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COMPETING FOR THE FUTURE – WE NEED A DIFFERENT MODEL

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Good morning, everybody. It is great being here again. It was nice to hear the lieutenant governor give introductory comments on some water issues that I will go a little bit deeper into. It is also great to have some additional time on the agenda.

What I want to do today is relate to things that are happening globally, regionally, and nationally and compare those issues to what we are trying to accomplish locally. You can only affect things and have a say on what is happening locally. However, it goes

both ways. You can do things locally that have some impacts statewide, regionally, nationally, and globally. You really must pay attention to everything that relates to water and climate and incorporate the best ideas and sound science into achieving the best results possible.

New Mexico is a small state, big in geographical area, but seemingly small with respect to the importance within our nation. There is a lot of really good water policy that comes out of the state of New Mexico. When I go to Western States Water Council meetings, many other states' water administrators are asking a lot of questions and paying a lot of attention to what we are doing here in New Mexico. Quite frankly, I think we are cutting edge in a lot of water management areas. Nationally, it is extremely competitive when we look for federal funding to assist with our water infrastructure and water management needs.

First, let's look at global trends. Economic forces are eclipsing political forces. There are many issues regarding economics around the entire globe. We are finding out that the world is flat. Technology and telecommunication advances are happening constantly. We have population growth, more urbanization – people moving into cities. There is greater productivity, a growth in self-determination, greater affluence, and a global market democracy that is starting to drive many issues.

In the United States, looking at national trends, we know that we have an aging and growing population. We have huge debt, growing costs, and low savings rates. You see this in the news every day. I'm a water guy, but I also pay attention to what is going on in other areas. There is growing competition for fiscal resources. Water competes every year against education and health care, especially rising Medicare and Medicaid costs. We have to be realistic in our expectations of how much money is going to be available to fund water initiatives. My feeling is that we have an insufficient focus on first things first. We spend money in many areas that really don't address our basic needs, and it is a concern to me when our basic needs regarding water are not met.

There is a new evolving federalism. As you know, the Government Accounting Office (GAO) controls the purse strings at the national level. We have dealt with the Office of Management and Budget (OMB) regarding our national issues involving Indian water rights settlements, without much promise of finding

available funds. The GAO talks about not being able to grow ourselves out of our debt problems as a nation.

Looking statewide, we've had 100 years of water management. We've been managing surface water, from 1907 to today. We look west-wide, and billions of dollars have been spent in the western United States on complex water systems, reservoir systems, pipelines, and what not. Those systems have been built to sustain current populations and are based on 19th and 20th century ideas, resulting in many federal water projects. Most projects have already been constructed, and we are now looking at these massive reservoirs and massive water systems in light of growing populations and wondering how these systems will accommodate the growing West. I know I say the West, but the concerns are expanding nationwide. Look at what is happening down in Atlanta, Georgia. People in the East never had to worry about groundwater pumping and its effects on surface water supplies. Water shortages continue to spread as our population continues to grow. We are going to see people and states east of the Mississippi River that are really getting into the same issues and dealing with the same types of water supply and quality problems as we are dealing with in the West.

When we say infrastructure needs, we are talking about building pipelines and water supply projects but we also need administrative modifications. We need administrative modifications within the West for how we manage water. We will talk a little bit about the prior appropriation system, but we need some flexibility within that system in order to manage and accommodate growth and deal with variable supplies of water. We cannot rely on the federal government for all of our funding needs. It is not going to happen. Bob Hirsch spoke this morning and, as always, discussed the technical side of the USGS' role in providing information to assist our nation's water management challenge. When we look at federal funding, it seems that the states are putting more and more money into supporting the USGS' program, because that data and information are so important. More existing projects have been built with mostly federal funding. Existing federal budgets are shrinking for new water-related infrastructure, and if we think we can depend on the federal government for everything, we need to take another look.

I see Mike Connor in the back of the room. He does a great job for Senator Bingaman and is an excellent resource for the State of New Mexico. We

work with him all the time, especially on big projects as we try to cost share the projects using federal dollars. However, funding sources are drying up as we are competing with education, health care, environmental needs, and others. We are also competing with the other states for infrastructure funding.

The “phenomenon of predictable surprise” is not really that much of a surprise. “Drought, economic collapse, and pending doom” are all predictable cries coming from a lot of the western states and areas around. Yet the West, I feel, has ignored many of these issues: inappropriate water rights and allocations, groundwater management and use, real land-use planning, and water use efficiency. As I look around the western United States, I am appalled by how other western states manage their groundwater supplies. It is simply amazing when you talk about the growth that is happening in our neighboring states; look at Arizona and how big the population is and how dependent it is on supplies that are linked to and tied to the Colorado River system. Arizona is a junior priority on that particular system and is undergoing phenomenal growth. We need to pay more attention to land-use planning issues and water use efficiencies. Most of the West has assumed that we can grow as fast as desirable and that we will find water. We hope that is true, but it will depend on our engineering and technological expertise. Can we find new water to meet the demand? Every western state is projecting doubling their population within the next 40 or 50 years. It is a major consideration as we look to the future.

How do we act locally using a different model? There exist a huge demand for water infrastructure projects; tremendous costs of repairing old and building new infrastructure; the need to eliminate environmental degradation; the need to manage the resource for certainty of supply; and the need to address the impacts of climate change. We must consider the environmental impacts as many state and federal courts are handing down decisions that require re-engineering and redesign to mitigate those impacts. We also need to manage the resource for certainty of supply. Our active water resource management initiative is our attempt to act “locally” to address the state’s variable water supply. What about climate change? The fear that warming temperatures will cause more extreme weather events puts another layer of complexity on how we manage our water. Are we going to have less

water in the West like most of the predictive models seem to indicate?

Let’s talk about climate change in New Mexico. The evidence is clear that we have warming over land and at higher altitudes and latitudes. There are changes in snowpack that will result in different snowmelt conditions and the timing of the runoff. The mountain snowpack constitutes our natural reservoirs. All of our water supply systems were built in the 19th and 20th centuries by utilizing those mountains as our natural reservoirs. One to two degrees of temperature warming will raise the elevation of the snowpack and will negatively affect our supplies. Our most recent drought in the West is now the drought of record, eclipsing the 1950’s drought.

It is unclear how temperatures will affect our summer monsoons, and summer monsoons in New Mexico are of utmost importance to our water supply. We have seen some pretty good rainfall amounts in the last couple of years. The systems built in the 19th and 20th centuries do not accommodate or account for increased summer monsoons. If we have a much greater reduction in our snowpack and an increase in summer monsoonal precipitation, how do we capture that precipitation? Last year we sent a whole lot more water to Texas than we should have, had we a system in place that could have captured and stored more peak monsoonal runoff. The monsoons were good for New Mexico, and because most of the rainfall fell below the El Vado gauge, our delivery obligations to Texas did not increase. How do we capture some of those peak flows? We could divert that water, store it underground, and later recover it if we were to make some very expensive system modifications. An enhanced monsoonal season could make up for a reduced snowpack, but only if system modifications are made. However, we do not know very much about the warming temperatures and what affect they will

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have on our monsoonal moisture. There seems to be a correlation between greenhouse gas emissions from fossil fuels and warming temperatures. The science is pretty clear that our temperatures are warming and

seem to contribute to even greater extremes in our water supply.

Let's look at energy from fossil fuels. Worldwide 80 percent of energy comes from fossil

fuels. Nationally, 85 percent of our energy comes from fossil fuels. In New Mexico, we are blessed with an abundance of oil and gas. New Mexico has nine percent of the U.S. natural gas production, and we are fourth in the nation in reserves. We produce more electricity than we consume, which means we are net exporters of electricity. We also export 30 percent of the crude oil produced in our state.

We need to be aware of the connection between water used and energy produced. When you export energy, you are also exporting water, if water is being used to produce that energy. Often, water is used in cooling and other energy production processes. If the rest of the region is depending on our energy, they are also depending on some of our water. We have to pay attention to that. Energy transmission for regional systems is the key, but it is also a constraint in getting energy to other states. Believe me, states are looking at our energy resource potential. Therefore, they are also looking at our water. We need to investigate regional markets for energy as well as for water, but at the same time consider our interstate compacts. We are subject to eight interstate compacts within the state of New Mexico and must account for any additional depletion to any of our systems that are associated with energy production.

Let's talk about a new approach moving New Mexico to a clean and sustainable energy economy. We need to move toward clean and sustainable energy, but how do we do that? We have significant wind and solar resources. Nuclear power should be a consideration. We have got to be concerned about using the safe and proliferation-resistant technology that is available now. Nationally, the second largest uranium

reserves are in New Mexico. Again, New Mexico is going to be looked at to solve some of the region's growing energy demands, and we can't forget to take into consideration the effects to our water supplies.

As a state we have a lot of energy goals. Governor Richardson has been very active in working to put comprehensive energy goals in place. Some of his goals are to reduce greenhouse gas emissions by ten percent by 2020 and 75 percent by 2050. I am going to mention some of the governor's energy-related goals that are meant to address and reduce the carbon footprint that seems to be related to our climate change concerns. By 2025, we hope to produce as much electricity from clean and renewable sources as we do from fossil fuels. Other goals include: reducing our gasoline usage by 15 percent by 2012 and 50 percent by 2025; switching from petro-diesel to bio-diesel; looking for a reduction in energy and lighting in buildings by 2025; and recycling non-organic materials. All of these goals, if attained, could have a very favorable production impact on our water supply because energy production and water use are connected.

We also need a new approach for our water and wastewater infrastructure funding. Our lieutenant governor talked a little bit about this, and I will give you some more detail. Current planning for water and wastewater infrastructure is fragmented and decentralized. This has to do more with wastewater project funding and getting more regional projects built to allow the available funding to serve more people. One big problem we have in New Mexico is the capital outlay funding process. Our legislators, senators and representatives, receive two-thirds of the capital outlay, and the governor receives the other third. As you would expect the senators and representatives fund capital projects within their districts. Their portion of the capital outlay effectively acts as their re-election campaign fund. Most of the money goes out in piecemeal form, some for water projects and some that doesn't go to water projects. Often times the money, because it is not adequate to fund an entire project, remains in an account and is not even expended. There are millions of dollars in unused accounts because these resources aren't pooled together to build a more significant and cost effective regional project. We need to fix the capital outlay process.

We need to build projects that are regional in nature that provide more benefits at a reduced cost. We need to look at the available funds that are administered by multiple agencies within the state of New Mexico. Let's

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take a look at these available funding sources. The first one is direct appropriations from the legislature. There is also a rural infrastructure loan fund that comes through the Environment Department (NMED). The Water Project Fund is managed by the Water Trust Board (WTB) in conjunction with the New Mexico Finance Authority (NMFA). There is a drinking water state revolving loan fund that the NMED and NMFA administer. Other funds include the clean water state revolving loan fund (NMED, NMFA) and a water innovation fund that the governor set up under the Department of Finance and Administration (DFA) and NMED.

There are also CDBG grants (DFA, CDBG Council); the USDA loans and grants; the planning grants that come from the DFA, NMFA, and NMED; technical assistance grants through the NMED; and other local and federal resources. Funding applications are duplicative, as entities chase potential funding sources in a fragmented and decentralized manner, which we are attempting to fix.

There are missed opportunities by not putting funding sources together with projects that are regional and ready to go. We miss aligning funding with community needs. We need to ensure projects provide long-term solutions and are fully funded. Many times, projects are not fully funded, and if the funding stops, we have a partially built project. We need to identify needs for planning and design and align technical assistance and capacity development with funding priorities. We need to look at a drinking water project and make sure that project proponents are charging adequate water rates, have an asset management plan in place, and have adequate water rights; that they have everything in place to make them a viable drinking water project.

The state water plan was a requirement for my agency to complete within the first year of taking over as State Engineer. The plan itself became a policy document with nearly 100 implementation strategies. The plan charges the New Mexico Interstate Stream Commission (ISC) in collaboration with the New Mexico State Engineer's Office (OSE) and the WTB to update the plan every five years. Here are some excerpts from the first state water plan: It is "a basis for prioritizing infrastructure investment" and ensuring "effective collaboration, consultation, and public participation in the development and implementation of water policy by applicable state agencies." Are we effectively collaborating with the NMED and Energy,

Minerals and Natural Resources Department (EMNRD)? Both have watershed programs. Also we are involving NMED with water quality issues and the Department of Agriculture (NMDA) with irrigation efficiencies.

In the discussions that we have with other state agencies, we need to make sure that policy that is set at the governor's level is followed consistently from agency to agency. We have a great policy analyst in Mr. Bill Hume, who helps oversee all the natural resource agencies management of the resource to ensure we've undertaken the best collaborative effort possible.

There was a house joint memorial (HJM86) that passed about three years ago. This was mainly geared towards water/wastewater projects. It looked at developing criteria to ensure that resources are utilized wisely as a condition of getting funding and collaborating with the NMED. NMED has a drinking water bureau and a construction programs bureau – they receive most of the funding for wastewater projects and oversee the project construction. Do the proposed projects have a financial plan, an adequate rate structure, an asset management plan, OSE/NMED/federal compliance, an adequate governance structure, and participation in regional efforts? Is the project a candidate to participate in a regional effort, instead of tax dollars paying to build a wastewater treatment plant for two or three different entities that are within a geographical region that would warrant only one – using economies of scale to build a better overall project?

The lieutenant governor mentioned the Water Cabinet that was established through a recent executive order. The executive order establishes a new division within the NMED and also assigns responsibilities to some of the agencies to better collaborate on water issues. The executive order should help drive the collaborative effort necessary to properly and comprehensively update the state water plan. The Water Cabinet consists of the following agencies: the Office of the State Engineer; Interstate Stream Commission; New Mexico Environment Department; Department of Agriculture; Department of Game and Fish; Energy, Minerals and Natural Resources Department; Department of Finance and Administration; and New Mexico Finance Authority.

How do we envision this process working? We are going to establish a uniform application process; so, as communities are interested in acquiring project

funding, they complete only one application, submitted to this newly established division within NMED. This new division will evaluate applications by conducting technical and fiscal review using appropriate agency staff. The State Engineer's office will be looking for the project to have adequate water rights and NMED will look for Safe Drinking Water Act compliance. We

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need interagency coordination for fiscal and capital planning. What is the best source of funding for this particular project? The projects will be put into the proper funding category as we try to make the dollars go farther. As we continue

through the process, we need to prioritize the funding recommendations. These recommendations will go to the state legislature and to the Water Trust Board so that supplemental funding can be provided to those projects that didn't already receive funding through a particular funding source. This process will ensure that we are funding projects that are ready to go, that are technically feasible, and are appropriately funded from the best source available instead of the fragmented and decentralized approach previously used.

The large regional water supply infrastructure projects will utilize a slightly different process. The OSE and ISC will conduct technical and fiscal reviews. The big infrastructure projects include the Ute pipeline, the Navajo-Gallup pipeline, a potential salt basin pipeline, or a potential Gila basin project. These big water supply projects will require federal funding and/or federal matches. The importance of these projects is to maximize the beneficial use of New Mexico's water for use in New Mexico. The ISC statutorily has the responsibility of looking at those water supply projects, and along with the OSE, will conduct the required technical review. These large water supply projects still need to undergo this interagency coordination for fiscal and capital planning in order to prioritize funding. Additional recommendations are then made to the Water Trust Board and to the legislature for supplemental funding. To recap, you've got two classes of projects: the water and wastewater regionalization projects that have mainly drinking water and wastewater compliance issues (best handled by NMED) and the bigger water supply projects that have interstate and sovereignty issues (best handled by the OSE/ISC). This new process will bring many benefits

to New Mexico: quickly completing local projects, strengthening local management and fiscal capacity, maximizing use of available funds, improving maintenance and asset management, and ensuring projects are designed for the long-term and are fulfilling those long-term needs we have as a growing state.

Again, drought opened our eyes, and it continues to open our eyes. We are in a record drought now, which eclipsed the 1950's drought. When you look at climate change and its potential impacts, they are probably similar to dealing with a prolonged drought. If warming temperatures cause reduced precipitation, as anticipated, we will have another layer of complexity to include with our hydrologic models and a greater concern on managing our more limited water resources.

Now more about the state water plan. Another section (C.2) in the state water plan mandates establishing a clear vision and policy direction for active management of the states' waters. The policy statement that comes out of the plan is: "The State shall promote water markets that enable the efficient management and movement of water rights within the State in accordance with the applicable legislative and legal safeguards." Also from the state water plan section (C.2), "resources should be allocated to fully implement active water resource management in accordance with the following: where the economic consequences of lack of ready water markets are high." Also from the state water plan concerning water rights transfer policies that are intended to strike a balance to meet both short-term shortages and long-term economic development needs, "The State shall support the creation of water banks to allow for the temporary reallocation of water among voluntary water bank participants." Again, discussing what we can accomplish locally, we need to create water markets to help facilitate water transfers during drought cycles. Another important strategy from the state water plan is that "The State Engineer will review existing statutes and regulations, propose revisions, and implement authorized revisions to expedite water rights transfers." Again, more active water resource management language. Also from the plan, "The State Engineer will encourage the creation of water banks in areas that are experiencing significant growth or are prone to water supply shortages in order to ensure economic vitality."

The legislature passed law 72-2-9.1 that basically directs the State Engineer to administer now. It requires the State Engineer to adopt rules for priority administra-

tion and to promote the expedited marketing and leasing of water rights. If you have seen the Santa Fe newspaper the past couple of days, it discussed the enormous workload required to complete water right adjudications statewide. The adjudication process is slow. It is going to take several years to complete adjudications, so how does one administer water in the absence of completed adjudications? There must be a mechanism in place to administer water during times of shortage and in the absence of a completed adjudication.

Continuing with Active Water Resource Management (AWRM), I will go through these slides fairly rapidly because most of you are familiar with this subject. Again, it is our practical way to establish a reliable water supply within the state of New Mexico. Protecting our senior rights, protecting our economies, and setting water management tools for each region of the state are all part of AWRM. We have to promulgate specific basin rules and regulations for a number of basins within the state of New Mexico. These tools will help protect senior water rights, ensure compliance with interstate stream compacts, and curtail illegal and over-diversions. Historically, the state engineer did not do a very good job of enforcing illegal and over-diversions; however, we are moving into the “administer now law,” which will help us move in that direction.

The second part of the law requires the state engineer to adopt rules for priority administration. If there is an adequate water supply, we do not have to worry about priority administration. When supplies are short, there are junior users that must be curtailed. I like to use the comparison of the sub-prime lending market fiasco. If you don't have rules, if you just indiscriminately start lending money out – or if you just start giving water out, one day there will be a day of reckoning. The lending market should have better considered those higher risk individuals that would probably default under higher variable interest rates. If you start recognizing more and more junior water rights, there is a point where there are not enough water rights in the bank to cover those uses. You have to protect the seniors. You must be able to curtail the junior uses when supplies are short.

I was asked by a legislator this week, “John, it seems like you are against priority administration?” No. That is not it at all. I never said we are going to do away with priority administration. Priority administration is the law, but how can we better manage water in a priority system by allowing a curtailed junior to acquire

water on a voluntary basis from a senior, so that you do not have to curtail the junior user? If you let the market place work, it will be more efficient than if you cut off junior uses, especially those that provide jobs or other essentials to the local community. That is critical for New Mexico moving forward during drought times and being able to have a functioning economy. Priority administration requires district specific rules and regulations, a water master manual, and metering and measuring devices so that fair and accurate water administration can be conducted in the field by a water master. We have hired ten water masters in the last couple of years. They are out in all the major stream systems of the state. We've got seven basins within the state of New Mexico that are priority basins and where we are moving forward with active water resource management. We need to promote expedited leasing and marketing in affected areas.

Since 2001, prior State Engineer Tom Turney and then ISC Director, Norm Gaume, came up with the three M's of active water resource management, which were “measurement,” “management, and “markets.” The question that is often asked of me is what happened to “markets”? Where are the markets? “Markets” are an essential component of AWRM if it is to work properly.

Some elements of AWRM are permitting transfers, metering, and limiting the diversion of water to the amount authorized by existing water rights. Those are also the essential elements of a functioning water market within the state of New Mexico.

In lieu of priority administration, if all parties in a particular basin can agree to an alternative means of administration, then we will attempt to put in place this alternative.

One form of alternative administration is being implemented down on the Pecos River. The Pecos plan involves buying farmland and water rights and taking that farmland out of production. That is the plan that the local stakeholders came up with to balance the hydrologic condition in lieu of priority administration. If we would have instituted a priority call, the call would have been considered “futile” because we would have to go so far back into the call to actually get wet water

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to the river that there would have been a \$200 to \$300 million economic impact to the state of New Mexico.

Most stream systems in New Mexico are considered fully appropriated, which means there are no new sources of water available. I say that because desalination of brackish supplies is a new potential source of water, but one still has to take into consideration impairment to fresh water supplies if the two sources are hydrologically connected. Water for new uses must come from water right transfers. We've got to balance the depletions within our system. Approximately 77 percent of New Mexico's water is used for agricultural purposes. If you are in a fully appropriated basin and you wish to allow for a new use, you must file an application to change place and/or purpose of use, typically from agricultural to municipal industrial or domestic use. That's the only way our cities can grow. New Mexico's population is expected to increase by 85 percent by the year 2040. How does that happen without taking some water from agriculture? It's got to happen if you are going to avoid additional depletions. That is how we account for keeping our stream systems whole within the state of New Mexico.

We have had the ability to license water rights since 1907. The state has not licensed very many of its water rights. Licensure provides water rights owners with the greatest certainty afforded in New Mexico water law, short of a water rights adjudication decree. A lot of you know about Judge Reynolds' decision regarding the state framework rules and regulations for AWRM. The decision stated that the state engineer could administer water, but if you want to do it by priority, you have to have a decree or a licensed right. You cannot just administer water based upon the best information that's available in our water right files, which is what we wanted to do. You've got to be able to refer to a decreed or a licensed right. Prior to Judge Reynolds' decision, we contemplated expanding our licensure program. After his decision was rendered, an additional focus has been in place to expand licensing of water rights. If we can get more rights licensed, it allows for more certainty with respect to that water right and should help facilitate market transfers.

The licensing of water rights will greatly facilitate an eventual adjudication. Typically, a judge doesn't go behind a state engineer's license when they are looking at adjudicating the water right. The number of contested sub-files in future adjudication will probably be reduced,

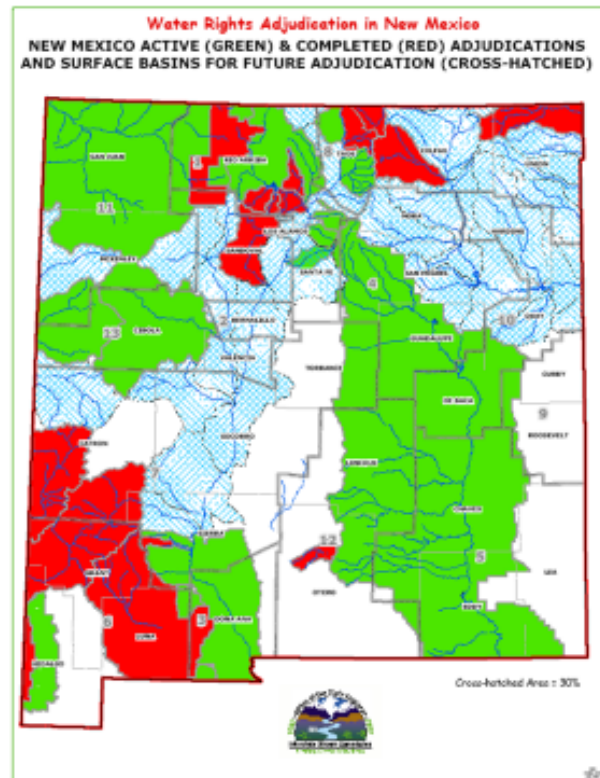


Figure 1. Water Rights Adjudication in New Mexico

which will help expedite finishing the adjudication. The economic community often asks about certificates of transferability. Licensure would serve this purpose as a license would bring more certainty, regarding that water right.

Let's talk more about adjudications. Figure 1 shows green and red parts of the state – obviously the connection to Chile in New Mexico. If you look at the red areas, those are the only areas in the state that are fully adjudicated. The green areas are areas that we are actively working on. We have 12 active adjudications involving approximately 65,000 defendants, including 17 or 18 tribal entities. This cross hatched area, represents about 30 percent of the surface area of the state and represents our future adjudications. The Middle Rio Grande is the big one. Potentially it has many more claimants than are in the current adjudications process. In order to finish our current adjudications, we have estimated that it is going to take another 15 years. If you take into consideration how our litigation and adjudication program bureau is funded with about \$6.3 million a year for those 15 years, that translates into about \$95 million. That is the reality of finishing these existing adjudications, and that's without starting the Middle Rio Grande.

How do we proceed? We have been talking with the legislature regarding adjudication reform. For the past couple of years we've been discussing this subject with the Administrative Office of the Courts. Our Chama adjudication has been considered most successful as it is focused on public notice and public outreach. We hold informal field offices which allows local communities to get involved more easily. We have follow up field inspections of individual claims when requested. We exhaust all opportunities for settlement before there is an evidentiary hearing and formal discovery is ordered. These are processes that we try to follow.

What often happens is the adjudication process takes a detour when the judge issues alternative procedural orders that govern deadlines, how defendants must respond to settlement offers from the state, and other procedural matters. Often times special masters put out their individual orders, so it takes the "Chama" approach, and it detours it making it longer. We are currently meeting with the administrative office of the courts to plan for future adjudications. We need to evaluate what worked best on existing adjudications within the state of New Mexico, but also evaluate other states' processes. We are going to actively pursue that information with a goal to make future adjudication suits faster and more efficient and less intimidating for water rights claimants. We have an Ombudsman program going on at the Utton Center which will hopefully contribute to that process becoming less intimidating for the claimants. We are also discussing the advantages of using alternative dispute resolution (ADR). We recently hired a full-time person to focus on opportunities to solve water rights disputes using ADR procedures.

Now to re-cap quickly the direction my agency is embarking on: "If we are to meet the economic challenges and environmental concerns of this century, we must be able to utilize a different model that allows us to act locally and accrue benefits statewide, nationwide as well as globally." That is my final slide and thank you for your patience. Now, are there any questions?

Question: Do you think the carrying capacity of the communities ought to be considered by those communities for their water needs? By carrying capacity, I'm talking about population.

D'Antonio: The question is about carrying capacity and communities' growing population. To me, it always

comes to the political will in each individual community. When I say political will, I mean mostly counties and county commissions are interested in economic growth. They are interested in the tax-base growing. At what point does that change to a public welfare issue or concern regarding water supplies? The political will to control population must come from local government. With respect to the State Engineer's Office, there are a lot of things we can do. If an entity wants to grow, they have to go and obtain water rights. If they acquire water rights, transfer just the consumptive use portion, which is all we will allow, we can maintain the water balance by controlling depletions. That is what we are interested in doing: maintaining the water balance with no new depletions. Our state's population will continue to grow. One of the fallacies out there is that just because people are moving to New Mexico, it doesn't necessarily translate to more water use. If you have a strong water management agency that is controlling depletions, you can accommodate growth because you are changing from an existing use to a new use. You are essentially drying up that old use for a new use, without actually using additional water.

When it comes down to individual and political will in different communities, local politicians have to get involved and say, "Enough. We've grown enough." Or they have to find ways to import more water from somewhere else, which is really what most politicians lean towards.

Question: Let's say you were made king of the East. Mr. Hirsch talked briefly about what is going on in Georgia and Florida. If you were able to go in there and say, "Here is how we are going to do it," and you had this toolbox of the Bureau of Reclamation and the Corps and USGS and the interstate compacts and AWRM, what would you do? What would you tell them they need to do? They haven't done anything, and they're going to be like us soon. What would you advise them to do?

D'Antonio: I'd hire a good water attorney, first of all, to represent me! What they are now experiencing are interstate issues. They are looking at delivery obligations for endangered species act issues during an extreme drought. They need to manage actively their resource. They need accountability, and they need to protect existing uses. In areas east of the Mississippi River, most aren't subject to interstate compacts. If water levels continue to drop in the East like they have in the West, water attorneys are going to have more and more

work. Essentially, I would put measuring and metering devices in-place, if they don't have them already, insist on accountability of resources, and look at biological opinions for some of the endangered species act issues to see if more reasonable agreements can be made that take into consideration a variable supply or drought scenario that would allow critical habitat areas to utilize less water.

I think a lot of the things we are doing in New Mexico such as building the silvery minnow refugia, propagating endangered species in captivity, and reintroducing them into the river system are truly innovative and applicable in other places. Also, modification of the biological opinion, which allows some drying of the river under certain hydrologic conditions, was critical and is the area where the federal government is really going to need to help states meet ESA obligations.

Out West we laughed about the group going to Washington from three southeastern states to challenge that ESA requirement that has been in place for decades. It will be interesting to see what happens, when the majority of the votes in Congress are east of the Mississippi and they start running into the same laws that we have had to comply with in the West.

Question: I always, in light of my outreach programs, have liked to encourage the fact that we are all part of ag. water. When I go to the store and put my hand on that head of lettuce, which is 90 percent water, I am part of ag. water. The question is whether that head of lettuce came from Chile or from that local farmer that is just outside the city limits. I am glad to have those farmers. I just want to know about the emphasis of these initiatives of the water innovation fund and all these things. Where is the transfer of technology leading to alternative sustainable ag., not that the farmer has to stop being a farmer? Everybody is losing farms to build homes. I support this active management and where this is going, but I teach even school grade children that when they go and pick up that tomato and that cabbage they are part of ag. water. When we look at global warming, fossil fuels, and carbon emissions, is that tomato going to come from Chile or from our local growers that are taking a different approach and conserving water while they do it?

D'Antonio: The question has to do with agriculture versus municipal and industrial development and whether I am just looking at taking water from ag. and putting it into municipal and industrial development. That

is not the case. John Stomp is back there with the Albuquerque-Bernalillo County Water Utility Authority. They have done a great job in their plan looking 50 to 60 years out into the future on growth and how to accommodate it. It is certainly not just from the acquisition of water from the agricultural community. There is a whole conservation component in their plan. The use of their renewable supplies – San Juan-Chama water to help preserve groundwater – that is also part of their plan. They, at some point, are going to have to go beyond 50 and 60 years and convert some water from agriculture to municipal and industrial development.

Let's be honest: there is a lot of agricultural product that is getting exported out of this state also. When you talk about exporting agricultural products out of the state, you are also talking about exporting our water out of the state. It is just not being used for statewide sustenance of our local crops within the state of New Mexico.

The other point I want to emphasize is that the ag. community holds senior water rights and their rights are protected in my administrative scheme – always. As an example, if you are going to allow for the city of Las Cruces to grow – because it is going to grow as a university town and a desirable place to live – 90 percent of the water in the Lower Rio Grande is used in agriculture – you are going to have to transfer some of that water from ag. to municipal and industrial use. I think EBID is well positioned to be able to do that and will accommodate those needed water supplies. The people that remain in agriculture only become stronger. Let's take the Pecos situation for instance. The fact is, there is a short water supply down there. Regarding the settlement agreement, we are taking 12,000 acres of land and water rights out of production in order to meet the minimum requirements of the Pecos Settlement agreement. For those farmers that remain in agriculture, their water supply will become more sustainable because the hydrologic balance is being corrected, which is going to make them even more profitable. The Carlsbad Irrigation District is going to have an assured supply of water, whereas before, even though they were seniors on the system, it was difficult for them to get their water because they were at the downstream end of the system.

My feeling is that if you have a strong water management agency in-place, you are going to protect agriculture. The reality is that if you live in a fully appropriated basin, the growth is most likely to come

from agriculture. Conservation is always a consideration. Any permits that I issue have a strong conservation component to them. They require per capita use restrictions, which help with conservation. A lot of the cities and municipalities in the state are doing a great job at conservation, and they need to keep it up. We will continue to put pressure on them to make sure that a permitted water right or water rights transfer is not contrary to conservation within the state of New Mexico.

Question: Are we the only state having problems with the adjudication laws?

D'Antonio: No. We are not the only state having problems with the adjudication laws. One of the problems is that we have been resource short on completing adjudications. Since 1907 – for the first 80 or 90 years since then, there was not a lot of emphasis put on finalizing adjudications. We have actually made and we are getting ready to internally prepare a report for the legislature that shows the progress made on completing sub-file orders within the state. The significant progress that we have made the last five years is directly correlated to additional resources that we have received from the state legislature. We have made a lot of progress, but the fact is that it is a cumbersome process. It is difficult because of the sporadic funding that we have received. Also, we have had to stop and start hydrographic surveys, essentially recollect that information as the survey data becomes stale after a period of time.

We've got other issues regarding adjudication reform, and as we look forward, we are going to take the best processes from past and current adjudications in New Mexico as well as investigate experiences from other states. Just because we are behind where we should be in completing adjudication does not mean we are doing it wrong, and I don't want to make changes for change's sake only. We don't want to change processes unless we are certain that change will expedite the remaining adjudications and better utilize taxpayer dollars. We are looking at reform seriously. Thank you everybody. I appreciate your time today.