on the minnow litigation, have worked out an interim response which will provide water for both farmers and the minnow.

I would like to add that both the city of Albuquerque and the Bureau are to be commended on the way they worked out that response.

Other constituencies, including our own, are hunkered down trying to protect their own interests, whether it be farming, economic or environmental. Neither a reactive or insular approach can solve the water problem facing the basin. Reactive approaches are, by definition, not solutions. They simply ensure that contention will reemerge during the next inevitable drought cycle.

It's also important to stress that fighting over a scarce resource makes no sense at all, because such cannot possibly solve the problem. Problem-solving in the context of drought in a desert landscape can only be done through cooperation and mutual compassion, and I would stress the word "compassion."

The basin needs regional water plans which accept that we live in a desert, drought is periodically inevitable, global climate change is affecting us, and that all of us in the Rio Grande basin are interconnected by such things as an over-appropriated river, senior water rights, compact obligations, and laws which protect endangered species. Indeed, all of these things are simply manifestations of the fact that societies living along rivers can only flourish if they learn to cooperate. The alternative, contention, leads only to litigation, acrimony and wasted energy.

I believe that solving our problems require that we take advantage of all available techniques and technologies. Some of these include forbearance, conservation, metering, aquifer recharge, bosque restoration, water storage for both economic and environmental interests, and leadership from the top down. Forbearance is a win-win approach to drought. In water-starved years, holders can voluntarily lease their water to provide instant help for the river, endangered species are protected, unwise and costly litigation is avoided and water holders receive compensation in lieu of a crop. Nothing is lost, a lot is gained.

Conservation, both urban and rural, must become standard operating procedure. If Federal economic assistance is needed, conservation should, in my view, become a first priority item. All new buildings should be required to use water conservation devices. These devices are not new products. They're being used all over the world, and have been for years. Urban centers should not be watering medians, public places can be xeriscaped, fines should be levied for excessive water use. Planners must take into account the availability of water before issuing permits.

Conservation should not necessarily be used to fuel new development. Those who save water should be allowed to choose where they want it used, including used for Rio Grande restoration. Rural water users, likewise, should employ conservation techniques. As Subhas Shah just said, fields are being lasered, which is excellent. Water should be carefully monitored, and so on.

As an aside, I would like to add that, in my view, there is a large reservoir of support for water conservation both amongst urban and rural constituencies, and that we should begin tapping them. Aquifer recharge is something cities should consider. It's being done successfully in California and Arizona. Water technology clean can clean waste water. Offset considerations will have to be bal-

anced, but aquifers have to be recharged. Salt cedar and Russian olive and other exotics should be removed from the bosque. Thereafter, the bosque should be restored lest the exotics become reestablished. Such restoration would not only provide additional water, it would begin restoring the Rio Grande as a living river, and it is a living river that we are after, both economically and aesthetically.

Many of the constituencies along the Rio Grande are interested in additional water storage. I think this should be facilitated both for economic and environmental reasons. Obviously, I'm proposing a doctrine wherein all river cultures learn to live together within the biological means and limitations of a desert community; to a degree, that involves "equal misery." I would also like to add that when considering the drought policy, the Alliance considers pueblos, acequias and farmers an integral part of the river's ecosystem which must be preserved along with species and riparian habitat.

In closing, I would like to acknowledge your leadership and say that the Alliance would very much like to help in achieving some sort of regional cooperative approach to drought management.

The CHAIRMAN. Thank you very much.
Governor Quintana.

STATEMENT OF ANDREW QUINTANA, GOVERNOR, PUEBLO DE COCHITI

Governor QUINTANA. Good afternoon, Chairman Bingaman. And Senator Domenici was here, but he's gone.

I am Governor Andrew Quintana of Pueblo de Cochiti. I welcome the opportunity to address the committee on the issue of Pueblo de Cochiti's relationship with Cochiti Dam, which has taken on new importance because of the drought.

The Pueblo has continually faced such critical issues since the dam was first built on Pueblo land in the mid-1960's. The dam's operations directly affect our community, as well as others' downstream. We also feel that construction of the dam has directly contributed to the decline of the silvery minnow. There was a thriving silvery minnow population in the Rio Grande on our Pueblo when the dam and the reservoir was constructed, severely disrupting their historic river habitat here. The Pueblo did not create this situation, yet we live with the consequences. Please be aware that the Pueblo does not realize any economic benefit from the operation of the dam, but has to deal with its problems on a daily basis.

The Pueblo's opposition to construction of the dam is well known to the Senators. The Pueblo did reluctantly accept a token payment of \$145,000 for a perpetual easement to the United States for the dam; otherwise, the site would have been condemned. In 1965, our most profoundly sacred shrine that we share with other tribes was blown up by the Corps of Engineers to make way for the Cochiti Dam. Traditional family farms, homes and other shrines were flooded or destroyed. Our dead were unearthed, our religious practices were disrupted. Other tribes unjustly criticized the Pueblo for the loss of their shrines. After the dam was built, our remaining farm lands were ruined by seepage as the reservoir filled up.

In 1995, after several years of litigation over the seepage issue, the Pueblo and the Corps settled the lawsuit with congressional ap-

proval, and the Pueblo began to resume its traditional agricultural practices. A provision in the pending Indian Technical Amendments bill would allow us to use part of the operations and maintenance fund created by the settlement to help revive our farming tradition.

Today, the Pueblo has an excellent working relationship with the Corps. Earlier this summer, the Corps and the congressional delegation supported the Pueblo's opposition to BOR's proposal to drain Cochiti reservoir to provide water for the silvery minnow. In its original presentation to the Pueblo, BOR said that it would be willing to ignore Federal law and study the effects of drainage later. There was no consideration of the effect of the drainage on the Pueblo, but as the Corps discovered when it drained the Jemez Canyon Dam, reservoir drainage can have many unexpected impacts.

Under the Corps' easement for the dam and the controlling legislation, the dam's operations are limited to flood and sediment control, recreation, and for the enhancement of fish and wildlife in the reservoir area. In addition, the Pueblo has a contract and statutory right for a permanent reservoir pool of 1,200 surface acres, but now the drought has raised questions of how Cochiti Dam can best be managed.

The Pueblo hereby proposes that Congress authorize and adequately fund a joint study by the Corps and the Pueblo of options for future management of Cochiti Dam. We emphasize that this should be a conceptual study and not a full EIS, because the Corps and the Pueblo would be free to develop and analyze options that are not permitted under statute in the easement for the dam. The findings of such study could not be appealed and litigated like an EIS probably would be, although it would serve as the foundation of a subsequent EIS—as the foundation—I'm sorry, as the foundation of a subsequent EIS. This would, therefore, be a very cost effective approach.

The Corps supports this proposal. The Pueblo is currently working with other Federal agencies, such as the USGS and DOE, on dam-related studies. One of our current studies focuses on radioactive contamination in the reservoir sediment. The potential effects of any new management options should be considered in the study. Our hope is to incorporate lessons learned and to avoid the mistakes of the past.

This concludes my oral testimony. The Pueblo and other tribes may be submitting written testimony in the next few days. Thank you, sir.

The CHAIRMAN. Well, thank you very much.

Governor QUINTANA. I'm available for any questions.

The CHAIRMAN. Thanks to all of you, and if there are others that wish to submit written statements, we are glad to receive those.

Mr. Shah, let me ask you, if I understand the thrust of your testimony, your concern with the Federal court decisions interpreting the Endangered Species Act or applying it, are not just that they've got the priorities on use wrong, but you're also very concerned that the Federal Court is ordering a certain minimum amount of flow at a time when you believe there should not be any additional releases. Is that what I'm understanding?

Mr. SHAH. Chairman Bingaman, the Federal court has not told us as to how much flow we need, but the U.S. Bureau of Reclamation, Fish and Wildlife, and Federal agencies have requested a certain amount of flow is needed in the river, and they have tried to acquire the necessary water for the minnows, but the results are vicious. Quite often, the district has to allow this water to run down the river, and which has caused some impact on the district farmers.

The CHAIRMAN. But your thought is that the Federal court interpretation of the Endangered Species Act mandates, are what have caused us to use up our storage?

Mr. SHAH. Yes.

The CHAIRMAN. And that is—you are talking about the Middle Rio Grande Conservancy District storage.

Mr. SHAH. Yes, we have San Juan-Chama water and native water.

The CHAIRMAN. And you believe that storage would still be there and usable in the next year, were it not for these Federal court interpretations?

Mr. SHAH. That is true.

The CHAIRMAN. Okay.

Mr. Sulnick, did you have any recommendation for what those of us in Congress ought to be doing at this stage? We seem to have a very adverse situation here where one course of action is sort of pray for rain, which we are all engaged in, and another is to try to continue the cooperative efforts to get through this very difficult drought period, but essentially recognize that the laws and regulations in place are fairly much what they should be. And a third position, which I have heard expressed here today, and in many other places, as well, many other times, is that we should have a pretty dramatic change in Federal law and Federal regulation so as to avoid getting into the circumstance we find ourselves in. What is your position as to those options?

Mr. SULNICK. Well, Senator, the changes in law that I would be in favor of would be the enactment of a forbearance program, enactment of measures that assist in conservation being implemented on the ground, and changes in State law that would allow for water to be held for future use. And I would think that that kind of leadership coming from Washington would be most welcome in our region, because the parties, in my view, at the moment, are all kind of in their own positions, kind of contending with each other, rather than cooperating with each other, and I don't think that we can have a solution to our problem any other way than through a cooperative approach. And I think that leadership from yourself and Senator Domenici in that regard would be most welcome.

The CHAIRMAN. Okay.

Mr. SULNICK. I'd also like to add that, from my point of view, I think that to make the Endangered Species Act a scapegoat is not really a realistic conversation. The real conversation is how best to manage our water that we have, acknowledging that the Rio Grande, as a living system, is valuable economically to the State, is valuable spiritually to the State, and that we don't want the river to die, and that should become part of the equation, the same way we don't want the cultures of the Rio Grande to die, so it

seems to me that it's all the same conversation. And then what's required at the moment is some kind of leadership to bring us all together to face that reality.

The CHAIRMAN. All right. Governor Quintana, you refer in your testimony here to the resumption of your traditional agricultural practices.

Governor QUINTANA. Yes, sir.

The CHAIRMAN. I notice a few years ago, you did make a request to us in Congress for assistance with dealing with this seepage problem, and I believe funds were appropriated.

Governor QUINTANA. Yes, sir.

The CHAIRMAN. Has that problem been resolved to the satisfaction of the Pueblo?

Governor QUINTANA. Yes, sir. The drainage system is working very well. As a matter of fact, too well in some places. It's drying up the land. But it's working, yes.

The CHAIRMAN. Good. All right.

Well, I appreciate the testimony of all three of you, and I will go ahead with the final panel here. Thank you all.

Okay. Why don't we go ahead with this final panel. I appreciate everybody's patience here. We have a lot of witnesses today, but we wanted to give everyone a chance to speak.

Mr. Armstrong, president of the Fort Sumner Irrigation District, why don't you start. Go ahead, please.

STATEMENT OF LESLIE ARMSTRONG, PRESIDENT, FORT SUMNER IRRIGATION DISTRICT

Mr. ARMSTRONG. Okay. Thank you, Mr. Chairman. I'm Leslie Armstrong, president of the Fort Sumner Irrigation District.

The CHAIRMAN. Do you have that microphone on, or do you want one there?

Mr. ARMSTRONG. Is it working?

The CHAIRMAN. It is working like a charm.

Mr. ARMSTRONG. I'm Leslie Armstrong, chairman of the Fort Sumner Irrigation District, and on behalf of the district and our board and our farmers, I'd like to thank you for the opportunity to come here today.

First of all, our district is owned and operated by the farmers. They're private water rights; they're not really part of a reclamation project as some are. We became involved through a loan program, which was necessitated by failure of diversions several times in a row, and unable to borrow money from private enterprise, we borrowed money from the Bureau, which we have, over the years have been making repayments and operating and managing our system.

And anyway, our board members serve on a volunteer basis, and I'd like to give a brief description of our district and then describe problems we are facing due to the drought in the Pecos, and so I'd like to include a recent lawsuit that seeks to take water from us to provide downstream flow for the minnow and the bluntnose shiner.

Okay. Fort Sumner Irrigation District's irrigation there began in the Fort Sumner Valley, as it more or less is known now, in the

1860's. There's one historian has documented that there was irrigation existing there as early as the 1400's.

In 1919, the farmers got together and created the Fort Sumner Irrigation District to help carry out the farming and the rotation over their water. We're located on the Pecos River in De Baca County, and we comprise approximately 6,500 acres, and about 586 farm population is involved. We operate, currently, under the Hope Decree with a water right of a direct diversion right from the river of 100 cubic feet per second, not to exceed that; whatever the river flow is, not to exceed 100 cubic feet. This goes through March through October with two 2-week periods during the winter months to maintain the viability of the crops in dry periods.

And as I said a while ago, in 1941, 1942, the floods came several times. The diversions were washed out more than one time and that necessitated us trying to borrow money to construct a more permanent type diversion, which we did, through the Pecos River Compact, which was passed by legislators, and we borrowed money from the Bureau and rebuilt our diversion, which was completed in 1951.

Since that time, we've made semiannual payments. We've always operated and maintained our structures, and we still, at this time, owe about 1.3 million, which we hope to someday pay off.

Let's see, now to go on to the effects of the drought that's hitting us, we are—as surface water diverters, of course, we're dependent on the natural flow of the Pecos River, and with virtually no snowpack or runoff from snowpack this year, it has proven to be very tough on our farmers that the water flow is very low. We've restricted our farmers to 30 minutes per acre for irrigation on—per rotation, which means that only the fields in the best condition and have the best ditches are able to irrigate in that length of time, so many fields are being left unirrigated due to a lack of time to get them irrigated, just in an attempt to try to keep the water moving and keep as many of the crops alive as we can.

In a way, it's our outlook that if we do not receive some rains to increase the river flow, then so much of the river, like above Santa Rosa Dam, has been dry for some time, and the only water flow we have at this time, really, is the spring flows from the Puerta de Luna, below Santa Rosa, to flow through the Sumner Reservoir to our diversion, and they've dropped very low and we're somewhere around 60 cfs is all they're producing. They've been down, I think, as low as probably 45, 47, but they're fluctuating back and forth with little showers, but without rain, we figure within the next month that we'll probably be running out of water for both the farmers and the fish.

Another deal compounding our problems is—the effects of the drought, we are concerned with the downstream flow demands mandated by the Pecos River Compact and by the Endangered Species Act that will put pressure on the Fort Sumner Irrigation District to forego irrigation, and any forbearance of this type or to—could undermine the viability of the district itself; the farmers in the valley, without their crops, will go bankrupt, as well. If they go under, this is the largest portion of the income for the county. We have one town in De Baca County, which is Fort Sumner, which they depend on the farming community for their income, so

without the farming income, the village of Fort Sumner goes under, as well as the county; could put both put out of business.

And our farmers have to have water rights for one purpose, and that is to farm; however, they have been willing to enter into short-term water leases, you know, as demands require, to try to keep everything going.

Now, to go onto the Pecos River Compact, we feel that one of the problems with it is the way it was developed, the changes that have come about since that time, which I'll get into later, that we support the State's long-term policy of purchasing and retiring water rights on the Pecos Valley to try to come up with enough water to supply State line delivery; however, we don't believe that this is for the short-term immediate, and the fairly long-term, but not the actual answer to our problem. And we think that this should—also, that the legislature's recent passing of the water banking legislation, which, they're working on regulations for, that we hope they'll label this for, which would give districts and those that have water a chance to put water into the water bank to be purchased by those needing the water.

The Endangered Species Act comes in to demanding that—it was 2 years ago, they demanded that the Bureau wanted to cut our diversion off on behalf of the endangered species and take our water. Well, then, the most recent lawsuit, as of last week, has named our diversion again for the Bureau to take over control of our diversion and to make our water available for the minnow, which is taking of private rights, and we feel that if they want water, it should be paid for and it's not to be taken.

I'd like to get on to what I feel is two more problems with the endangered species and the State line delivery of water. One thing is that New Mexico takes the full brunt of the water released for the Pecos bluntnose shiner. Any water that's released from the reservoirs down the river for the shiner adds to the debt that we have on the compact to Texas, and we feel that we should get credit for this water; it should not be counted against our debt to Texas, New Mexico shouldn't. Texas should share in the expense.

And the last thing I have to consider is long-term solution, is that the major cause of a shortage of water in the Pecos River is water users that have been allowed to increase over the years virtually unchecked. These are not people with legitimate water rights, but woody plants and species: Pinon juniper in the upper watersheds, and mesquite in the lower watersheds, and the salt cedar in the tributaries to the Pecos River. Over the years, PJ has invaded our grassy meadows and rolling hills; and mesquite has invaded our grassy plains; and salt cedar our streams and tributaries to the Pecos River, as well as the main river channel itself.

Being higher water users than the climax vegetation, such as grass, they have dried up springs and streams that feed the Pecos River. They not only dry up surface water, but they are plants with long tap roots that take deep groundwater, as well, thus reducing the underground recharge of the wells in the Pecos Valley. This problem is compounded in times of drought; because they're up in the watershed, they get their water first. It was not a problem that happened overnight, and it won't be fixed in a day, and we need to start immediately to work on it. It'll be a long-term project, but

we feel that since the majority of the upper watershed is Federally owned lands, that directives and funds should be given to these agencies to treat and recover the watersheds. Funds also need to be made available to private landowners to treat their parts of the watershed. The recent farm bill allows a 50 to 60 percent cost share, but with the economics the way it is today, that is not enough for the ranchers to afford to do it.

And with this, I appreciate your efforts to protect our water rights and to enhance stream flows in the Pecos River, and on behalf of the Fort Sumner Irrigation District, I thank you for this opportunity.

[The prepared statement of Mr. Armstrong follows:]

PREPARED STATEMENT OF LESLIE ARMSTRONG, PRESIDENT,
FORT SUMNER IRRIGATION DISTRICT

Mr. Chairman, I am Leslie Armstrong, President of the Fort Sumner Irrigation District. On behalf of the FSID Board and farmers, I appreciate the opportunity to provide the following remarks regarding the effects of drought on our District. I would like to give you a brief description of our District and then describe the problems we are facing because of drought on the Pecos River, including the recent lawsuit that seeks to take water from us to provide instream flows for the Pecos bluntnose shiner.

I. SID'S WATER RIGHT AND WATER USE

The first irrigation in the Fort Sumner valley began in the 1860s. In 1919, local farmers created FSID to help carry out farming in the valley. Located on the east bank of the Pecos River in De Baca County, FSID encompasses approximately 6,500 acres of irrigable land, of which approximately 6,300 acres are currently under irrigation. The principal crops are alfalfa, hay, corn, grain sorghum, wheat, vegetables and melons. FSID serves 282 farms with a farm population of 586. Under the Hope Community Ditch Decree, FSID and its landowners have a right to divert 100 cubic feet per second (cfs) of water from the Pecos River during the months of March through October, and two eight-day periods during the winter months.

In 1941 and 1942, floods necessitated costly repairs, which were only temporary, and by 1946 the system needed complete rehabilitation. FSID could not secure private funding, so it requested assistance from the U.S. Bureau of Reclamation (BOR). In 1948 and 1949, after ratification of the Pecos River Compact, Congress passed authorizing legislation for the Fort Sumner Project. Pursuant to a 1949 repayment contract between FSID and BOR, BOR completed rehabilitation of the irrigation works in 1951. In order to secure the loan, FSID used the dam as collateral. Once FSID pays off the remaining balance of \$1.3 million and Congress relinquishes its lien, the District will own the dam free and clear.

II. THE EFFECTS OF DROUGHT ON OUR DISTRICT

As a surface water diverter with no storage, FSID is highly dependent on the natural flows of the Pecos River. With virtually no run-off from snow pack, the 2002 irrigation season is proving to be tough on FSID farmers. Currently, our diversion amount is just over half of our natural flow water right and prospects for the remainder of the season do not look good. In addition, poor water quality is reducing crop productivity. Unless the Summer monsoons provide substantial relief, we expect to have to make do with less and less water.

The low amount of water stored in Sumner Reservoir has harmed our river diversions. Because of FSID's prior right, when Sumner Reservoir was constructed the State Engineer required that a minimum pool be left in the reservoir to protect water quality and to allow natural bypasses. During this drought those requirements have not always been met.

Compounding our problems are the effects of drought generally on the Pecos. We are concerned that downstream flow demands mandated by the Pecos River Compact and by the Endangered Species Act may put pressure on FSID farmers to forgo irrigation. Any extended forbearance of this type could undermine the viability of the District itself, as well as De Baca County and the Village of Fort Sumner.

FSID is not in business to be a water marketer. Its farmers have water rights for one purpose and that is to farm. Nonetheless, if other demands on the river require it, FSID is willing to enter into short-term water leases.

A. *Pecos River Compact*. A shortfall in New Mexico's Pecos deliveries to the Texas state line will require New Mexico water diverters to reduce their uses. FSID has one of the most senior water rights on the river, but because it is one of the few large surface water users, its supply is one of the only sources of water readily available for downstream use. This is so because the vast majority of junior water rights holders are groundwater users whose pumping effects on the river are delayed. In other words, even if such groundwater users are promptly shut off, there would be no immediate benefit to the river in most instances.

Because of the difficulty of priority administration, and the severe economic consequences that could come with it, FSID believes the State's long-standing policy of purchasing and retiring water rights over time is a prudent solution. In the long run, this strategy should prove effective. In the short run, however, this approach may be insufficient to make state-line deliveries, particularly in years such as this. One encouraging development is the New Mexico Legislature's passage this year of water banking legislation, which will allow water districts such as FSID to offer a market for surface water as demands require. FSID supports this form of willing-buyer-willing-seller water leasing and is prepared to charter its own water bank once the State Engineer has issued water bank rules and regulations for the Pecos River. By contrast, we oppose any buy-out programs that permanently acquire and retire or transfer water rights. We see such an approach as a threat to the livelihood of our District and we far prefer more flexible, short-term programs, such as water banking.

B. *Endangered Species Act*. Exacerbating the drought conditions for our farmers are potential ESA requirements. Of great concern to our District is the water need of the threatened Pecos bluntnose shiner, whose critical habitat begins on the Pecos below Fort Sumner. We have made our position clear that our District is amenable to providing water for instream conservation flows, but only on a willing-buyer-willing-seller basis. Our farmers have valid private real property rights in their water, and nobody has the right to simply regulate our water away.

We understand the Bureau of Reclamation's policy is to compensate fully for water needed for shiner conservation. However, we remain vigilant, given the BOR's statements only two years ago. On June 29, 2000, BOR ordered FSID to "re-operate" its diversion dam to reduce its diversion amount by 30 percent due to water shortages. The BOR cited as its authority Section 7(a) of the Endangered Species Act. Section 7(a)(2) in particular provides:

Each federal agency shall, in consultation with the Secretary, insure that any action *authorized, funded, or carried out* by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of habitat of such species which is determined . . . to be critical (emphasis added).

Because of the 1949 repayment contract, BOR's order asserted that it has an ownership interest in the diversion dam that necessitated the action in order to comply with the Endangered Species Act and that, pursuant to a provision in the repayment contract, BOR would take over operation of the dam if FSID failed to comply with the order. FSID could not remain viable if it had to give up one-third of its water right. FSID simply has no excess water that it can give up without causing crop damage or requiring fallowing of fields.

Fortunately, in the fall of 2000 BOR thought better of its takeover threat and offered to lease water from FSID farmers. As a result, FSID entered into a forbearance contract with the BOR to compensate farmers for the fallowing of 1,738 acres of farmland during the months of September and October, 2000. This program put more water in the river.

Nevertheless, the BOR threat to takeover our diversion dam still hangs over us, even though the BOR has stated that it does not intend to implement its takeover notice "at this time." In addition, only two weeks ago, BOR bypassed water from Sumner Reservoir for shiner conservation at a time the river was wet. That water came from FSID supplies without the consent of and without any payment to FSID. Under a temporary reservoir operations agreement among FSID, Carlsbad Irrigation District, BOR and the State, FSID has responsibility to maintain a 500 acre-foot pool in Sumner Reservoir, and, as a result, BOR's releases directly reduced the water available for FSID farmers.

Only last week the Forest Guardians filed a lawsuit against BOR and the Corps of Engineers, alleging that those agencies are not using their discretion to appropriate water from irrigation districts for the benefit of the bluntnose shiner. The

suit calls upon BOR to carry through on its threat to take control of the FSID diversion dam and to use FSID water for the bluntnose shiner.

We are willing to cooperate to help the shiner until long-term solutions are in place, but we believe such cooperation must recognize the constitutional protection afforded our water right, in the form of consensual agreements, and must not be induced by threat of a federal take over.

As discussed earlier, we intend to charter a water bank as soon as this fall. In the meantime our board has implemented the FSID Interim Water Conservation Program. The purpose of this program is to establish "a mechanism and procedures for the conservation of FSID water to augment flows of the Pecos River below Fort Sumner, New Mexico." The program implements a process by which any party seeking to augment river flows may lease water from the District.

In the long-term, FSID believes it is important to assess the feasibility of a conservation pool for recovery and conservation purposes. If a conservation pool is established and funds are appropriated for purchase of water, it should alleviate river drying would serve as an insurance policy for survival of the bluntnose shiner.

C. *Watershed.* A major cause of the shortage of water on the Pecos River is water users that have been allowed to increase over the years virtually unchecked. These are not people using the water legitimately but woody plant species—pinon juniper on the upper water sheds, mesquite on the lower watershed, and salt cedar on the tributaries to the Pecos River. Over the years, pinon juniper have invaded our grassy meadows and rolling hills; mesquite has invaded our grassy plains; and salt cedar has invaded our streams and tributaries to the Pecos as well as the main river channel. Being higher water users than the climax vegetation (grass), they have dried up springs and streams that feed the Pecos River. They not only dry up surface water, but are plants with long tap roots that take deeper ground water as well thus reducing the under ground recharge to wells in the Pecos Valley.

This problem is compounded in times of drought. They get their water first. This problem did not develop over night and will not be fixed in a day. If we do not start working on this problem immediately, it will only get worse and larger.

The majority of the upper watershed is on federally owned lands. Directives and funds need to be given to these agencies to treat and recover the watersheds. Funds also need to be made available to the private land owners. Fifty percent or less provided by the farm bill is great, but does not give the incentive that is needed—especially when agriculture's economy is unstable.

III. CONCLUSION

Mr. Chairman, FSID's board and farmers greatly appreciate your efforts to protect water right holders and to enhance stream flows in the Pecos river system. As long as our rights are respected. FSID is willing to cooperate with others to alleviate the drought conditions we face on the Pecos.

On behalf of Fort Sumner Irrigation District, I thank you for the opportunity to talk with you today. I thank you for your help and we certainly will appreciate any additional assistance that the federal government can provide.

The CHAIRMAN. Thank you very much.

Why don't we go to you, Mr. Davis, next, on behalf of the Carlsbad Irrigation District.

STATEMENT OF TOM W. DAVIS, MANAGER, CARLSBAD IRRIGATION DISTRICT, CARLSBAD, NM

Mr. DAVIS. I'm Tom Davis, and I'm the manager of Carlsbad Irrigation District. I want to thank you, Senator Bingaman, on behalf of my board and my members for holding this field hearing here in New Mexico and hearing from the citizens of New Mexico; particularly in light of this drought situation and that—I think that, in my opinion, this drought, and it's probably in the 10th or 11th year in the lower basin of the Pecos River in New Mexico, and probably the entire Pecos basin in Texas. We've been experiencing this drought for at least 10 years.

The full impact hasn't hit us until this year. We began to feel the impacts last year, and the reason for that is we've had unusually high snow melt in the Pecos headwaters. The Pecos is normally

known for a flood-generated river, thunderstorm-generated flows, but we've had some unusually high snow melts during the late 1990's, and we've had reservoirs in place to take advantage of that, to capture that storage, to carry it over from year to year, and so we're just now feeling the impact of the drought. We didn't have any water, at all, captured from snow melt this year. So what we operated on this year was carryover water from Santa Rosa Reservoir and Sumner Reservoir that we moved downstream to Brantley Reservoir the first of March.

Ideally, our allotments are 3.5 acre-feet per acre, to our farmers. This year we began with .8 acre-feet per acre. We've had a couple of small flash flood type situations in the Roswell area that we've been able to store that water in Brantley Dam, so we've been able to allocate, just a couple of weeks ago, another two-tenths of an acre-foot per acre. During the course of my talk, I'll be referring to different places on the river, and if you have a copy of my testimony, on the back page is a map of the basin.

I might compliment you, also, Senator. I think you've been successful in one thing: that John Horning and I are sitting this close proximity to one another; no blows have been thrown yet, so we've accomplished one major thing.

The CHAIRMAN. We hope that continues.

Mr. HORNING. I'll do my best.

Mr. DAVIS. Most of what I have left to say will be fairly repetitious of what you've heard from other speakers, but I wanted to point out the Carlsbad Irrigation District is actually the entity that carries out the authorized purposes of the Carlsbad project. The Carlsbad project is one of the two Bureau—major Bureau of Reclamation projects in the State of New Mexico; the other one being Elephant Butte Irrigation District, so we have a special relationship that we maintain with the Bureau of Reclamation, and it has served our needs well. And we store water in four reservoirs on the Pecos; one being a Corps of Engineer reservoir, which is at Santa Rosa. The other three reservoirs, Sumner, Brantley and Avalon, are Bureau of Reclamation reservoirs. We have the right to fill and refill these reservoirs capped at 176,500 acre-feet total; that's set forth in the compact.

There are often four major competing demands for surface water in the Pecos. One is the needs for the project, the authorized purposes of the project in our storage. The other is the direct flow diversion right that Fort Sumner area's district has, that Mr. Armstrong just described. Also, two new major players that don't have a permitted water right by the State of New Mexico, but nevertheless, have maybe senior demands on Fort Sumner and CID, at least some believe that is the case, and one is the compact of New Mexico and Texas on the Pecos River. A recent Supreme Court amended decree on that compact has forced New Mexico into making its annual deliveries every year, to that compact.

The amended decree also allowed New Mexico to accrue credits to go against years of shortfall. This year we had to draw from that credit. We still have a credit left. What the conditions will be at the end of this calendar year could be significantly different. The other impact is, of course, the endangered species that was mentioned and the demands that Fish and Wildlife have set forth, or

the requirements—I should use a better word—requirements Fish and Wildlife have set forth for the threatened bluntnose shiner, and that is certain flows through the critical habitat.

I wanted to mention other—when I’m talking about the storage, and I want to follow up—Subhas Shah mentioned this, also without those reservoirs being in place, we would have felt the impact of this drought 4 or 5 years ago. That snow melt water that come in every year would have went through the system in a matter of weeks and been gone, so not only have our farmers benefited from the storage, so has the endangered species and all of the habitat along the river. We’ve been able to keep the river wet much longer than we would have without the reservoirs.

I see I’m out of time. I’m going to wrap this up with a couple or three more comments concerning the future. One of the things that is being planned, I think, for the Rio Grande silvery minnow is re-introduction on the Pecos. I would advise that not to be done today because those reaches of the Pecos are dry, so if you take the minnow over there today, it’s going to be a dry river, so don’t take him today. And the fact of the matter is that drying condition could just be worse.

If these conditions persist on the Pecos, I predict that not only have we been dry from Roswell to Yeso Creek, but that drying condition could extend all the way up to the lower end of Fort Sumner Irrigation District.

We also are dry today from Santa Rosa Reservoir upstream past Anton Chico. That drying condition could well move to Villanueva State Park, or even further up the river than that, maybe on to I-25. And of course, overshadowing this bleak scenario I’ve just described is this requirement that the State meet its compact deliveries.

Now, what do we do? One of the things the New Mexico legislature has tried to do is infuse some money into this process so that water rights could be purchased and retired both in Carlsbad Irrigation District and in Pecos Valley Artesian Conservancy Districts. Rights of artesian flows could be pumped; artesian aquifer rights could be pumped into the river to supplement surface flows. Before the settlement of European man, the artesian and shallow aquifers in the reach of the Roswell and Artesian basin contributed about 300 cubic feet a second of the flow of the river. With the development of well fields, that source of water is gone, so that has impacted the lower basin. And part of this money, the State legislature is trying to somehow resupply that original source of water.

Also, I would like to mention the Federal agencies could consider compensating FSID members to forego or bypass some of their water rights or diversion rights to supply of flows of the minnow. And hopefully—Senator, this is where you could have a big influence, I think we need to turn to new technology. I think mankind has always been saved by technology married with economics, and we need to look at—we’re under—the State—parts of the State of New Mexico are underlain by millions of acre-feet of brackish water. We need to find an economical way, something beyond membranes, something beyond our—some new technology to utilize that water, to upgrade it to a certain standard, to use it for ag use or maybe raise it to a higher standard for municipal use, but we’ve

got a good water supply there. We just don't have the technology to economically use that water. We need to look at that, I think, in the future. And of course, our universities can look at developing plants that require less water or can grow in salt water, but the short term is what bothers me. I don't know what we're going to do in the short term.

Without some tremendous natural flows in the Pecos, I think the State's going to have difficulty meeting its compact deliveries. I think many of our farmers will have difficulties staying in business. A farmer can't go without income for 2 years back to back. I think the farmers maybe can go to the cities and find work, but I don't know where the shiner's going to go.

Thank you again, Senator, for this opportunity, and I'll be glad to try to answer any questions that might arise.

[The prepared statement of Mr. Davis follows:]

PREPARED STATEMENT OF TOM DAVIS, MANAGER, CARLSBAD IRRIGATION DISTRICT,
CARLSBAD, NM

My name is Tom Davis. I am the manager of the Carlsbad Irrigation District located in Carlsbad, New Mexico. On behalf of the Carlsbad Irrigation District Board and its farmer members, I want to thank both Senator Bingaman and Senator Domenici, committee members and staff for the opportunity to describe the impacts of the current drought on the Pecos River and the Carlsbad Project in particular.

In my opinion, this drought is in its tenth year in the lower Pecos basin in New Mexico and the entire Pecos Basin in Texas. Due to the adequate Project storage capacity and unusually high snow melt runoff during the late 1990's, the District enjoyed adequate water supplies through the first seven to eight years of the drought. However, the unusually high snow runoff eventually failed and the drought caught up to us in 2001 with a 2.3 acre feet per acre allotment and 2002 with a 1.0 acre foot per acre allotment. An optimal allotment is 3.5 acre feet per acre.

There are four often competing demands for the surface waters of the Pecos River in New Mexico: 1) the right to store, transport and divert the waters of the Pecos River to the Carlsbad Project; 2) the diversion rights of the FSID; 3) the requirement that New Mexico must comply with the U.S. Supreme Court Amended Pecos River Company; and 4) U.S. Fish and Wildlife demands for certain flows for the threatened Pecos blunt nose shiner.

The Carlsbad Project is authorized to store waters in four reservoirs in the Pecos River. These are: Santa Rosa, Sumner, Brantley and Avalon Reservoirs. The attached map shows the location of these reservoirs and location of the irrigated lands in the Carlsbad Irrigation District.

These four reservoirs are operated in a manner to minimize evaporation and transport losses. Simply stated, the maximum amount of water is stored in the reservoir in the uppermost reservoirs for as long as possible and then transported to downstream reservoirs in large blocks at high discharge rates, e.g. transporting 30,000 acre feet from Santa Rosa to Sumner in 14 days at the rate of 1,200 cubic feet per second or about 2,400 acre feet every 24 hours.

This operation according to U.S. Fish and Wildlife Service is detrimental to the habitat of the threatened Pecos blunt nose shiner. The theory is that these extended, large flows transport the young shiners downstream into less desirable habitat. The service prefers much lower flows for longer periods of time, e.g. 300 cfs from mid-May through August, except when flood flows are passing through the critical habitat. However, in most years this scenario would deplete our stored water in the upper two reservoirs by mid-summer and would result in twice the transportation loss resulting in only half the normal amount of water being available for application to the farms.

The effects of the drought are painfully obvious this year. We received no inflow to storage from snow melt and we transported all the stored water in Santa Rosa and Sumner down to Brantley Reservoir in March, resulting in 22,000 acre feet being available to allot to our members. This resulted in an eight-tenths acre feet per acre foot allotment. Carlsbad Irrigation District's ideal allotment is 3.5 acre feet per acre. Since the initial allotment made in March, some small flood flows have been stored in Brantley which have increased the allotment to 1.00 acre foot per acre. It is anticipated there will be no more water in storage available to our mem-

bers after August first. This will be especially disastrous for the Pecos growers. The alfalfa growers will lose the last three cutting and will not be able to plant a new crop of alfalfa on their fallow ground.

At Sumner Dam, Cadsbad Irrigation District releases water for Fort Sumner Irrigation District. FSID water right is the flow of the river above Santa Rosa Dam plus the flow of the river at Puerto de Luna, not to exceed 100 cfs. Normally, we divert about 46,000 acre feet per season to FSID. This season, FSID's diversions have been short by 25-30 percent. The return flows from FSID provides much of the base flow through the critical habitat for the shiner.

The combined factors of the drought, reduced FSID diversions and no stored water to be moved downstream has resulted in the Pecos River being dry from Roswell north to Yeso Creek, well into the critical habitat. The Pecos is also dry from Santa Rosa Reservoir to well above Anton Chico. If these weather conditions persist the remainder of the summer, I predict both Santa Rosa and Sumner reservoirs will be dry and the Pecos will have no flow from Villanueva State Park to Roswell by late September, with the exception of the reach of the river between the springs at Santa Rosa and FSID's diversion dam.

Overshadowing this bleak scenario is New Mexico's obligation to meet its compact deliveries to the Texas state line. The formula that determines the delivery amount consist of the average flow condition of the past three years, two of which are very low water supply years. The year 2000 was an adequate supply year because of snow melt. However, this will work against New Mexico in the delivery calculation by requiring more water to be delivered. If current conditions persist, New Mexico will be in a significant shortfall in compact deliveries at the send of this year.

Just last week the Forest Guardians filed a complaint for Declaratory and Injunctive Relief against the Bureau of Reclamation and Army Corps of Engineers. This suit accuses the Bureau of Reclamation and Army Corps of Engineers of failure to comply with their mandatory procedural and substantive duties under the Endangered Species Act. The suit alleges the two government agencies have operated the dams to the benefit of the irrigators and to the detriment of the threatened Pecos blunt nose shiner. In my opinion, the Pecos River would be in this current condition or worse with this drought even if Santa Rosa and Sumner dams and the Bureau of Reclamation and Army Corps of Engineers did not exist.

There are some long-term solutions possible. The New Mexico state legislature has provided funding for a consensus plan conceived by the major water users in the lower Pecos in New Mexico and the Interstate Stream Commission aimed at resolving the compact delivery problem and stabilizing Carlsbad Irrigation District's supply. The core of this plan is to pump water from the Artesian aquifer to supplement surface supplies. Before 1900, much of the base flow of the lower Pecos river was provided by spring flows from underground aquifers. Expenditure of this funding requires certain agreements particularly between Pecos Valley Artesian Conservancy District and Carlsbad Irrigation District. These negotiations are underway.

Federal agencies could consider compensating FSID to forego or bypass a percentage of their diversion right which would flow downstream for the threatened shiner.

In the not too distant future, hopefully new technology and economics will provide an economical method to utilize some of the millions of acre feet of brackish water that lies under New Mexico and crop plants will be genetically engineered to require less water to grow.

So what can we do in the short term? Without some tremendous natural flows on the Pecos this year, a substantial portion of which must cross the state line, the short term is very bleak or those that depend on surface water. The U.S. Supreme Court and Federal judges rulings cannot break a drought. If conditions persist, the outlook for next year is grim. The State will not meet its delivery obligations to Texas, many of our farmers will have difficulties staying in business and will go to the cities to find work, and who knows where the shiner will go.

The CHAIRMAN. Okay. Thank you very much.

Mr. Horning, you are the clean-up batter here. Go right ahead.

**STATEMENT OF JOHN HORNING, EXECUTIVE DIRECTOR,
FOREST GUARDIANS, SANTA FE, NM**

Mr. HORNING. Good afternoon. Thank you, Senator Bingaman. My name is John Horning. I am the executive director of Forest Guardians, and I'm here on behalf of Forest Guardians and our 2,500 members, most of whom reside in either the Rio Grande or

the Pecos basins. I'm also here on behalf of the Alliance for the Rio Grande Heritage.

The question of how to sustain the Rio Grande and the Pecos Rivers, especially during a time of intense drought, will not be resolved easily. If we look around the Southwest we can readily see the legacy of communities that did not care to ask the question, much less answer it in an ecologically sane manner. The Gila and the Verde Rivers through Phoenix, the Santa Cruz River through Tucson, the Los Angeles River through Los Angeles are the most obvious examples of once-beautiful rivers that did not make it to the 21st century. These communities chose not to recognize the intrinsic value of a living river.

Part of the reason we are here today is that water managers ignore the region's defining characteristic; scarcity. Drought is a certainty in an arid landscape, thus the challenge of today and the future is to embrace and plan for scarcity and to learn to accept the limits that it imposes upon us.

My written comments focus on both the Rio Grande and the Pecos, but for purposes of brevity, I will focus my oral testimony just on issues surrounding the Pecos River.

Management of the Pecos River has been in the hands of the Federal Government since the beginning of the 20th century, when Congress authorized the Carlsbad project back in 1905. Over the years, the U.S. Government has spent literally hundreds of millions of dollars investing in water management in the Pecos basin. The Pecos bluntnose shiner was listed under the Endangered Species Act in 1987. It's the sole mainstem fish in the Pecos basin that has been afforded protection under the Endangered Species Act.

Despite the fact that the continued survival of the shiner depends on Reclamation's operations of the Pecos River dams and reservoirs in a way that assures the existence of habitat for the species, it is our belief that Reclamation continues to take actions that jeopardize the species. Specifically, Reclamation operates the Pecos River dams and reservoirs in such a way that the flow of the Pecos River is characterized by extremely irregular and unnatural—by an extremely regular and unnatural hydrography with short periods of very high, large-volume flows, followed by extended periods of lower flows. These block releases are conducted primarily for the benefit of the Carlsbad Irrigation District and are, in part, the major obstacle to recovery of the species in the basin.

Notwithstanding this, the fact that the block releases are a major obstacle, very little has changed since the Fish and Wildlife Service issued its first jeopardy biological opinion in 1991. For example—and this is a recent update here. There was a May 29, 2002 briefing statement from the Fish and Wildlife Service, in which they found that “Reclamation has only made minor changes to water operations in the last decade, and as a result, these operations continue to threaten the existence of the Pecos bluntnose shiner.”

Over the last few years, the Bureau has made promises to sustain a minimum flow within the Pecos River to provide habitat for the Pecos bluntnose shiner. These promises have not been kept, and as Tom mentioned, much of the river is dry today.

One of our concerns is the way in which the Bureau of Reclamation manages the Pecos River and the four Federal reservoirs in

the basin is that they've taken a very piecemeal approach to their ESA obligations. They consult during the winter, then they consult during the summer. This pattern of piecemeal and fragmented consultation efforts actually was a similar—was similar to the way that the Fish and Wildlife Service was conducting consultations in the Rio Grande seven or eight years ago, just after the silvery minnow was listed.

It's our belief that the Fish and Wildlife Service and the Bureau should take a step back and plan on a multi-year basis and not solely look at individual irrigation seasons, both winter and summer. There are real practical biological reasons that make this significant. For example, the Bureau allowed for a block release just at the beginning of this irrigation season that it did not consider, and did not plan for the rest of the summer, and so it's our contention that if there were a more holistic, comprehensive approach to the needs of endangered species, that we wouldn't be facing a dry river today.

So from our perspective, it is clear that ecologically sound water management has not guided the Bureau's management in the Pecos River basin; however, we believe that there are three very attainable solutions, that are critical to long-term management, that restores the Pecos River such that it can sustain, not only the Pecos bluntnose minnow, but also, hopefully, a reintroduced population of the silvery minnow, which would take some pressure off the middle Rio Grande.

First of all, as was alluded to earlier, forbearance agreements between the Fort Sumner Irrigation District and the Bureau should be a part of any planning that's conducted and any consultation efforts. FSID has been in communications with the Bureau. They wrote a letter, most recently, last month, in June; Fort Sumner Irrigation District actually established a payment structure for forbearance, so it's very clear that they're willing to work with the Bureau on this. What we need is Federal dollars to ensure that this becomes a foundational part of efforts to recover the species.

Secondly, we believe that block releases need to be modified, they need to be shortened; and finally, the third element of a conservation strategy entails the establishment of a conservation pool in the upstream reservoirs, both Fort Sumner and Santa Rosa. Models indicate that somewhere between 5,000 and 8,000 acre-feet of water are needed to ensure minimum flows for the Pecos bluntnose shiner.

As I said, my written comments address some other issues about the Rio Grande and the Pecos. I'll submit those, and for now, I'd be happy to take any questions.

[The prepared statement of Mr. Horning follows:]

PREPARED STATEMENT OF JOHN HORNING, EXECUTIVE DIRECTOR,
FOREST GUARDIANS, SANTA FE, NM

Good morning. My name is John Horning, and I am the Executive Director of Forest Guardians. I am here on behalf of Forest Guardians more than 2,500 members, most of whom reside in the Rio Grande or Pecos watersheds. I am also here on behalf of the Alliance for the Rio Grande Heritage. The Alliance is a unique coalition of local, regional and national environmental groups that have come together around one common objective—to restore the Rio Grande. Thank you, Mr. Chairman, and the other members of this Committee for inviting me to testify today on the "Drought and Endangered Species Concerns in the Rio Grande and Pecos River

basins.” Forest Guardians and the Alliance are both committed to restoring the health and functioning of the Rio Grande throughout its upper basin.

The question of how to sustain the viability of the Rio Grande and the Pecos River, especially during a time of intense drought, will not be answered easily. If we look around the Southwest, we can readily see the legacy of communities that did not care to ask the question, much less answer it in an ecologically sane manner. The Gila and Verde Rivers through Phoenix, the Santa Cruz through Tucson and the Los Angeles River through Los Angeles are the most obvious examples of once beautiful desert rivers that did not make it to the 21st century. These communities chose not to recognize the intrinsic value of a living river. Further, we need look only 250 miles south to El Paso and Las Cruces to see the ghost of the Rio Grande future. We stand firm in our belief that fate of the Rio Grande—a river that is the economic and cultural lifeblood of our region—will be a fate different from that of other Southwestern Rivers.

Part of the reason that we are here today is that water managers ignore the Region’s defining characteristic—scarcity. Drought is a certainty in an arid land. Thus, the challenge of today and the future is to embrace and plan for scarcity and learn to accept the limits that it imposes upon us. Water management in the West is easy in times of plenty. It is in times of scarcity that increasingly common occurrence—that our resolve to establish a society to match the scenery is tested.

Although I present this statement on the behalf of Forest Guardians and the Alliance for the Rio Grande Heritage, elements of the problems and solutions identified herein have been discussed with many of the member groups of the Alliance including Defenders of Wildlife, the National Audubon Society, World Wildlife Fund, the Sierra Club and numerous other groups. The campaign for the Rio Grande has brought together a full range of conservation and environmental organizations committed to preserving and protecting this Great River.

I. PECOS RIVER

Management of the Pecos River has been in federal hands since the beginning of the 20th century when Congress authorized the Carlsbad Project to benefit irrigators in the Carlsbad area. Over the years, the United States government has invested hundreds of millions of dollars in the construction and maintenance of the various dams and reservoirs that now constitute the Pecos River Project. Today, the Bureau of Reclamation (Reclamation) and the U.S. Army Corps of Engineers (Corps) own and operate a series of four dams and three reservoirs that permit almost total flow control in the Pecos River.

The Pecos bluntnose shiner, a species listed under the Endangered Species Act in 1987, is the sole mainstem fish in the Pecos River that has been afforded protection under the Act. In the Federal Register notice listing the shiner as a threatened species, the USFWS stated that “[t]he most important factor in the species’ decline is reduced flow in the main channel of the [Pecos] river due to water storage, irrigation, and water diversion.” 52 Fed. Reg. 5295. The Pecos in New Mexico provides the only habitat for the shiner.

In 1992, the USFWS prepared a Recovery Plan for the Pecos bluntnose shiner pursuant to the requirements of Section 4(f) of the ESA, 16 U.S.C. § 1533(f). According to the Recovery Plan, “[l]oss of permanent flow and degradation of river reaches having permanent flow are the primary known threats to the Pecos bluntnose shiner.” The Recovery Plan notes that the frequency and severity of river drying events increased dramatically after Reclamation’s Pecos River dams and reservoirs were constructed: “Although intermittent conditions in downstream reaches occurred historically, they were exacerbated greatly following construction of dams on the Pecos River.”

Despite the fact that the continued survival of the Pecos bluntnose shiner depends on Reclamation’s operations of the Pecos River dams and reservoirs in a way that assures the existence of habitat for the species, Reclamation continues to take actions that jeopardize the continued existence of the Pecos bluntnose shiner.

Specifically, Reclamation operates the Pecos River dams and reservoirs in such a way that the flow of the Pecos River is characterized by an extremely irregular and unnatural hydrograph with short periods of very high flows that occur during “block releases”—made for the benefit of downstream irrigators—that alternate with long periods of critically low flows and river drying. The USFWS has determined that both the block releases and the critically low flows that are hallmarks of Reclamation’s operations of the Pecos River dams and reservoirs are jeopardizing the species and therefore, inhibiting its recovery.

Reclamation operates its Pecos River dams and reservoirs by making “block releases” from Santa Rosa Lake and Sumner Lake downstream to Brantley Lake,

which is some 225 miles downstream from Sumner Lake and immediately upstream from the irrigated lands within the Carlsbad Irrigation District ("CID"). "Block releases" are releases of large volumes or "blocks" of water in a concentrated period of time. Water that is released from Santa Rosa Lake and Sumner Lake in block releases is stored in Brantley Lake before it is used by irrigators in CID. Reclamation's Pecos River operations create a cycle of brief, large-volume block releases and long dry periods, both of which imperil the continued existence of the Pecos bluntnose shiner.

Reclamation's operations on the Pecos River changed dramatically in 1989 in a way that exacerbated the adverse effect of Pecos River operations on the Pecos bluntnose shiner. In 1989, construction of the Reclamation's Brantley Dam and Lake was completed. Brantley Dam replaced the McMillan Dam that was smaller and supported a smaller reservoir. In 1989 and 1990, the Bureau of Reclamation conducted water operations with the sole goal of filling Brantley Reservoir. As a result of these new operations, large stretches of the Pecos went dry.

Notwithstanding the fact that the block releases are the major obstacle to the recovery of the Pecos bluntnose shiner, very little has changed since the U.S. Fish and Wildlife Service issued a jeopardy Biological Opinion in 1991. For example, according to a May 29, 2002 briefing statement from the FWS, "Reclamation has only made minor changes to water operations in the last decade, as a result water operations continue to threaten the existence of the Pecos bluntnose shiner."

Over the last two years, the Bureau has made promises to manage the Pecos River to meet a flow of 35 cfs at the Acme gauge, a key measuring point at which to ensure adequate flows throughout habitats occupied by the Pecos bluntnose shiner. In each of the last two years these promises have been broken. For example, last year a multi-day river drying event occurred for the first time since 1991. Moreover, the Bureau on numerous days failed to come close to the target flow of 35 cfs, with an average flow of one of the months being less than 10 cfs.

Since the 2002 irrigation season commenced on March 1, 2002, the Pecos River has gone dry at the Acme Gauge. In addition, approximately 30-40 miles of river have been dry for more than three weeks, resulting in the death of thousands of Pecos bluntnose shiner.

One final concern is the failure of Reclamation to complete a timely consultation pursuant to Section 7 of the ESA. Indeed, Reclamation has never once completed a Section 7 consultation prior to the commencement of an irrigation season, and likewise has never once completed a Section 7 consultation prior to commencement of a winter operations season. Here we are on July 1st—literally more than half way through the irrigation season—and Reclamation and the FWS have failed to complete consultation on operations for this year's irrigation season. Reclamation's recent history with Section 7 consultations demonstrates conclusively that it is impractical and/or impossible for Reclamation to undertake Section 7 consultations on a season-by-season basis.

Beyond the practical, there are biological reasons that make season-by-season Section 7 consultations impractical. For example, in dry years, such as the current year, Reclamation needs to begin consulting on the effects of its irrigation season operations during the preceding winter in order to assure that adequate water is conserved in Santa Rosa Lake and Sumner Lake to provide for a base flow in the Pecos River. By segmenting Section 7 consultations into seasonal consultations, Reclamation makes it impossible to adequately develop a strategy that protects the Pecos bluntnose shiner.

It is clear that ecologically sound water management in the Pecos River basin is still lacking. As a result, more than fifteen years after its listing as a threatened species, the Pecos bluntnose shiner is no closer to recovery and de-listing because Reclamation has failed to use its full authority to conserve the species. Instead, the species remains threatened with extinction because Reclamation does not comply with its mandatory duty to use its authorities to assist in the conservation and recovery of the shiner.

How To Conduct Pecos River Water Operations To Address Environmental and Economic Concerns

From a legal perspective it is clear to us that seasonal consultations on a twice per year basis that are currently being conducted by Reclamation are both impractical and insufficient to address Reclamation's and the Corps' substantive obligation to comply with the conservation mandate under the Endangered Species Act. We strongly recommend that you urge Reclamation to consult on a comprehensive water management plan of at least three years and preferably five to ten years that will enable the agency to prepare for drought.

Further, we believe, just as was held by Judge Parker in the litigation over Middle Rio Grande Project and San Juan/Chama Project waters, that the Bureau of Reclamation has greater discretion to modify deliveries and therefore must consult with the U.S. Fish over the full scope of its authorities. Storage, the timing and extent of releases from Fort Sumner and Santa Rosa Dams and diversions from the FSID diversion dam should all be the subject of a federal consultation.

We believe there are three attainable solutions that are critical to long term management that restores the Pecos river such that it can sustain not only, the Pecos bluntnose shiner, but also restore a long-lost member of the native aquatic fauna of the Pecos—the Rio Grande silvery minnow.

First of all, we believe that forbearance agreements between the Fort Sumner Irrigation District must become a routine part of the operation of the Pecos River system. As you will hear today, the “FSID is willing to cooperate to provide water for the benefit of the Pecos bluntnose shiner.” In fact, the Bureau and FSID met in December 2001 to discuss a possible lease of water for the 2002 irrigation season. The FSID followed up that meeting with a January 28, 2002 letter confirming its interest in providing water on a “willing-seller-willing-buyer basis.” Earlier last month, the FSID board even developed a payment structure that identifies how much it would cost for water to be leased for the 2002 irrigation season. Notwithstanding this commitment from FSID, the Bureau of Reclamation failed to secure the financial resources necessary to enter into forbearance agreements. Senators, I urge you to provide multi-year funding that is specifically targeted for agricultural forbearance agreements with the Fort Sumner Irrigation District.

Secondly, we believe that the “block releases” conducted for the benefit of the Carlsbad Irrigation District should be further modified to ensure minimum flows above and beyond what might be provided by the Fort Sumner Irrigation District. Since 1989, when Brantley Reservoir became operational, the Bureau’s water operations in the Pecos River have been conducted in a manner that provides greater benefit to CID at a significant cost to the health of the river system. For example, this year before Reclamation even initiated consultation with the FWS, a block release was conducted to provide water Brantley Reservoir. This release was clearly an “irreversible and irretrievable commitment of resources” in violation of the ESA and furthermore, severely restricted water management operations for the rest of this year. Yet this same pattern has guided water management for the last 11 years. This cycle of famine and feast must change if we are to recover this species.

The third element of a conservation strategy entails establishment of a conservation pool in upstream reservoirs. According to models established by the Bureau and the FWS, about 8,000 acre-feet is needed each year to maintain minimum base flows of 35 cfs at the Acme Gage. Again, federal monies should be brought to bear to establish this conservation pool.

These three elements, or portions thereof in combination are all feasible and could help restore the Pecos to the point that ESA protections are no longer necessary for either the Pecos bluntnose shiner or hopefully, a soon-to-be-reintroduced population of Rio Grande silvery minnow.

II. RIO GRANDE

Nearly ten years ago, on June 30, 1993 as a result of concern about the fate of the Rio Grande Bosque, a team of federal and state wildlife biologists and water managers completed a report that came to be known as the Bosque Biological Management Plan. One of that report’s primary conclusions was that without fundamental changes in water and land management, the Rio Grande Bosque would continue on a downward ecological spiral. That report was written by the Rio Grande Bosque Conservation Committee, appointed by Senator Pete Domenici.

The report’s authors made a series of 21 recommendations to facilitate restoration of the Middle Rio Grande Bosque—a system that by all accounts is dying a slow but certain death. Notwithstanding the weight of that group, many of its recommendations languished until three critical events catalyzed change.

First of all, in July 1994 the Rio Grande silvery minnow, the last and the heartiest of five species of minnow native to the Rio Grande not yet driven into the dark night of extinction was listed under the Endangered Species Act. Then, in June 1995 the minnow’s terrestrial partner, the Southwestern willow flycatcher was listed under the Act. Finally, in a year not as dry as this one, 1996, the Middle Rio Grande Conservancy District diverted nearly the entire river’s flow killing more than 10,000 silvery minnows. That final event catalyzed the environmental community into action and the listing of the two endangered species provided real leverage to protect and restore the Rio Grande.

However, if we return to 1993 and the recognized community-wide concern about the fate of the Bosque, we would see that the vision of that team of the Rio Grande of “a perennial [river] whose flows mimic the natural hydrograph to the maximum extent possible, and a river channel that is permitted maximum freedom within the floodway,” is the same vision of the Alliance for the Rio Grande Heritage.

My point in sharing this information is that despite a clear vision, the support of Senator Domenici and the best of intentions real change did not begin to happen in the middle Rio Grande until the drought of 1996 and the Endangered Species Act catalyzed change. Limits that are imposed upon use by drought and the needs of endangered species also provide us with another opportunity to confront the fact that our rivers are over-appropriated and over-allocated. As was stated by the Bosque Biological Management Plan and restated and that fundamental changes are necessary if we are to restore the Bosque and the more than 400 species of wildlife that are dependent upon it.

A recently released report from the New Mexico Department of Game and Fish highlights the ecological urgency that exists—not just for the silvery minnow, but also for a host of other species. According to the report, at least thirty of the more than 400 species of wildlife that were once native to the Middle Rio Grande Valley in New Mexico are either extirpated or in trouble and 43 percent of the native fish species have been extirpated according to a recently released report. The report, entitled “*Status of Native Wildlife in the Middle Rio Grande Valley of New Mexico*” concludes that local extirpations are continuing. Reinforcing the importance of the Rio Grande, the report finds that almost half of all the state’s wildlife once occurred in a land area along the river that comprises less than 5% of the state. Species extinct or extirpated from the Middle Rio Grande include, the shovelnose sturgeon, American eel, the phantom shiner, the jaguar and river otter.

The report is critical of single species management and asserts, “there is a need to recognize the full complement of native species that are at risk in riverine and riparian habitats of the Middle Rio Grande Valley of New Mexico.” The report criticizes state and federal water managers for focusing on one or two species—namely the silvery minnow and the southwestern willow flycatcher—concluding that approach “diverts attention from the immense natural heritage that is at risk in the Middle Rio Grande Valley of New Mexico.”

How To Re-Vitalize the Bosque and the River and Recover the Endangered Species That Depend on Both

As was stated at the outset, the task of restoring the vitality of the Rio Grande and recovering the silvery minnow, the Southwestern willow flycatcher and the other imperiled fish and wildlife that depend on the river will not be easy. However, the crisis that is created by drought clearly can be a catalyst propelling us towards solutions that otherwise we might have ignored.

In the interest of demonstrating that viable solutions to the Rio Grande’s ecological crisis exist, the Alliance for the Rio Grande Heritage would like to put forth a few of these solutions now.

- First of all, as a principle, the Alliance believes that a basin-wide approach to problem solving is critical if creative approaches so necessary to river restoration, are to be implemented. Piecemeal, fragmented thinking have contributed to the current state of the river and it will be holistic basin-wide thinking that facilitates true restoration. For example, one of the greatest uses of water in the upper Basin is evaporation from Elephant Butte and Caballo Reservoirs—at over 160,000 acre-feet per year, more water than the City of Albuquerque currently uses. The Bureau of Reclamation and the Corps of Engineers, along with the Rio Grande Compact Commission should analyze how upstream storage space could be used to store Rio Grande Project waters in a way to reduce these huge evaporation losses while at the same time meeting the needs of Rio Grande Project contractors. Water stored upstream would significantly enhance environmental restoration opportunities within the Middle Rio Grande.
- Taking the basin wide holistic approach should also help to ensure that all species recovery efforts meet maximum ecological value. For example, the City of Albuquerque and the Interstate Stream Commission will soon announce the completion of an off-channel “refugia” for the Rio Grande silvery minnow. This project, while touted by some as ensuring the salvation of the species, does nothing to restore ecosystem process and function, the real threats to the silvery minnow. If these monies had instead been spent on, for example, taking steps to reintroduce the species elsewhere in the Basin, in my opinion, we would be much closer to meeting the goal of species recovery.
- A more comprehensive critical habitat designation for the silvery minnow could reinforce the need for basin wide approaches and bring more resources to the

recovery effort, especially from the state of Texas. If you ask water managers and water rights owners what one of their biggest frustrations about the silvery minnow is, it is that New Mexico is the sole state responsible for restoring a species that once existed in more than 1,500 miles of river.

- The Reclamation Reform Act of 1982 requires irrigation districts which have entered into repayment contracts with the federal government in return for receiving water from federal Bureau of Reclamation water projects develop water conservation plans. The law also requires the Secretary of Interior to “encourage the consideration and incorporation of prudent and responsible water conservation measures in the operation of non-federal recipients of irrigation water . . . where such measures are shown to be economically feasible.”

Although the Bureau’s implementing regulations require Districts to develop and submit conservation plans, they do not require the district to adopt the plans and they do not provide any enforcement mechanism to assure that plans are followed. Moreover, the MRGCD has not developed a meaningful water conservation plan in a decade. Although metering, a necessary precursor to any meaningful conservation efforts, is now in place on nearly all the main MRGCD ditches, much more can be done to reduce diversions. As Judge Parker recently concluded, the MRGCD’s current water management is likely to be in violation of the Project’s authorizing legislation.

Clearly, the time is ripe to bring conservation and efficiency to the Middle Rio Grande just as it has been done in many other places elsewhere in the West to free-up water for environmental purposes. We urge you to provide the political will and economic resources to ensure that conservation and efficiency of the MRGCD irrigation and conveyance system become a high priority.

- Sharing shortages in times of drought is also a recognized principle that must be implemented in the Rio Grande. Each of the contracts between San Juan/Chama contractors and the federal government is explicit in embracing this principle. To implement this as a viable alternative the federal government could reduce payments from contractors who would then tithe a percentage of their contracted water. This water could be stored in upstream reservoirs and released on an as needed basis during droughts.
- As is the case in the Pecos, agricultural forbearance is an essential element of any long-term conservation strategy. A 1997 report funded by the Bureau of Reclamation, on “The Efficacy of Forbearance as a Means of Providing Supplemental Stream-Flow in the Middle Rio Grande Basin in New Mexico,” concluded that forbearance was a viable tool to provide instream flows. The report represented an important first step in implementing a water management strategy to help sustain the river ecosystem. Unfortunately, more than five years after the reports’ publication, with fewer obstacles in place, we are still no closer to implementing a program of agricultural forbearance. We strongly suggest that you convene a task force of state, federal, and tribal water interests charged with devising a viable agricultural water forbearance plan within a six-month time frame.
- But ultimately, sane water management policies will continue to be hamstrung by the fact that the Middle Rio Grande Conservancy District has failed to conduct its “Proof of Beneficial Use”, now nearly 80 years after its creation. Absent a state approved consumptive use right, the MRGCD has no incentive to conserve and no incentive to become more efficient. Without addressing agricultural waste, inefficiency and illegal diversions the job of restoring the Rio Grande is not possible.
- The Alliance has serious concerns about the deal recently struck between the Middle Rio Grande Conservancy District and the City of Albuquerque to provide water stored in Abiquiu Reservoir to MRGCD irrigators and to the Bureau of Reclamation to manage for environmental purposes. While we are still analyzing the agreement, I can say that we are concerned that the agreement appropriates water that is likely not owned by either the city or the state and may, in fact, be water that is the “prior and paramount” water of the Pueblos.

CONCLUSION

Forest Guardians and the Alliance for the Rio Grande Heritage believe there are many opportunities to continue to restore the river. We are committed to working with state, federal and tribal agencies to ensure that all existing and future water development activities are grounded in the principle that a living, vital Rio Grande is an essential part of the future of New Mexico and throughout the Basin. There is much difficult work to be done, but the drought offers us an opportunity to establish limits—limits that include the needs of the river.

The CHAIRMAN. Okay. Thanks to all of you. Let me ask a few questions.

Mr. Armstrong, the Fort Sumner Irrigation District, have you folks been—has there been a proposal to acquire water rights from the Fort Sumner Irrigation District similar to what the State's talking about retiring water rights or acquiring water rights further down in the Pecos?

Mr. ARMSTRONG. The way it was set up, it was set up that on this, acquiring those rights, and Tom and I were both on this ad hoc committee for the last year, trying to develop this consensus plan that the legislature can use for a basis. It was set up that certain amount of acres are to be bought from CID, and then the remaining acres are to be bought above CID, you know, above Brantley. Maybe from CID, from anywhere that's willing buyer, willing seller.

But you know, they're looking at what's going to give them the most bang for their buck when they go to purchase it, because they're looking at not just location, but how much of the water can get to the river, how far down the river it would reach, and this type of thing, so in that respect, Fort Sumner Irrigation District is within the bounds that they could look at to purchase water rights, purchase or lease.

The CHAIRMAN. Did you have an opinion on this suggestion about a conservation pool being established in upstream reservoirs? Does that make sense from your perspective, or not?

Mr. ARMSTRONG. Well, we've been proposing this for some time, that—several years—well, like he was talking about, it's our proposal to the Bureau, that if they'd apply for and get a conservation pool, that there's certain times of year we could sell water to them, you know, under certain conditions, that they could put in a conservation pool to be used in the stress of the summer months, instead of waiting until everybody's out of water and there's a shortage, and then coming and wanting to get water from the farmers when they're in short supply already, especially where we have no reservoir; ours is strictly whatever the river flow is. If it's only flowing 20 cfs, that's all we get to try to keep people alive. And so this has been our contention that a conservation pool would be beneficial, especially for water banking, or whatever.

The CHAIRMAN. Mr. Davis, did you have a thought on this conservation pool idea?

Mr. DAVIS. Yes, I've kicked this around for a number of years. All the water that's authorized to be stored in New Mexico is either for minimum pool conditions to keep fisheries alive or for the Carlsbad project. Any additional storage in these four reservoirs would have to be agreed to by the State of Texas under the compact. All the water that's authorized to be stored in New Mexico is already earmarked for use, so we'd have to go into the compact and get some approval from the State of Texas to store additional water.

The fact of the matter is, though, and in times of drought like this, there wouldn't be any water stored. I mean, we're beyond that point. Had we even had this in place five years ago, we would have used that water by now, and we would be in a same situation as

we're in today with the prolonged drought, and my concern is how drastic is this going to get next year.

The CHAIRMAN. Mr. Horning, let me ask, to be just clear on your position here, the Forest Guardian position, do you believe that the bluntnose shiner can be protected and existing water users also protected there in the Pecos? I mean, can we restore that species and still protect the existing water users there in the Pecos?

Mr. HORNING. I think we can, and I think, in part, the reason that we can is that Fort Sumner Irrigation District has demonstrated a willingness to engage in forbearance agreements with the Bureau. I think, again, we need some leadership, we need financial resources, and we need them on a sustained basis early enough in the process that we can all plan for that.

I think there's some other modifications, beyond the forbearance agreements, that I'd like to see, but I think it's an excellent foundation from which serious recovery is possible.

The CHAIRMAN. Okay. Well, I think all of this testimony has been very useful. We have a good record of information here. We will try to study it and figure out what we can do to be of help.

Thank you all very much, and that will conclude the hearing.

[Whereupon, at 4:22 p.m., the hearing was adjourned.]

[Subsequent to the hearing, the following statement was received for the record:]

PREPARED STATEMENT OF LARRY A. DELGADO, MAYOR, CITY OF SANTA FE, NM

On behalf of the City of Santa Fe, I am pleased to submit the following testimony.

The City of Santa Fe is extremely concerned about how the current and future drought conditions could affect the availability and reliability of its full San Juan-Chama Project allocation. The City and County of Santa Fe jointly have contracted for 5605 acre-feet per year of San Juan-Chama project water. Due to this community's current extreme vulnerability to water shortage emergencies, the City and County are working feverishly to bring SIC water on-line as quickly as possible.

In the context of near-term drought protection, the City's existing limited water supplies necessitate that Santa Fe's full SIC allocation be available to restore system reliability to our existing customers, as well as assuring sufficient supply to future customers of our system. Historic and continued heavy reliance on our groundwater wells has resulted in significant water table declines in both of the City's well fields. Our community is clear that continued mining of the aquifer is not prudent and that we must shift to a more sustainable water management program. The renewable SIC surface water will be utilized to replace substantial groundwater withdrawals, allowing the aquifer to rest and to be used on a limited basis in times of drought or other emergencies. Much of our SJC allocation is dedicated to realizing our Sustainable water management objectives. Ground water modeling has indicated that ground water levels may return to pre-pumping conditions after 30+ years of maintenance of such a strategy.

In addition to the need to halt groundwater depletions, the City must eliminate its current vulnerability to severe water shortage emergencies. Santa Fe River surface water currently makes up 40% of our supply. A single dry winter results in the declaration of a water shortage emergency, as was experienced in 1996, 2000, and this year. Water shortage emergencies, including strict water use restrictions, create enormous hardships on our citizens and businesses and negatively impact our economy. SIC water will be used to buffer the City against frequent severe water shortages by reducing our reliance on the increasingly unreliable Santa Fe River supply.

Most of our SJC allocation, therefore, is dedicated to moving from depletion-based to sustainable water management and to reducing our susceptibility to drought emergencies. The City has already made significant expenditures preparing for SJC implementation and expects that all aspects of the project will cost in excess of \$100 million. The City can ill afford to make such expenditures and plan for the long-term welfare of our community, if our full SJC allocation is not assured.

The City recognizes the significant environmental issues, under the Endangered Species Act, that exist on the Rio Grande system. We stress, however, that all involved parties including federal agencies can arrive at a workable solution that does not involve compromising the municipalities' SJC allocations.

One final concern regarding the drought and federal agency involvement. The City is pursuing emergency water supply enhancement projects that axe on federal lands, and, therefore, involve federal agency permitting and approvals (e.g., the NEPA process). Many other water users in New Mexico are pursuing similar remedies on federal lands. The City has concerns that the involved federal agencies lack sufficient staff and other resources to keep the review/approval processes moving in a manner consistent with the emergency nature of the projects. We urge those involved federal agencies (e.g. Bureau of Reclamation, Bureau of Land Management, U.S. Forest Service, etc.) to dedicate necessary staff and/or contract consultant resources to ensure that the process is in no way delayed. The citizens of New Mexico are relying on, governmental entities at all levels to work cooperatively to address and resolve our current water crisis as quickly as possible.

Once again, thank you for the opportunity to comment.

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