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Policy Options from the New Mexico Water Resources Research Institute's 57th Annual New Mexico Water Conference

Hard Choices: Adapting Policy and Management to Water Scarcity

Co-Hosted by New Mexico State University and United States Senator Tom Udall

Conference Report Summary

The Conference Report contains 40 recommendations developed from the conference and one day of follow up discussion involving a variety of stakeholders. Here is a summary of some of the key proposed actions to help New Mexico adapt to the ongoing drought and water supply challenges.

I. RESEARCH, DATA AND MONITORING

- **Proposed Action:** At the current pace, the Secure Water Act is behind schedule on funding. Current and future Administrations and Congresses should be continually educated on the importance of funding the Secure Water Act. This knowledge will help regions, states and localities better plan for growth and water uses when they have a better understanding of the real limits to supply.

- **Proposed Action:** Restore funding priority for federal water monitoring assets, particularly high value and low cost assets like USGS stream gauges. Maintain U.S. weather and climate satellite monitoring capabilities. To underscore the importance of monitoring assets, more research should be applied directly to how they inform management decisions and policy. Funding for the National Integrated Drought Information System (NIDIS) should be reauthorized.

II. WATER SECTOR INFRASTRUCTURE

Municipal and Regional Water Utility Infrastructure Funding

- **Proposed Action:** Encourage recognition that the federal government is unlikely to provide large grants to construct or rehabilitate water utility infrastructure in the future and encourage local utilities to budget for the long-term.

- **Proposed Action:** Federal loan programs can be used to ensure improvements in local utility practices and regional collaboration for developing sustainable systems. Without large federal grant funding, water utilities and communities will face the actual cost of their water infrastructure in the future. Utilities should also have long-term planning on rates and conservation actions when accessing federal loans or funds to reduce waste and reflect the value of water.

New Water Utility Infrastructure Technologies

- **Proposed Action:** EPA estimates leakage rates average around 14%, with some utilities experiencing significantly higher rates. The Bureau of Reclamation has an existing WaterSmart program that provides grants for system improvements and EPA is encouraging utilities to address these issues to improve sustainability.

- **Proposed Action:** At large scales, the energy and waste issues associated with desalination remain obstacles in today's environment, when compared to costs of various efficiency measures in meeting municipal needs. Long-term sustainability needs to be further discussed for landlocked operations that are mining a brackish, non-renewable aquifer. Development of modular projects that can use renewable solar or geothermal energy should continue as they are the most promising outlets for desalination development.

- **Proposed Action:** Increasing the amount of green [infrastructure], porous pavement, green roofs, and vegetation in key areas increases aquifer recharge and slows flows to levels that can be handled by the existing stormwater infrastructure, thus reducing flooding risk. At the federal level, Congress has required 20% and 10% set-asides for green infrastructure in EPA's Water State Revolving Funds in various years since 2009.

Water Supply Infrastructure

- **Proposed Action:** better manage existing dams and reservoirs in order to maximize both agricultural and environmental water needs. The two purposes are not mutually exclusive – water in the river is used for environmental purposes and it will eventually be used as agricultural water downstream; water used for agriculture (especially through flood irrigation) makes its way back to the river system where it can meet environmental needs downstream.

- **Proposed Action:** Encourage greater scrutiny from the scientific community, water planners, and the public of the large water projects that involve intra- and inter-basin transfers. Some future projects are still potentially possible in New Mexico, such as within the Arizona Water Settlement Act (AWSA) and Ute Pipeline Project. The Ute project has been funded and is proceeding. However, completion is many years away. It has local support, but ongoing concerns and issues remain. While some funding is guaranteed for the Gila River water projects, tens of millions of additional federal appropriations would be needed for a large-scale transfer project, and such funding is unlikely to be forthcoming in the near term. Any Arizona Settlement project should not move forward without cost/benefit analysis, feasibility studies, full exploration of economic need, ecological study and full consideration of all proposed alternatives for use of settlement funds and water.

III. WATER TRANSFERS AND WATER MARKETS

One of the most promising but controversial ways to better meet competing water needs in the Southwest in the context of increased drought and greater scarcity is the use of water transfers and water markets. Many rural residents are also concerned that water transfers and markets will irrevocably lead to the further erosion of sustainable, rural, agricultural communities. Since water transfers exist, albeit often in poorly operating markets,

it is worthwhile to pursue policies which can maximize their benefits of sustainability for all users while minimizing negative, irreversible impacts.

- **Proposed Action:** Promote temporary water transfers for instream flows in order to preserve agricultural water rights while maximizing the potential for transfers for environmental use. Pilot transfer programs are a logical way to develop best practices that can help to shape more permanent transfer arrangements on a voluntary basis.

- **Proposed Action:** Promote transparency and facilitation of transfers for water rights that are adjudicated. Temporary transfers are especially important where existing rights are not fully adjudicated. All water transfers must be voluntary. The state government is primarily responsible for reducing bureaucratic barriers to transactions, although the federal government can also play a role in facilitating and funding transfers in federal projects.

- **Proposed Action:** Utilize facilitated, temporary water transfers as a solution under the ESA and for Tribal water settlements, to avoid the need for more onerous "command and control" regulation to protect threatened and endangered species or to resolve other longstanding conflicts. Such transfers from irrigation districts to address the needs of listed or candidate species should include "safe harbor" type assurances, similar to voluntary Candidate Conservation Agreements with the Fish and Wildlife Service (FWS).

IV. ENVIRONMENTAL RESTORATION AND WATER QUALITY

- **Proposed Action:** Enhance collaboration between states, different agencies, and water users within basins such as the Rio Grande and Pecos River basins. Build upon and tie together existing efforts, such as the Compact Commissions, Endangered Species Collaborative, state water agencies and plans, and conservation efforts like the Rio Grande Environmental Management Program. A federally chartered program for these basins could be authorized via legislation, on a consensus basis among the state delegations. This is an ambitious effort and should start with voluntary and coordinating efforts to build trust, which is especially important in the current environment.

- **Proposed Action:** Protect federal funding for river/ecosystem restoration in the budget process. Federal funding is available for land acquisition through the Land and Water Conservation Fund (LWCF), which can include associated water rights. Other land conservation funding comes from federal agencies such as the BLM and USDA, the National Fish and Wildlife Foundation (a non-profit chartered by Congress), and a variety of other sources. Most of these organizations focus on land conservation, but for southwestern rivers in drought, more conservation resources could be focused towards water acquisition or temporary transfers for environmental flows and conservation.

V. AGRICULTURAL PRACTICES

- **Proposed Action:** Agricultural producers are good at adapting over time to new developments, including changes in water supplies and climates. Existing regulations and incentives should be re-examined to ensure that they do not needlessly encourage or subsidize such crops at the expense of others that may provide higher value.

Water is not clearly valued in a market and doing so across the agricultural, municipal, and industrial sectors could have far reaching, permanent impacts that eliminate long standing rural communities. Encouraging optimization of water management for multiple purposes and temporary water transfers within agricultural and environmental sectors is a promising alternative. This could introduce better market signals while keeping water available for agriculture and the environment, in potentially mutually beneficial arrangements.

- **Proposed Action:** Drip irrigation may be appropriate for some growers who are not receiving the necessary water for flood irrigation on the same yields. But in a "use it or lose it" water rights context, greater efficiency means more yield, and greater consumptive use. Promoters of drip irrigation must focus on where water savings from irrigation practices go, and how to implement the practices for what purpose.

- **Proposed Action:** New Mexico and irrigation systems in the West have also seen some upgrades in infrastructure to avoid leakages in ditches. Covered ditches can reduce evaporation and increase the amount of water available for irrigators, all things being equal. But, again, more efficient irrigation systems are likely to increase consumptive use but may reduce return flows. State and federal programs aimed at improving irrigation efficiencies, such as those implemented by the Natural Resources Conservation Service, should be maintained and broadened.

VI. WATER CONSERVATION

Much progress on water conservation is underway in the U.S. broadly, and in New Mexico in particular, with some success in terms of lowering per capita use of water. However, water conservation efforts need to be considered holistically for all their effects since water conservation and efficiency can be either absolute—less water used—or relative—less water used in one instance leading to equal or greater water use overall. Municipal use makes up 6% of the water use in New Mexico, so municipal conservation does not provide huge supply benefits long-term.

- **Proposed Action:** All arid municipalities should improve efficiency in order to prudently prepare for future shortages in times of drought and climate change.

VII. WATER RESOURCE PLANNING

- **Proposed Action:** Maintain federal and state reservoir capacity through operations and maintenance of aging infrastructure. Improve the effectiveness of this storage capacity by ongoing improvement of water operations, such as the recent agreement to improve water management in the Colorado River Compact. Different schedule and delivery plans will have different water losses and environmental trade-offs. If the human and environmental benefits of minimizing the losses can be realized then the overall pie can increase.

- **Proposed Action:** The federal government could sponsor initiatives that focus on revisiting the seven or eight inter-state Compacts to update them based on current understandings of water budgets and future climate projections. This is obviously a large, complex, and likely controversial undertaking. The status quo, however, is also large, complex and controversial, as the underlying reality is changing in the river basins. The Compacts were signed when the purpose of water management was to "green the desert" for agriculture, whereas now the preservation of agriculture is one goal among many others.