

Summary Report UNM Water Conference, May 17, 2018

“New Mexico Water: What Our Next Leaders Need to Know”

Conference Organizers

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Conference Sponsors

UNM Office of the Vice President for Research, Center for Water and the Environment,
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Executive Summary

Upon taking office in January 2019, the next Governor will likely appoint new leaders of the state’s water, environmental, and natural resource management agencies. These agencies include the Office of the State Engineer (OSE), the Interstate Stream Commission (ISC), the New Mexico Environment Department (NMED), the Energy Minerals and Natural Resources Department (EMNRD) and others. New leadership in these agencies will result in opportunities to reconsider and possibly reshape water and environmental management policies and activities in the state. At the same time it will be important that these new leaders, including the next Governor, understand the challenges and issues facing the state. This report summarizes the results of a UNM-sponsored conference in which nine remarkably well qualified people, all of whom have previously held top level appointed federal and/or state administrative positions, offered their insight on the major water and environmental challenges facing the state and made recommendations regarding how the next administration should work to address them.

The conference consisted of four sessions. In the first session the conference organizers each gave brief overviews of the water supply, water quality, legal, and administrative challenges facing the state. The second panel considered the federal perspective on NM water and environmental challenges by four panelists, all with substantial leadership experience in federal agencies. The third panel consisted of panels with leadership experience in state agencies who offered their perception on the state’s perspective. The final session consisted of a presentation by Mike Connor, former Deputy Secretary of the Department of Interior who gave five specific recommendations to the next administration, most of which served to amplify remarks of previous speakers.

This report, with few exceptions, does not capture specific comments of each of the speakers but rather presents a summary of the topics that were discussed and the suggestions that were made. The panels were not challenged with seeking agreement on their observations and

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recommendations. Instead this report summarizes observations and recommendations that were offered by at least two of the panelists. Many of these suggestions were made several times throughout the day. Recurring suggestions during the course of conference include:

- The next Governor needs to be fully informed on water and environmental issues in NM and should appoint highly qualified administrators with a strong background in water and environmental issues. Agency administrators need to attract and retain good technical staff for their agencies. The next Governor should involve these officials and their staff in making decisions and developing policy on water and environmental issues.
- The next administration should aggressively seek collaboration with federal agencies to assure that administration of federal regulatory programs is appropriate to conditions in NM and to take advantage of funding opportunities that are often available through them.
- The next Administration should place an immediate emphasis on developing policies and management strategies to deal with severe drought and the consequences of a warming climate. It will be important to address these challenges immediately upon taking office.
- The next Governor should consider appointing a senior advisor on his/her staff who would act as a liaison with state resource management agencies, help cabinet appointees navigate political challenges, and facilitate collaboration between state agencies.
- The next Governor should re-constitute the Governor's Blue Ribbon Task Force on Water to assist in identifying and addressing water and environmental problems facing the state.
- The state needs to provide financial assistance to small communities to help meet their water and wastewater infrastructure needs. State funding programs for capital projects needs to be revised to allow funding of large multi-year projects and to include a process to direct funds towards projects which incorporate best practices for investing taxpayers' dollars. It would be based on life cycle evaluation, effectively used, appropriate for the agency or community, and prioritized accordingly.
- State water planning should be based on clearly articulated objectives to provide direction and guidance in development of the plans. The plans should place more emphasis on implementation with the possible inclusion of incentives to meet implementation schedules.
- The next Governor and legislature should work to more clearly define the role and responsibilities of the OSE and ISC. This may require legislative attention. Appointment of well qualified individuals to this commission and others such as the Water Quality Control Commission (WQCC) and the Environmental Improvement Board (EIB) is necessary to ensure their good function.

In his concluding presentation Mr. Connor offered five specific observations and recommendations, many of which were discussed in preceding panels. They were:

- Beyond its borders, NM water issues don't capture anybody's attention (i.e. nobody else will make these issues a priority) therefore it is largely the state's responsibility to solve its problems.
- The State should prioritize opportunities to engage tribes and pueblos on water issues because of ongoing needs in those communities and because uncertainties regarding the amount of water rights allocated to them impedes development and implementation of strategies to solve state wide water problems.
- New Mexico's economic and cultural future depends in large part on protection and conservation of its water and environmental resources – as much as consumptively using those resources.
- Sustainability and resilience must replace the drive for legal victories. Cooperation and collaboration will result in faster, cheaper and more equitable solutions for state and inter-state water challenges.
- The next governor needs to recognize the importance of water & environmental issues and institute policies to address them as soon as he/she takes office.

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“New Mexico Water: What Our Next Leaders Need to Know”

Introduction

Following the 2018 gubernatorial election, New Mexico may have new leaders of its resource management agencies including the Office of the State Engineer (OSE), New Mexico Environment Department (NMED), Energy Minerals and Natural Resources Department (EMNRD) and others. This change in leadership comes at a time when several other new developments are occurring in New Mexico and beyond that will have major consequences on management of water and environmental resources. Some of the most important of these developments include: 1) A new administration at the City of Albuquerque; 2) Major shifts in federal policies & implementation as a result of a new administration in Washington D.C.; 3) Evolution of legal issues regarding water and environmental programs, especially interstate lawsuits; and 4) Long term financial and staffing challenges faced by federal, state, and local agencies as well as decreasing funds for water and environmental protection grant and loan programs.

Most aspects of water are subject to administration by the executive branch of state government either by state law in the case of administration of surface and ground water, or by delegation of federal regulations to the states for water and environmental issues. The principal state agencies responsible for administering these laws and regulations are:

- Office of the State Engineer & the Interstate Stream Commission – Administers water rights, development and protection of water resources, compliance with interstate compacts
- New Mexico Environment Department – Administers ground water quality and has delegated authority from EPA to administer river & lake water quality, drinking water quality, radioactive and hazardous wastes, and other environmental protection programs
- Energy, Minerals and Natural Resources Department – Administers many water related resources including state forests and parks as well as oil, gas and mineral resources

This conference featured presentations on water & environmental challenges facing the state by nine former top level state and federal water and/or environmental protection administrators. Each speaker has a long history of high level experience working on NM water issues. It is estimated that together they have over 80 years of cumulative government service in appointed positions requiring confirmation by the state or US senate. Three moderators were selected to facilitate the conversations, each of whom also has notable qualifications in water and environmental fields. A summary of the qualifications and experience of each of the speakers is presented in Appendix I.

The principal objective of the conference was to provide a forum for these knowledgeable and experienced administrators to share their insight and opinions on the major water and environmental challenges facing NM and to give their recommendations as to how to address these challenges. Since none of the speakers are currently serving in appointed positions in NM they were less constrained by having to defend current or past policies so that this conference

gave them an opportunity to be more candid in their observations, analysis, and recommendations.

A second objective of the conference was to encourage dialog among the former officials, current water professionals, and the public on important water and environmental challenges facing the state. To achieve this goal, the UNM Water Conference was structured to provide more opportunities for interaction among all in attendance. This was accomplished by providing extended question and answer sessions at the end of each panel, providing lengthy breaks between panels and a longer lunch break than normal, and by sponsoring a post-conference Happy Hour at a local brewery/tap room. Approximately 250 people signed up for the conference and most of the speakers were able to stay for the entire day so it appeared that this objective was achieved.

The conference was organized into three panels followed by a final session of concluding remarks given by Mike Connor, former Deputy Secretary of the U.S. Department of Interior. The agenda for the conference is presented as Appendix II. The first panel consisted of four presentations by the conference organizers that summarized water resources and management issues currently facing the state and was intended to set the stage for subsequent presentations and discussion. Slides used in these presentations are included as Appendix III. The second panel discussed challenges facing the state by administrators with federal experience. The third panel consisted of administrators with state experience. None of the speakers in the second and third panels used prepared slides nor did Mr. Connor.

This report provides a summary of the panel discussions given during the conference. It does not provide a detailed recounting of each speaker's comments but instead summarizes the major observations and recommendations that were discussed by the panel.

Session 1 – Water Challenges in New Mexico

Session 1 consisted of welcoming remarks by Dr. Gabriel López, Vice President for Research at the University of New Mexico. The panel was introduced by Dr. Julie Coonrod Dean of Graduate Studies and Professor of Civil Engineering at UNM. Dr. Coonrod has had a notable career in New Mexico as a surface water hydrologist.

In contrast to the other sessions, this session consisted of a series of four presentations that were intended to summarize the current state of affairs with respect water and environmental challenges in NM. It was intended to introduce a common body of knowledge regarding these issues to serve as a basis for subsequent discussion.

Bruce Thomson, Research Professor and Professor Emeritus in the Department of Civil, Construction and Environmental Engineering, gave a presentation titled “Technical Challenges: Water Supply” in which he summarized the surface water and ground water supplies in the state and how water is used. Surface water provides most of the water used for irrigation in the state. One of the biggest challenges facing the Rio Grande basin is the lack of a storage reservoir on the main stem of the river above Elephant Butte reservoir. While considerable success has been achieved at stabilizing ground water depletions in the Rio Grande and Pecos river basins, ground water resources in eastern NM and along the border with TX are rapidly declining and already

impact agricultural and municipal supplies with the expectation that future consequences will soon become severe. Finally, the impacts of a warming climate are increasingly evident and are manifested as reduced winter snow pack and consequent spring runoff, increased warming and causing increased water losses to evapotranspiration, and a longer growing season resulting in increased demand.

Kerry Howe, Director of the Center for Water and the Environment and Professor of Civil, Construction and Environmental Engineering, gave a presentation titled “Technical Challenges: Water Quality” which summarized some of the most important water quality issues related to the state surface and ground water resources, and the challenges of providing high quality water for municipal and industrial supply. Water quality challenges can be divided into 4 categories: (1) remediating past water contamination, (2) managing current impacts to water quality, (3) leveraging new water supplies, and (4) maintaining in-stream water quality. Past water contamination that needs cleanup occurs in both surface and groundwater, and in both urban and rural areas. The mining industry had contaminated groundwater and surface water in rural areas, and fuel spills and industrial solvents from industries such as dry cleaners are common sources of contamination of groundwater in urban areas. The state’s national laboratories have also contributed to water contamination that must be addressed. Potential sources for impacts to water quality from current events include the oil and gas industry, dairy industry, urban stormwater runoff, and forest fires. Our precious water resources can be extended by exploring new sources of water and of storing water, including brackish water resources, potable reuse, and aquifer storage and recovery. These sources of water have different constituents of concern than the state’s traditional sources of fresh water, and thus will need different treatment technologies to use properly. Throughout all these challenges, it is necessary to protect and maintain in-stream water quality for environmental and recreational uses.

Adrian Oglesby, Director of the Utton Transboundary Resource Center in the UNM Law School, gave a presentation titled “Legal Challenges” which summarized the regulatory and legal complexities associated with water and environmental challenges in NM. Many water related legal challenges relate to Native American water rights or environmental issues. Inclusion of pueblo and/or tribal members and environmentally conscious individuals in state water management agencies could help New Mexico alleviate some of these challenges. The State is facing water management and development challenges at the administrative, federal, and interstate levels. The State is currently completing a new State Water Plan and restarting the State Drought Team. Interstate challenges this year are aggravated by low snowpack and flows in the Colorado, Rio Grande, and Pecos River Basins that will make compact compliance more difficult this year. Water development proposals such as Santolina, San Augustine Ranch, and the Gila CAP Unit are generating legal battles that will likely end up in the courts. The Abeyta and Aamodt water rights settlements are in the implementation stage but continue to face resistance from many fronts. As part of the Aamodt settlement, the State is implementing new regulations in the Pojoaque area that will require owners of domestic wells to install meters at their own cost. In the Supreme Court litigation between Texas and New Mexico over the Rio Grande, the United States has been allowed to intervene and will argue on the side of Texas, which does not bode well for New Mexico.

John Fleck, Director of the UNM Water Resources Program, discussed the Administrative Challenges faced by agencies charged with managing water and environmental issues in NM. With short-term drought hitting New Mexico on top of long term aridification as a result of climate change, New Mexico's water institutions face fundamental challenges. One of the most important is declining budgets, with funding for the Office of State Engineer and Interstate Stream Commission declining 18 percent in inflation-adjusted terms from their peak in 2009. A comparison of our institutions with those in neighboring states show important differences in the way water is administered. In Colorado, for example, funding for state water planning is far larger, even when adjusted for the relative sizes of the two states' populations, and involves a much broader network of stakeholders through that state's Basin Roundtables and the Colorado Water Conservation Board than the process used to develop New Mexico's State Water Plan under the auspices of the New Mexico Interstate Stream Commission. Colorado's law is also much more specific about the geographic and political range of representation embodied in the makeup of the Colorado Water Conservation Board (CWCB) than New Mexico's Interstate Stream Commission. Those differences allow the CWCB to play a more robust and far-reaching role in state water policy than the analogous New Mexico institutions.

Session 2 – New Mexico Water: The Federal Perspective

The second session of the conference consisted of presentations by panelists who have had significant federal experience with water and environmental issues in New Mexico and the west. Each of these panelists also had previous experience as appointed administrators in state government so that some of their comments reflected the state as well as the federal perspective. The panelists were:

- Hilary Tompkins - Former Solicitor for Dept. of Interior & former Chief Counsel to Gov. Richardson
- John D'Antonio - Current US Army Corps of Engineers & former NM State Engineer
- Ron Curry - Former Regional Administrator US EPA & former Secretary, NM Environment Department
- Estevan López - Former Commissioner, US Bureau of Reclamation & former Director, Interstate Stream Commission

The panel was moderated by Dr. Elizabeth Kistin Keller, Principal Systems Analyst at Sandia National Laboratories and Adjunct Professor of Geography at UNM.

This session began with a presentation by Ms. Tompkins who offered three suggestions to the future administration:

When you get a “win” celebrate it. She described a “win” as a successful resolution of a difficult problem. She suggested that they should be celebrated because they are so difficult to accomplish and occur so rarely. She cited recent settlements of Native American water rights claims including the Navajo settlement, the Abeyta/Taos Pueblo settlement and resolution of the Aamodt case as examples of “wins.” Celebration of such successful resolutions serves to remind all that even very difficult challenges can be resolved if all parties are willing to work together and make a sufficient commitment to work through difficult negotiations.

Don't fear the impossible. Although many of the water and environmental problems facing the state appear intractable it is important to address them and work towards their resolution. Examples of "impossible" issues cited by Ms. Tompkins and seconded by other panelists included resolution of compact disputes such as the TX v. NM case before the Supreme Court, completion of the Eastern NM Rural Water System Project (i.e. the Ute pipeline), developing strategy for managing the impacts of climate change on water resources, and resolution of Native American water rights claims. Though resolution of these issues may take longer than the duration of a single state administration, it is important to address them and recognize that strong leadership can produce significant progress towards addressing them.

Find opportunity in adversity. Ms. Tompkins noted that a prominent crisis often presents an opportunity and incentives for dealing with previously neglected problems. For example the Deepwater Horizon oil spill of 2010 prompted the Department of Interior to develop new regulations for offshore oil development needed to protect the environment. She noted changes in management of the Rio Grande have led to improved survival of the endangered Rio Grande silvery minnow and suggested that recent drought may provide an opportunity for developing strategies for addressing future droughts and the effects of climate warming.

A recurring theme that was introduced in this session and was subsequently repeated throughout the day was the importance of collaboration, both within the state and with federal agencies. John D'Antonio noted that big problems can only be solved collaboratively and almost always require long term and dedicated commitment from state and federal agencies, from water professionals with diverse areas of technical, policy, and legal expertise, and a continuing relationship with the public.

Continuing on the theme of collaboration, Ron Curry introduced the recommendation, seconded by several of the panelists, that it is imperative that the next administration must quickly establish a good working relationship with senior administrators of federal agencies for several reasons. First, it was noted that with few exceptions federal administrators in Washington D.C. do not understand water and environmental problems in the western U.S. In particular New Mexico leaders must be able to clearly articulate water and environmental challenges in NM and how they are different from those in the east. Mr. Curry cited the particular example of the surface water discharge permit system established by the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act (CWA). NM is one of only four states that does not have authority to issue surface water discharge permits hence these permits are issued by EPA Region VI in Dallas. However, Region VI staff often have little understanding of environmental issues and local technical, funding, and management challenges that are prevalent in NM. Mr. Curry recommended that NM seek primacy over the NPDES program though recognized it will be costly, estimated at \$2 M/yr. A phased approach with support from the regulated community (wastewater utilities and industrial dischargers) will be needed to gain this authorization. The NM Municipal League was suggested as an organization that might help with the process. In the interim, senior NM administrators must work closely with federal administrators to assure that regulatory programs are appropriate to local concerns.

A second benefit of increased collaboration with federal agencies noted by Mr. Curry is that there are many federal programs that can provide financial assistance to NM agencies and

communities in the form of grants and loans. Federal departments with grant and/or loan programs include the EPA, U.S. Department of Agriculture, U.S. Department of the Interior, the U.S. Army Corps of Engineers and others. Estevan López added that some federal programs which are particularly applicable to NM include funding under the Endangered Species Act (ESA), Indian water rights settlements, and water resource research and development programs run by the Bureau of Reclamation. The next administration should develop a close relationship with agencies in these departments to assure awareness of these opportunities while also helping them develop priorities for how their grant and loan programs are implemented. Some of this funding requires a local cost share so it is equally important that the next Administration work with the legislature and local governments to be sure that matching funds are available to take advantage of federal funding opportunities as they arise.

The panel included a brief discussion of the political dimensions of water and environmental issues. Mr. López noted that most elected officials have a very limited understanding of these issues and seldom think about them in part because they have little influence on electoral politics. However, it is important that both the next Governor and the congressional delegation become informed about these issues. Within the state, it is especially important that the Governor appoint well qualified advisors and members of state commissions, and include their input in his/her decisions. Mr. López noted that as soon as he/she is elected, the next Governor will be inundated with requests by individuals and special interest groups seeking to gain influence over issues related to their personal interests. The next Governor must be prepared to deal with these requests in an informed, consistent and deliberative manner that will protect the interests of the entire state. In addition to appointing well qualified administrators, it is vitally important that the administration attract and retain good technical staff in each agency who can help with analysis of complicated problems and also provide institutional memory regarding policies and procedures.

Several panelists in both this and the subsequent session noted that the relationship and responsibilities between the Office of the State Engineer and the Interstate Stream Commission are not well defined. The panel agreed that the next Governor and the legislature need to work together to more clearly define this relationship so that the two organizations are more closely in alignment. There was also some discussion that the executive and legislative branches should reconsider how Commissioners are selected and identify their specific responsibilities on the commission, though no specific recommendations were offered on this topic.

In response to a question about governance, Mr. D'Antonio offered the observation, seconded by other panelists, regarding the benefits of having a senior level advisor in the Governor's office who understood water and environmental issues and could assist the cabinet secretaries in navigating some of the political challenges incurred in dealing with them. A top level advisor with this portfolio of responsibilities was also found to be helpful in coordinating the role of the resource management agencies in dealing with complicated interdisciplinary water and environmental challenges. This led to the observation that in some states the responsibilities given to the NMED and the OSE were assigned to a single cabinet level agency. It was recognized that there are both benefits and disadvantages to this approach, and no member of the panel made a recommendation that this be considered in NM. However, most members of this and the following panel agreed that the Governor's Blue Ribbon Task Force on Water served a

helpful role in identifying problems and possible solutions regarding water and environmental issues facing the state, and that the next administration should consider re-instituting this commission.

The question of what federal agencies can do to help address NM water and environmental problems was asked. Members of the panel offered two ideas. First, federal agencies can help with funding and in some cases, can provide technical expertise. This emphasized the previous recommendations regarding the importance of close collaboration between state and federal agencies. The second suggestion was that the feds need to “get out of the way” and let the state work out its own problems.

A member of the audience asked the panel how one prepares for senior level employment in federal water resource or environmental protection agencies? This elicited two notable responses. Mr. López noted that because of its diversity, NM provides great training opportunities for water professionals seeking high level management positions. Some examples are the changing economy resulting in tension between agricultural and municipal/industrial water users, the complicated relationship between surface and ground water resources, the complex relationship between neighboring states and the Republic of Mexico, the involvement of virtually all federal water and environmental resource agencies in NM, dealing with the effects of drought and a warming climate, and the complicated relationship between the state and Native American tribes and pueblos. The final observation on this topic was made by Mr. Curry who stated that the next generation should be strongly encouraged to consider working on our water and environmental management problems because “there is no finer calling than public service.”

Summary of Suggestions and Recommendations

This section presents a summary of the suggestions and recommendations that were made during the morning panel. Panelists were not asked to obtain agreement with other panel members. The basis for these suggestions and recommendations are presented in the preceding discussion.

- The next administration should aggressively seek collaboration with federal agencies to assure that administration of regulatory programs is appropriate to conditions in NM and to take advantage of funding opportunities available through them.
- The next administration needs to be informed on water and environmental issues in NM, needs to appoint highly qualified administrators to lead its agencies, and needs to attract and retain good technical staff to man these agencies. Equally important, the next administration needs to seek the counsel of its administrators and their staff in dealing with the water and environmental challenges facing the state.
- The next Governor should consider appointing a senior advisor to his/her staff who would act as a liaison with state resource management agencies, help cabinet appointees navigate political challenges, and help facilitate collaboration between the various agencies.
- The next Governor and legislature should consider the role and responsibilities of the OSE and ISC to determine if their role and responsibilities can be more clearly defined.

- The next Governor should consider re-constituting the Governor’s Blue Ribbon Task Force on Water to assist in identify and address water and environmental problems facing the state.

Session 3 – New Mexico Water: The State Perspective

The third session of the conference consisted of discussions by panelists who have held appointed senior administrative positions in NM water or environmental management agencies and therefore focused on the state perspective of these challenges. The panelists and their previous positions were:

- Amy Haas - Former Acting Director & former General Counsel, NM Interstate Stream Commission
- Tanya Trujillo - Past Director of Colorado River Board of CA & former General Counsel, NM Interstate Stream Commission
- Ryan Flynn - Former Secretary, NM Environment Department)
- Scott Verhines - Former NM State Engineer

The panel was moderated by Deborah Dixon P.E., a consulting civil engineer and former Director of the NM Interstate Stream Commission.

Instead of individual presentations by each of the panelists, Ms. Dixon and the panel had developed a series of questions to elicit discussion by the group. It was an approach that was particularly effective for this conference.

Important Policies & Challenges Facing NM: The first topic addressed by the panel was a discussion of what are the most important policies and challenges currently facing the state that need attention from the next administration. Scott Verhines suggested that one of these is how to transfer water to different purposes and places of use. He shared an observation made by D.L. Sanders, former General Counsel to the OSE, that NM spent its first one hundred years learning how to appropriate water and will spend its next one hundred years learning how to transfer water. He suggested that a report by the Western States Water Council titled “Water Transfers in the West: Projects, Trends and Leading Practices in Voluntary Water Trading” offered good guidance on this topic.

Several panelists noted the need to develop policies and management strategies to deal with drought and the consequences of a warming climate. They noted that NM’s reliance on the Colorado River as a major source of supply is particularly vulnerable to future reduction as a result of the challenge of re-allocating water in the face of climate change and an over-appropriated river. The ability to negotiate with neighboring states within the constraints of the interstate river compacts will be a particular challenge.

Funding for Water Projects: A recurring theme throughout this panel’s discussion was the need for funding to address water and environmental problems. Ryan Flynn raised the issue of funds need for drinking water and wastewater treatment infrastructure. Of special concern is that 85% of the public water and wastewater system in NM are classified as small or very small. Many of

these systems do not have the financial capability to pay for upgrades to their systems (i.e. capital costs) or adequately fund their operations and maintenance (O&M) programs. Furthermore, in part because of financial circumstances and because of their remote locations, they cannot hire and retain well qualified operators. State and local government's ability to provide financial assistance to low-income residents is limited by the anti-donation clause of the constitution. Mr. Flynn recommended that this constraint should be addressed by the legislature.

One particular challenge is that the state's current approach to capital outlay is irrational, subject to undue political influence, not based on prioritized need and inhibits funding of large, regional, multi-year projects such as the Ute pipeline. Mr. Flynn and several other panelists recommended that the next administration must address the problems of infrastructure assistance to small communities to prevent failure of these systems that should include development of a rational funding process that will provide continuity need to plan and construct large regional projects. The state needs to identify large projects which require multi-year funding and then make the necessary commitment to allow these projects to be built.

Scott Verhines suggested that state funding of water projects should be based on LEAP criteria where L stands for life cycle assessment, E stands for effective use of funds (for example whole projects or phases with independent utility), A represents selection of a technology that is appropriate to the community and problem being addressed, and P is based on prioritization of each project under consideration.

Several panel members noted the problems of falling ground water levels, particularly in eastern NM, and the limited options for addressing them under current laws. It was noted that completion of the Ute pipeline project, funding of the Water Project Fund, and negotiated settlement of Native American water rights claims would provide many communities with certainty for their future water supplies but will require significant long term commitments of federal and/or state funds.

Importance of Planning: The panel discussed the importance of water planning to protect the state's water resource and noted that the importance of planning is not appreciated by elected officials and administrators as much as it should be. Tanya Trujillo suggested that water planning should begin by identifying a clearly defined set of goals to insure development of focused plans that will achieve those goals. Scott Verhines added that plans should include a strong emphasis on implementation programs and schedules. Including rewards for meeting the goals in the implementation schedule will provide managers with additional incentives for drafting realistic plans with a reasonable schedule of their subsequent implementation.

Water Administration: Nearly all water and environmental problems facing the state involve multi-disciplinary and inter-institutional collaboration between the executive, legislative and sometimes the judicial branches of government as noted by the previous panel. This collaboration often requires participation of federal, state, and local government as well as private entities and the public. In addition to the EPA, federal agencies that should help NM address its water and environment problems include agencies in the Department of the Interior, Department of Agriculture, Department of Energy, and the Department of Defense. The next

administration must recognize this early and build institutional and personal relationships that will facilitate this cooperation.

Amy Haas reiterated the observation of the previous panel that there is confusion between the role of the OSE and ISC and suggested that resolution of this uncertainty will likely require legislative attention. In particular she noted that a strong and well qualified Commission can help state agencies deal with water resource problems but it is important that this Commission and others such as the Water Quality Control Commission (WQCC) and the Environmental Improvement Board (EIB) not become politicized.

Ms. Haas noted that there has been little significant legislation addressing water and environmental policies and administration in recent years. She suggested that the next administration needs to challenge the legislature and in particular the interim legislative committees to develop legislation to address the state's water and environmental problems.

There was general agreement among the panelists that appointment of a high level staff person reporting directly to the Governor serving as a liaison between the state resource management agencies and Governor's office could improve coordination between the individual agencies and help the Governor become more involved in water and environment issues. This staff person might be identified as a water and environment ombudsman. This recommendation was based largely on the effective role played by Bill Hume in the Richardson administration. However, it was also noted that the success of this approach would depend largely on the qualifications and integrity of the person selected for the position. Appointment of someone with limited capabilities or with a self-serving personal or political agenda could substantially reduce the effectiveness of the state's resource management agencies.

Concluding Remarks: In response to a question from the audience, the panelists unanimously agreed that it is possible to address water supply challenges in the state while also protecting ecological and environmental resources. An audience member asked the panel to identify the major road blocks to improved management of water and environmental resources which resulted in a very productive concluding discussion among the panelists. The panel agreed that it is vitally important that cabinet level appointees must have strong background in water and environmental issues as well as good management experience. Furthermore, the next Governor must have trust in and list to his/her subject matter experts in order to develop and enforce thoughtful, effective and consistent policies and also to limit the influence of special interests. Finally it was noted by Mr. Verhines that NM has developed a water culture based on scarcity and conflict. In order to solve our water and environmental problems we need to move towards a culture of collaboration, planning, and resolution.

Summary of Suggestions and Recommendations

This section presents a summary of the suggestions and recommendations that were made during the morning panel. Panelists were not asked to obtain agreement with other panel members. The basis for these suggestions and recommendations are presented in the preceding discussion.

- The next Administration should place an emphasis on developing policies and management strategies to deal with drought and the consequences of a warming climate.

- Appointment of qualified individuals with a strong background in water and environmental issues to lead state agencies is critically important as is retention of capable staff within the agencies. It is equally important that the next Governor involve these officials and their staff in making decisions and developing policy on water and environmental issues.
- The state needs to provide financial assistance to small communities to help meet their water and wastewater infrastructure needs. This might include assistance to low income residents to help with water and sewer connection costs.
- State funding programs for capital projects needs to be revised to allow funding of large multi-year projects and to include a prioritization process to direct funds towards projects which provide the greatest benefit.
- State water planning should be based on a clearly articulated set of objectives to provide direction and guidance in development of the plans. The plans should place more emphasis on implementation with the possible inclusion of incentives to meet implementation schedules.
- Clarification of the responsibilities of the OSE and the ISC needs to be achieved. This may require legislative attention. Appointment of well qualified individuals to this commission and others such as the WQCC and EIB is necessary to ensure its good function.
- The next Administration should develop strong institutional relationships with federal water and environmental management agencies in order to work together on NM water problems and to take advantage of federal funding opportunities that may be available.
- The next Governor should consider appointing a qualified high level staff person to serve as a liaison with his/her resource management departments to facilitate communication with the Governor's office and coordination between departments.

Session 4 – Closing Remarks

The final session of the conference consisted of a presentation by Mike Connor who has had a long and distinguished career in federal government, most recently as former Deputy Secretary of the Department of Interior. Mr. Connor began his presentation by citing the recent book titled One Hundred Years of Water Wars in New Mexico, 1912 – 2012⁵ to support his suggestion that managing water in the west is primarily about managing conflict. Accepting this premise leads to the recognition of the importance of a collaborative approach to manage the challenges and limit conflicts. Mr. Connor suggested that there are five things our next leaders need to know about water and environmental problems in NM.

Beyond its borders, NM water issues do not capture anyone's attention. As an example, Mr. Connor cited the recent \$1.4 B budget for 2018 that Congress provided the US Bureau of Reclamation. Of this total, Reclamation provided over \$130 M to address urgent drought needs

⁵ C.T. Ortega Klett (ed.) (2012), pub. by NM Water Resources Research Institute, Las Cruces, NM

yet NM is allocated to receive \$5 M, less than 4%, despite being the most drought stricken state in the nation in 2018. Besides making the point that no one outside NM cares about NM water problems, it also strongly underscores the recommendations by previous panelists that the next administration must develop better relationships with federal agencies and develop plans and priorities to better advocate for federal resources. And since there is little interest by politicians and senior officials beyond the state's borders, the state and its agencies must work with local governments, water utilities, irrigation districts, industry, non-governmental organizations, the public and other water users to solve their own problems.

The State should look for opportunities to engage tribes and pueblos on water issues. Uncertainties regarding the amount of water rights allocated to the tribes and pueblos greatly complicates management of this resource and there are still many unmet needs on NM reservations. Resolution of these issues, however, is lengthy, expensive, and contentious. Mr. Connor referred to action during the Obama administration as the “golden age of Indian water rights settlements” in which 12 settlements were achieved, three of which were in NM involving six of its tribes. The administration also created a federal permanent fund to support Native American water settlements. It was suggested that the next state administration should take advantage of this settlement experience and resources to seek settlement of water rights claims with other NM tribes and pueblos. Achieving settlements should be part of state and regional water planning.

New Mexico's future depends in large part on protection of its water and environmental resources. These resources are hugely important to the quality of life in NM and it is widely recognized that healthy landscapes and a high quality of life are important factors in economic development. In addition, outdoor recreation and tourism is an important and growing segment of the NM economy and depends on protecting and careful management of these resources.

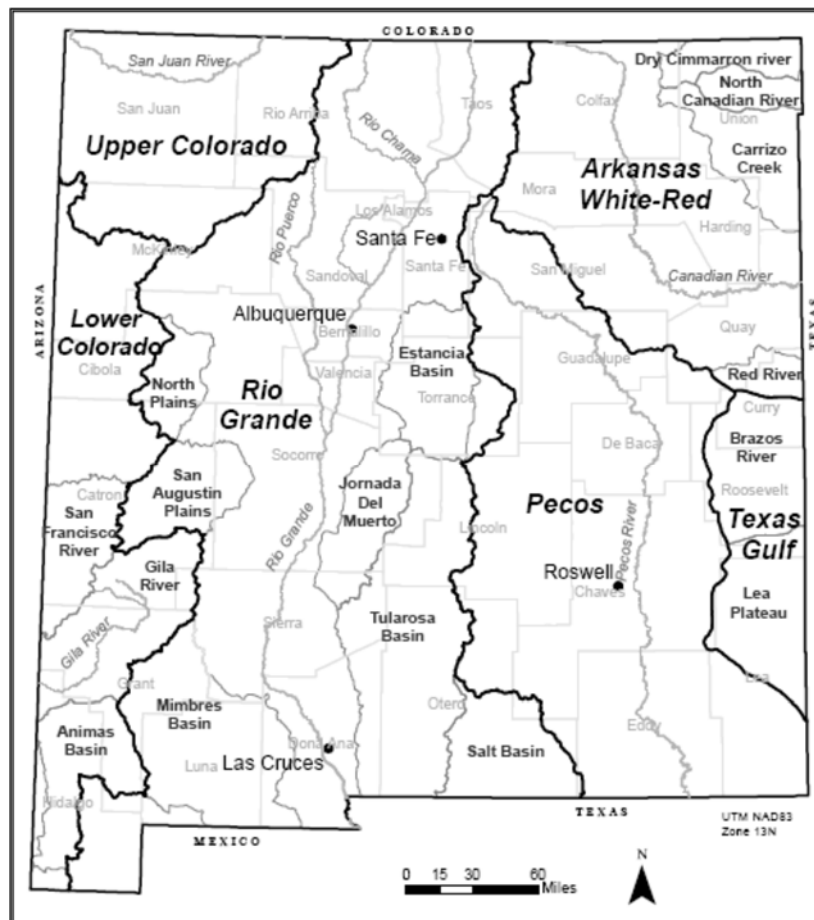
Sustainability and resilience must replace the drive for legal victories. Collaboration, cooperation and negotiated resolution of water and environmental disputes are almost always more equitable, effective, and cheaper than pursuing legal remedies. Mr. Connor identified the current lawsuit between TX and NM before the US Supreme Court as a prime example of a disagreement that should be resolved by negotiation between the two states rather than spending millions of dollars over many years seeking to have the issued settled by justices who know little about water in the west and its relationship to the states' economic, political, and cultural structure. He suggested that disputes regarding endangered species often are also candidates for local negotiated resolution rather than seeking legal remedy. In response to a question from the audience, Mr. Connor stated that he believes the Endangered Species Act is still a good and necessary law though it needs some tinkering to be more effective and appropriate to current conditions and challenges.

The next governor needs to recognize the importance of water & environmental issues and begin to address them as soon as he/she takes office. Upon taking office the next administration will face important water and environmental issues that will require immediate attention by the Governor and the state resource management agencies, particularly given current drought conditions affecting the Rio Grande and Colorado River basins. Mr. Connor also recommended that the Governor become personally involved in the TX. v. NM lawsuit to jump

start negotiations. Addressing these problems will require appointment of well qualified and informed top level administrators and that the Governor develop a close working relationship with them.

Concluding Comments

Following the end of the conference about 50 attendees including most of the speakers reconvened at a local brew pub to continue discussion of the day's topics in a less formal setting. For the conference organizers this was an opportunity to solicit feedback on the effectiveness of the approach. All who participated in this post-conference social function were very complimentary of the conference and its organization. Many participants remarked on the especially high quality of the speakers, their thoughtful presentations, and the insight they provided.



Appendix I: Speaker Biographical Information

Mike Connor

Mike Connor is a partner in the law firm of Wilmer Cutler Pickering Hale and Dorr, LLP where his practice focuses on matters involving water resources, public lands, energy development, environmental compliance, and Native American law.

Most of Mr. Connor's career has been in the public sector, holding several leadership positions at the federal level, including Deputy Secretary of the U.S. Department of the Interior from 2014 until 2017, where he was its second highest ranking official. Connor was a key leader in implementing the Administration's priorities at Interior, including initiatives related to water resources and drought resiliency, science-based strategies for landscape-level management of public lands, expanding renewable energy development, and improving the federal government's fulfillment of its trust responsibility to Native Americans. Connor also served as the Commissioner of the Bureau of Reclamation from 2009 to 2014, where he led efforts to address challenges associated with water supply and hydropower generation in the West. From 2001 until 2009, Connor served as Counsel to the U.S. Senate Energy and Natural Resources Committee and prior to that time worked at Interior in the Solicitor's Office and as Director of the Secretary's Indian Water Rights Office.

Mr. Connor received his J.D. from the University of Colorado and a Bachelor of Science degree in Chemical Engineering from New Mexico State University.

Ron Curry

Ron served as Regional Administrator for the Region VI of the Environmental Protection Agency from September 2012 until January 2017. He directed all actions for Agency for the states of New Mexico, Texas, Oklahoma, Arkansas, Louisiana and 66 federally recognized Tribes. Managed 750 employees including a scientific lab in Houston, a Border Office in El Paso and a small office in New Mexico. His office provided oversight for all states with federally delegated programs. Co-Chaired the Regional Tribal Operations Committee.

Prior to joining EPA, Mr. Curry served as Cabinet Secretary of the New Mexico Environment Department from January 2003 thru December 2010 managing the regulation of national laboratories, power companies, mining companies, the oil and gas industry and other entities that require state permits.

He has more than 36 years of management experience in local, state, federal government and the private sector. Extensive financial and budgeting work that included the management of 700 employees in state government, 1,200 employees in municipal government and 50 employees in a private company. Mr. Curry served as chairman of Rocky Mountain Low Level Radioactive Waste Board that oversees disposal of low level radioactive waste from compact member states of New Mexico, Nevada and Colorado. He is presently owner of Amplitud Partners LLC, an environmental consulting firm.

John D'Antonio

John D'Antonio is the Deputy District Engineering for the Albuquerque District of the U.S. Army Corps of Engineers. In this role he has overseen the Corps' planning initiatives, design and construction of water and infrastructure projects throughout the District, and helped establish the Corps' Tribal Nations Technical Center of Expertise. He has overseen MILCON design/construction at several Air Force bases as well as SRM and environmental work.

Mr. D'Antonio served as the Programs Director for the Corps' South Pacific Division in 2016 that provided construction for military, Veterans Affairs, and civil works projects valued at nearly \$3 billion. He also furthered the Corps' involvement in Public, Private Partnerships (P3) for existing and future projects. For the last 5 years Mr. D'Antonio served as the Corps' representative on the Western Federal Agency Support Team (WestFAST), which works in conjunction with the Western States Water Council (WSWC) to support the Western Governors Association.

Prior to joining the Corps, Mr. D'Antonio served three Governors as NM State Engineer from 2001 to 2011 and before that served briefly as Cabinet Secretary of the New Mexico Environment Department. Mr. D'Antonio is a member of the advisory boards for the UNM Department of Civil Engineering and the Center for Water and the Environment and is a licensed engineer.

Ryan Flynn

Ryan Flynn is the Executive Director of the New Mexico Oil and Gas Association. He previously served as the Cabinet Secretary of the New Mexico Environment Department and the Natural Resources Trustee for the

State of New Mexico. As Environment Secretary, Mr. Flynn brokered several key agreements with federal and state agencies, including landmark agreements with the Environmental Protection Agency, the United States Air Force and the Department of Energy. Mr. Flynn serves as a JAG in the Air Force Reserves and is the proud father of two girls, Livia and Margot.

Amy Haas

Amy Haas is the Deputy Executive Director and General Counsel for the Upper Colorado River Commission, representing the states of Colorado, New Mexico, Utah and Wyoming. Previously, Ms. Haas worked both as General Counsel and Acting Director of the New Mexico Interstate Stream Commission. From March 2015 through May 2017, Ms. Haas served as New Mexico's Upper Colorado River Commissioner and its Colorado River Basin States Representative. She began her law career in New Mexico in 2000 as an attorney in private practice concentrating on water and land use law.

Estevan López

Estevan López has over 30 years of engineering, management and policy experience including much of that time in leadership roles at federal, state and local water management agencies. He is currently a Senior Engineer with Stantec. Before joining Stantec, Mr. López served as Commissioner of the US Bureau of Reclamation from 2014-2017, as Director of the New Mexico Interstate Stream Commission from 2003-2014 and as Utility Department Director and County Manager for Santa Fe County from 1997-2003. These roles have allowed him to work on water issues of all scales with a broad array of stakeholders to help resolve local water conflicts, Indian water rights claims, interstate conflicts and even interpret international water treaties.

Hilary Tompkins

Hilary Tompkins (a member of the Navajo Nation) served in the presidentially-appointed, Senate confirmed position of Solicitor, U.S. Department of the Interior, under the Obama administration. Prior to her federal service, Ms. Tompkins was chief counsel to former Governor Bill Richardson, State of New Mexico. Ms. Tompkins has also represented Indian Tribes and Pueblos and started her career as an Honors Trial Attorney in the Environment and Natural Resources Division, U.S. Department of Justice. Currently, she is a partner with Hogan Lovells (www.hoganlovells.com) in Washington, D.C.

Tanya Trujillo

Tanya Trujillo currently works on Colorado River Basin projects for private philanthropy groups through the Colorado River Basin Sustainability Campaign. She previously served as the Executive Director of the Colorado River Board of California in Los Angeles, and before that worked with the Department of the Interior and for Senator Bingaman on the Energy and Natural Resources Committee in Washington DC. Prior to moving to DC, she served as general counsel to the New Mexico Interstate Stream Commission, and started her career as lawyer in private practice in Santa Fe, New Mexico.

Scott Verhines

Scott Verhines has over 40 years of leadership, policy and engineering experience. He built a successful engineering firm in New Mexico and has led the state in water management and policy. His career blends technical engineering skills for water resources, transportation and municipal projects with an ability to navigate policy, funding, political and social dynamics. His accomplishments include serving as the State Engineer for New Mexico from 2011 to 2014. Mr. Verhines brings to each endeavor a commitment to use innovative solutions for infrastructure challenges for clients, team members and the community. As a principal for OEI now Stantec, Mr. Verhines leads the New Mexico business center, launching Stantec's broader presence in New Mexico and managing current projects. This effort combines the local strength, knowledge and relationships of OEI with Stantec's world-class expertise and global reach, serving our clients in more creative, personalized ways.

Moderator Biographical Information

Julie Coonrod

Julie Coonrod, UNM's Graduate Dean, has been teaching water related courses in Civil Engineering for 22 years. Dr. Coonrod, an Albuquerque native, received her Bachelor's, Master's, and Doctoral degrees in Civil

Engineering from Vanderbilt, UNM, and the University of Texas at Austin. Teaching an interdisciplinary GIS class in water resources has allowed Julie to work with graduate students of many disciplines. Further, her research on the Rio Grande (restoration, flood control, evapotranspiration, climate change) was possible because of collaborations with faculty across UNM.

Deborah Dixon

Deborah Dixon has more than 37 years of professional experience in a range of leadership, project management, and design roles in private industry as a consulting engineer. She is a registered engineer and is currently President of DKD Engineering, Inc. Ms. Dixon served as Director of the New Mexico Interstate Stream Commission from March 2015 through May 2017.

Elizabeth Kistin Keller

Elizabeth Kistin Keller received her Masters and PhD working on transboundary water conflict and cooperation at Oxford University. She has taught water policy classes in the UNM Water Resources Program. She currently works as a Principal Systems Analyst at Sandia National Labs and serves as an adjunct professor in the Department of Geography and Environmental Studies and as the First Lady of the City of Albuquerque.

Conference Organizing Committee

John Fleck

John Fleck is Director of the UNM Water Resources Program and Professor of Practice in Water Policy and Governance in the UNM Department of Economics. His primary interest is in nurturing the collaborative water governance needed to adapt to scarcity in the southwestern United States as populations grow while climate change reduces water supplies.

Kerry Howe

Kerry Howe is Director, UNM Center for Water and the Environment and Professor in the Department of Civil, Construction, and Environmental Engineering. He has 30 years of experience in the water treatment industry including both consulting and academic experience. He is a registered professional engineer and board certified by the American Academy of Environmental Engineers and Scientists. He has authored more than 140 conference presentations and peer-reviewed journal articles, is the lead author of the textbook “Principles of Water Treatment,” and a co-author of the book “MWH’s Water Treatment: Principles and Design, 3rd ed.”

Adrian Oglesby

Adrian Oglesby is Director of the Utton Transboundary Resources Center which is in the UNM Law School. He has practiced water law for eighteen years and has provided legal counsel to tribes, farmers and NGO’s on water and environmental issues; represented the Interstate Stream Commission on the Pecos River; and, established the New Mexico Living Rivers Program for The Nature Conservancy.

Bruce Thomson

Bruce Thomson is Professor Emeritus & Research Professor in the UNM Department of Civil, Construction, and Environmental Engineering. From 2006 to 2013 he was Director of the UNM Water Resources Program. He has taught and conducted research in the areas of environmental engineering and water resources engineering. He is the author or co-author of more than 50 journal papers and numerous conference papers. He has served on many federal, state and local advisory panels and committees and is currently a member of the Board of Directors of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA). Dr. Thomson is one of the few licensed professional engineer in NM who knows how to use a slide rule.

Conference Sponsors

Office of the Vice President for Research

The Office of the Vice President for Research (OVPR – <http://research.unm.edu>) provides a variety of research-related services and information for UNM faculty, researchers and administrators. The OVPR serves 11 colleges in UNM’s main campus and four branch campuses. The office provides support for proposal development,

research award execution, and promotional activities to recognize research excellence and stimulate growth of UNM's research enterprise. Dr. Gabriel López is the Vice President for Research and Professor of Chemical and Biological Engineering. He is a nationally recognized researcher in biomedical engineering. He has published over 200 peer-reviewed scientific papers and book chapters, and is an inventor on 42 U.S. patents.

Center for Water and the Environment

The Center for Water and the Environment (CWE - <http://cwe.unm.edu>) in the UNM School of Engineering works to increase the participation of underrepresented minorities (URM) in science, technology, engineering and math (STEM) professions while conducting cutting-edge research into technological and engineering-based solutions to problems with water and the environment. Through collaboration with researchers in multiple disciplines, the Center's research considers the social, economic, policy, regulatory, and legal implications as well as technical solutions. Dr. Kerry Howe is the Director of the CWE and Professor in the Department of Civil Engineering.

Utton Transboundary Resources Center

The Utton Transboundary Resources Center at the UNM School of Law (<http://uttoncenter.unm.edu>) is a leader in water and natural resources policy, research, diplomacy, and community engagement in the West. Rooted in a community-based approach to addressing critical resource issues, the Utton Center conducts policy and legal research, convenes experts, fosters collaborative problem-solving and conflict resolution, and provides educational opportunities. Working across international, state, tribal, local and disciplinary boundaries—the Utton Center's mission is to advance the sustainable and equitable management of water, land, and other resources in New Mexico and across the West. Adrian Oglesby is the Director of the Utton Center.

Water Resources Program

The UNM Water Resources Program (<https://wrp.unm.edu>) is an interdisciplinary graduate program aimed at improving sustainable water management in New Mexico and the West through education and research. John Fleck is the Director of the program.

Appendix II: Conference Program

NEW MEXICO WATER: WHAT OUR NEXT LEADERS NEED TO KNOW

PROGRAM

UNM Student Union Ballroom

Thursday, May 17, 2018, 8:30 AM to 4:15 PM

(#NMWater2018)

Event Moderator: Bruce Thomson, *Professor Emeritus, UNM Civil Engineering*

7:30 AM Registration Opens

8:30 AM Opening Remarks

- Gabriel López (*UNM Vice President for Research*)

8:45 AM Water Challenges in New Mexico

- Moderator: *Julie Coonrod (Dean, UNM Office of Graduate Studies)*
- Technical Challenges: Water Supply (*Bruce Thomson, Professor Emeritus, UNM Civil Engineering*)
- Technical Challenges: Water Quality (*Kerry Howe, Director, UNM Center for Water and the Environment*)
- Legal Challenges (*Adrian Oglesby, Director, UNM Utton Transboundary Resources Center*)
- Administrative Challenges (*John Fleck, Director, UNM Water Resources Program*)
- Audience Questions and Discussion

10:00 AM Networking Break

10:15 AM New Mexico Water: The Federal Perspective

- Moderator: *Liz Kistin Keller*
- Hilary Tompkins (*Former Solicitor for Dept. of Interior & former Chief Counsel to Gov. Richardson*)
- John D'Antonio (*Current US Army Corps of Engineers & former NM State Engineer*)
- Ron Curry (*Former Regional Administrator US EPA & former Secretary, NM Environment Department*)
- Estevan López (*Former Commissioner, US Bureau of Reclamation & former Director, Interstate Stream Commission*)
- Audience Questions and Discussion



5/14/2018/b

12:00 PM **Lunch and Networking Break**

1:15 PM **New Mexico Water: The State Perspective**

- Moderator: *Deborah Dixon*
- Amy Haas (*Former Acting Director & former General Counsel, Interstate Stream Commission*)
- Tanya Trujillo (*Past Director of Colorado River Board of CA & former General Counsel, Interstate Stream Commission*)
- Ryan Flynn (*Former Secretary, NM Environment Department*)
- Scott Verhines (*Former NM State Engineer*)
- Audience Questions and Discussion

3:00 PM **Networking Break**

3:15 PM **Closing Remarks**

- Mike Connor (*Former Deputy Secretary, Department of Interior & Former Commissioner, US Bureau of Reclamation*)
- Audience Questions and Discussion

4:15 PM **Adjourn**

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