

Stewardship of New Mexico's Water

GOVERNOR'S BLUE RIBBON WATER TASK FORCE

Priority Recommendations for Water Stewardship in New Mexico December, 2010

The Governor's Blue Ribbon Water Task Force (BRWTF) is a volunteer citizen advisory group that advises the Governor and state agencies on issues related to water in New Mexico. BRWTF members represent diverse viewpoints on water issues from throughout the state. The Blue Ribbon Water Task Force has written this paper to share important perspectives and recommendations that reflect the consensus of this diverse group on the complex water issues affecting New Mexico.

Water is one of the most critical and far-reaching state issues that will have to be addressed by the new administration. New Mexico's rich cultural heritage, its agricultural, rural, urban and tribal ways of life, and its unique natural environment all depend on sound water stewardship. The economy of the state is also fundamentally dependent on vulnerable water supplies. Approximately one fourth of the state's gross state product relies on over-allocated surface water supplies and groundwater that in many areas is diminishing in supply and quality. Many of the most respected experts in the state believe that there will be less surface water available during the next 100 years than in the last 100 years. The challenge for the state's leadership will be to manage decreasing water resources while facing increasing demands.

Population growth and economic development will place even more demands on the state's water and energy resources. Increasing energy production to meet new demand will in turn require additional water. A 500 Megawatt coal-fired generating plant requires approximately 1.8 billion gallons of water per year to operate. Approximately 95 billion gallons of water consumption per year will be required for New Mexico to fully develop its solar thermal energy generating capacity. It is generally assumed that the increased water demand will be met through transfers from the agricultural sector, which will negatively impact the state's food security and agricultural economy. New Mexico has billions of dollars in unmet water-related needs. At the same time, the state is facing significant budgetary constraints. New Mexico must set priorities, and it must be more efficient and effective in allocating resources and in establishing the proper level of investment for important governmental functions. These functions include the administration and delivery of water.

The state and its water officials have made significant progress over the last eight years in planning for the future, dealing with adjudications, advancing Native American water rights settlements, collecting key water data, and managing water resources. Increasing state investment in technically capable state government water staff and providing agencies with the proper resources, technology and tools are critical to the state's continued progress in water management. Effective coordination among state agencies will be required to accomplish the goals outlined in the State Water Plan. State government should also build on existing successful partnerships with the national laboratories and universities to address water problems in New Mexico.

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The Governor's Blue Ribbon Water Task Force recently prepared a summary paper that identifies **seven priority recommendations** for water stewardship in New Mexico:

1. **Adopt long-term, comprehensive, and integrated planning** that recognizes the linkages between water, land use, economic development, and energy.
2. **Consult and negotiate** with Native American Tribal entities and other stakeholder groups to proactively address mutual problems and shape successful outcomes.
3. Complete the **water rights adjudication** suits currently under way and make the adjudication of all of New Mexico's basins a top priority.
4. Upgrade aging **water infrastructure** and develop **new infrastructure** projects.
5. Promote **conservation and reuse** of water to stretch scarce supplies, and remove disincentives to agricultural water conservation.
6. Promote **healthy watersheds and river ecosystems**, which provide clean water, flood control, and ground water recharge and benefit the state's economy.
7. Invest in the **technical resources** that are needed to implement these recommendations and **pursue partnerships** with the national laboratories and universities position **New Mexico as a global leader** in water, energy, and agricultural related **research and technologies**.

This white paper provides additional detail on the BRWTF's recommendations and suggested approaches for implementation.

1. Adopt long-term, comprehensive, and integrated planning that recognizes the linkages between water, land use, economic development, and energy.

The state needs to implement long-term integrated planning to address the linkages between water, land use, economic development, and energy. The availability of sustainable water supplies must be given primary consideration in the state's planning for economic development, energy, and land use.

Population growth and economic development will require additional water and energy. In turn, energy development will require water, and water development will require energy. Integrated planning for land and water use, economic development and energy development will help to optimize and protect the State's limited resources and will require the cooperation of different governmental entities, legislative changes, quality data, and financial support. To support this recommendation, the Task Force recommends implementing the following strategies:

A. Improve the quality of data used for planning and decision-making.

- Develop consistent accounting methods, rely on sound science and reliable projections, and improve the accuracy of data regarding water supply, water use, and land use in New Mexico.
- Appoint a task force to make recommendations for integrating the state's data on land use, economic development, water, and energy to enable comprehensive scenario and alternatives analysis to support decision-making.
- Partner with the universities and national laboratories to utilize their capabilities in natural resource modeling, especially modeling approaches that facilitate stakeholder involvement and help to educate policymakers and the public.

B. Strengthen interagency coordination.

- Utilize existing agencies to coordinate and strengthen collaboration on the linkages between water, land use, economic development, energy and tribal issues.
- Establish a coordinating body to ensure regular communication among state agencies about interconnected issues, plans, and decisions. Membership should include representatives from agencies concerned with economic development, infrastructure, technology, and Indian Affairs, as well as agencies directly involved with managing water, energy, and natural resources.

C. Use comprehensive, integrated planning to clarify the state's priorities for allocation of capital and trust funds, and to support requests for federal matching funds by demonstrating that New Mexico has a united vision, active collaboration, and a cohesive plan.

D. Fund, update and implement the state's sixteen regional water plans and the State Water Plan.

E. Revise land use and planning statutes and create statewide planning oversight.

- Revise land development statutes and regulations to ensure long range sustainable water supply for our existing and future communities.
- Support revisions to state planning, zoning and subdivision statutes to promote consistency of comprehensive plans with local ordinances, to direct growth, and to include analysis of the proposed water use against available supply.
- Assist local governments with plans and regulations aimed at ensuring a sustainable water supply for economic growth and land development.

2. Consult and negotiate with Native American tribal entities and other stakeholder groups to proactively address mutual problems and shape successful outcomes.

Consulting and negotiating with Native American tribal entities and other stakeholders are important for addressing mutual problems and shaping successful outcomes. Interaction with these groups should be a continuing process, and not tied only to litigation or other specific pending problems. Failure to proactively address water conflicts will be very costly to the state. For instance, the Pecos River Settlement cost state taxpayers almost \$100 million and other parties to the settlement more than \$50 million.

Tribes and pueblos need to be involved from the onset in planning and implementation of all of the recommendations in this white paper. Tribal and pueblo communities need healthy watersheds, and healthy tribal and pueblo watersheds generate benefits that extend far beyond the jurisdictional boundaries. Tribal and pueblo communities are often at the center of water rights adjudications, and have the most deficient infrastructure that could benefit the most from long term infrastructure planning. Because of these interdependencies, tribal and pueblo concerns need to be integrated into all of the recommendations rather than being addressed through additional stand-alone processes that inadvertently isolate tribal and pueblo interests.

The following action items address some of the most pressing issues related to this recommendation:

A. Secure State funding to satisfy New Mexico's fiscal obligations under the federal water rights settlements.

To resolve the Navajo San Juan, Taos and Amodt water settlements, the State of New Mexico has made a fiscal commitment exceeding \$100 million. Those funds will leverage more than \$1 billion of direct

federal investment in water infrastructure within the state. Along with resolving long standing conflicts, this infrastructure will create major short term and long term benefits for the state that will extend far beyond the specific basins in which they are located.

- B. Ensure compliance with the conditions and timeframe set in the federal settlement legislation.

The current versions of the settlement legislation require that the State of New Mexico comply with a series of conditions and timeframes that are critical for resolving these claims. Expediently funding these commitments will ensure that the settlement benchmarks are honored, encourage the federal leadership to support appropriations, and generate the promised benefits as soon as possible.

- C. Continue regular meetings with the tribes and pueblos to discuss critical water issues.

The senior leadership in the Office of the State Engineer (OSE) and the Interstate Stream Commission (ISC) have repeatedly demonstrated their commitment to addressing difficult tribal and pueblo water issues. They have made their time, and the time of their staff, available as much as possible. Even with increasing pressure on state staffing levels, this level of commitment needs to be maintained. The Tribal Collaborative Act established the mechanism for agency interaction with all of the tribes in the state and should be utilized to resolve water issues in a collaborative manner.

- D. Integrate the tribes and pueblos into the regional and statewide planning processes.

The State should support renewed and updated efforts at statewide regional planning. The previous regional water planning effort received mixed support from the tribes and pueblos. Significant apprehension and suspicion can still be detected. Even so, ways to integrate the goals and objectives of the tribes and pueblos into the statewide issues and concerns must be sought. The regional planning forums can be essential to that goal.

3. Complete the water rights adjudication suits currently underway and make the adjudication of all of New Mexico's basins a top priority.

The OSE reports that only 20% of New Mexico has been adjudicated and over 50% of the state is in active adjudication. The state must complete the water rights adjudication suits currently under way and make the adjudication of all of New Mexico's basins a top priority. This will require the state to commit funding to the OSE, to the Administrative Office of the Courts (AOC), and to the Joe Stell Ombudsman Program at the University of New Mexico Utton Center. The state should encourage non-litigious and non-confrontational processes that may include offers of judgment that reflect agreement between the state and individual water users on the defining characteristics of their water right. State staff must have access to cutting-edge technologies to collect and analyze data needed for adjudications, such as hydrographic surveys and surface and groundwater mapping.

Problems arise in protracted adjudications because information obtained at the onset of the adjudication in hydrographic surveys becomes outdated, water rights are transferred, or water right owners die. Lack of finality in the priority of water rights also creates uncertainty in their true value and affects transferability of water rights.

Action items to be addressed are:

- A. Resolve adjudication disputes between the AOC and OSE.

Adjudication has been the subject of much debate and study by the Legislature, the AOC and the OSE but the parties have not been able to agree on how best to proceed with and fund adjudications. The administration needs to take a leadership role in resolving these disputes.

B. Fund adjudications and special masters.

No single answer exists on the best way to proceed with adjudications, but everyone agrees that the adjudications must be funded. Special Masters are utilized by the stream adjudications judges to encourage settlements and move along the adjudications.

C. Fund major settlements, including Indian Water Rights Settlements.

With federal funding for the Aamodt, Taos, and Navajo settlements imminent, annual appropriations must be made to the Indian Water Rights Settlement Fund to demonstrate New Mexico's commitment to funding its share of the settlements.

D. Streamline the adjudication process and complete the general stream adjudications.

Completing all of the general stream adjudication is of statewide importance. The general stream adjudications are difficult and costly, but failing to address them will have enormous consequences. Every effort should be made to negotiate resolutions. Even without the support of the relevant federal agencies, the State should establish teams for all of the unadjudicated watersheds to determine if negotiated settlements are possible. Even if these teams do not result in immediate general stream adjudications, if they lay useful groundwork or complete the studies in just a couple of basins, that effort could result in enormous saving in the future.

4. Upgrade aging water infrastructure and develop new infrastructure projects.

New Mexico's water infrastructure requirements continue to grow, while at the same time the existing infrastructure is aging. The state needs to upgrade aging water infrastructure and develop new infrastructure projects such as water and wastewater systems, dams, and levees. Pricing and revenue strategies must be structured to cover operations, maintenance and future replacement costs to ensure that these systems will be self-sustaining. Regional approaches to water and wastewater infrastructure should be pursued where feasible. The project approval process and implementation timelines must be streamlined.

Budget constraints are overwhelming, yet the following items need to be addressed:

A. Assess, rehabilitate, and construct new agricultural water infrastructure.

Most agricultural water infrastructure in the State was completed during the early half of the 20th century. Since that time, infrastructure projects have primarily been limited to minor local improvements. No comprehensive assessment, rehabilitation, or construction of new agricultural infrastructure has occurred since that time. As the existing systems age, they become less efficient, while at the same time water supplies become reduced.

B. Rehabilitate and modernize municipal and industrial water infrastructure.

Municipal and industrial infrastructure is also aging. Improvements and expansion have taken the form of additions to the existing systems, and many of the original systems are not operating at their originally designed efficiencies. In the face of mounting pressure to find water for an ever expanding population, infrastructure improvement is "low-hanging fruit".

C. Maintain and upgrade flood control and water storage reservoirs as part of a comprehensive approach to water infrastructure.

At the time of their construction, reservoirs were constructed with an eye primarily for local needs, and with little regard for environmental considerations. In the 21st century, it will be necessary to

reconsider reservoirs and how they can supply or impact needs beyond the borders of the uses they were originally designed for. The interaction of reservoirs and their impacts on interstate water agreements will also be critical. Environmental considerations are now at the forefront of public consciousness. The Federal Endangered Species Act, which did not exist when most of these reservoirs were constructed, now influences their operation, and largely precludes the construction of new facilities. Today very large infrastructure costs are required for operation and maintenance of the state's flood control and storage reservoirs. Much of this cost has traditionally been borne by the intended users, but as the state adopts a comprehensive approach to water infrastructure, it must also be prepared to share a larger portion of the cost.

- D. Implement an interagency, unified system for prioritizing the state's water infrastructure capital improvement projects.

New Mexico needs to follow through on its recent initiative to develop and implement a systematic method for prioritizing water infrastructure capital improvement projects. The Water and Wastewater Infrastructure Development Division (WWIDD) within the New Mexico Environment Department created a uniform funding application for water and wastewater improvements for the purpose of promoting interagency coordination of water and wastewater infrastructure funding. However, the uniform application process has not been fully adopted by other agencies.

The state has lost out on federal funding due to lack of a prioritization system. The WWIDD requires communities requesting water and wastewater infrastructure funding assistance to use the Uniform Funding Application, and has used the process to assemble complete funding packages that leverage multiple funding sources, including federal funding. The New Mexico State Transportation Commission prioritizes all of its capital projects and can also serve as an example.

5. Promote conservation and reuse of water to stretch scarce water supplies, and remove disincentives to agricultural water conservation.

Conservation and reuse of scarce water are the most immediately practical techniques for stretching supply. Efforts at reducing per-capita consumption in municipal and industrial settings should continue. The state should implement effective management for New Mexico watersheds and address disincentives to water conservation in agricultural irrigation, recognizing that conservation strategies and outcomes will vary around the state. The state should install strategically placed metering and measuring equipment to quantify conservation savings. The state should develop strategies for reducing reservoir evaporation, for implementing aquifer recharge and storage, and for expanding the reuse of treated wastewater. The state should also encourage water utilities and communities to adopt incentive-based rate systems to reduce water use.

The task force makes the following recommendations:

- A. Set an example for a statewide conservation effort.

As the State's top elected official, the Governor should provide leadership on important issues. The Task Force recommends that state government demonstrate leadership by conserving water used by state agencies, and that the Governor promote conservation of water by everyone in the state.

- B. Prioritize agency focus on community water conservation.

Water conservation by communities can make a significant impact on the state's water resources. The OSE's Water Conservation Program has worked diligently with minimal resources to increase water conservation in New Mexico, primarily through education. If only one additional staff member were dedicated to the Program, it would be possible to provide assistance to individual communities,

particularly those communities with minimal resources, with evaluating conservation options and costs and in determining the most effective options given the needs and resources of that community. In addition, the office could assist the legislature in determining the most important legislative measures that could be taken so that the State maximizes conservation opportunities.

- C. Promote awareness of the need to conserve water by challenging communities and households to set specific goals to reduce water use.

There are many options for achieving water conservation at a community and household level. Some options are more effective than others either in terms of cost and/or water saved, and no one solution will be the best for all situations. A statewide challenge will require that communities and households analyze the various options to conserving water in a way that minimizes costs and optimize benefits. Examples include retrofits of water- and energy- efficient appliances and fixtures, reducing water use for landscaping, gray water or rooftop harvesting, incentives for waste water reuse (including total reuse and subdivision level waste water treatment), and green building code legislation or regulations that encourage or require water and energy efficiency.

- D. Establish a working group to develop recommendations for agricultural water conservation.

The OSE should work with the agricultural community and universities to determine what conservation measures will result in water conservation, with an agreed-upon time frame and a reporting mechanism to the Governor's office and the legislature. Agricultural water conservation remains elusive and controversial. OSE analysis has indicated that contrary to expectations, some measures may result in increased, rather than decreased, water consumption. Consensus among the affected parties should be sought prior to introducing any legislation designed to promote agricultural water conservation, such as incentives for drip or other irrigation methods or changes in crops. It is also important that the State enforce rules that already exist.

6. Promote healthy watersheds and river ecosystems, which provide clean water, flood control, and ground water recharge and benefit the state's economy.

Healthy watersheds and river ecosystems provide clean water, flood control, and ground water recharge for the state and its communities while benefiting the state's economy. State support for the Middle Rio Grande ESA Collaborative Program, the San Juan River Recovery Implementation Program, and other federal programs will leverage federal funding and technical resources for the enhancement of fish and wildlife habitat and for long-term data collection and monitoring of river ecosystem health.

The Task Force recommends the following approach for promoting healthy watersheds and ecosystems:

- A. Build on existing plans and assessments.

The state of New Mexico, with significant input from New Mexicans statewide, has developed plans with specific recommendations and strategies for promoting healthy watersheds and river ecosystems. These plans include the New Mexico Forest and Watershed Health Plan; New Mexico Non-native Phreatophyte/Watershed Management Plan; and the Comprehensive Wildlife Conservation Strategy for New Mexico. Statewide ecological assessments include the New Mexico Natural Resource Assessment and the Statewide Assessment of Hydrologic Alteration. These assessments are aimed at improving the state's understanding of ecological conditions and needs, prioritizing ecological restoration actions and developing a yardstick by which to measure success.

These plans and assessments should serve as a starting point for identifying projects to improve watershed conditions and river health.

B. Strengthen interagency coordination on ecological restoration activities and prioritize projects.

The state should establish a coordinating body and representative Advisory Group to integrate and prioritize the state's ecological restoration activities. Currently, the responsibility for the different components of a healthy watershed and river ecosystem—water supply, water quality, invasive species, and fish and wildlife—is spread and fragmented across six state agencies. The state needs to use a comprehensive and coordinated approach that prioritizes and sequences projects to maximize their benefits.

C. Promote federal legislation, policy, incentives and funding that promote healthy watersheds and river ecosystems.

The state should engage with the New Mexico congressional delegation and the Western Governors' Association Forest Health Advisory Committee to advocate for federal legislation, policies, incentives and funding for New Mexico's priority projects, and to remove federal barriers to watershed restoration. Specific federal policy changes and incentives are needed to drive forest restoration on a landscape scale, and to promote restoration of native vegetation and river ecosystems, woodlands and grasslands.

D. Leverage and coordinate local, state and federal funding, technical resources to maximize the outcome from ecological restoration activities.

New Mexico has done a poor job leveraging federal funding for ecological restoration. For example, a recent report found that New Mexico forgoes more than \$20,000,000 annually in federal and private funding because we lack the sustained state funding sources required to match these funds (*Funding Conservation for New Mexico, Providing for Future Generations*, NM Dept. Game and Fish and NM Energy and Minerals Natural Resources Dept. 2004).

E. Engage the private sector in ecological restoration and maintenance.

Promote economic development within New Mexico around ecological restoration and maintenance programs by developing tangible incentives for participation from the private sector, a trained labor force, and sustainable utilization business and markets for restoration by-products.

F. Promote awareness of the importance of watershed and river health through the school curriculums.

7. Invest in the technical resources that are needed to implement these recommendations and pursue partnerships with the private sector, the national laboratories, and the state's universities.

Successful implementation of these far-reaching strategies will require continued investment in adequate technical staff, technology, and tools. The state should pursue an aggressive research partnership agenda with the private sector, national laboratories, and universities to position New Mexico as a global leader in water, energy, and agricultural related research and technologies.

Specific suggestions include:

A. Technology transfer for development of high-tech water and energy industries in New Mexico.

The state, private sector, national laboratories and universities should partner to enhance transfer of water and energy technologies to the private sector. The first step of this endeavor would be to jointly investigate other successful models, particularly cooperation between the city of Austin and the University of Texas. The state and federal governments need to work together to address intellectual property and licensing, targeted tax incentives, and the training of a work force to keep high-tech

industry in the state. Incentives should be provided to start-ups, venture capitalists, and others necessary to the evolution of any new high-tech venture. The state should also engage with existing professional networks to assist new entrepreneurs with technology commercialization.

- B. Promote cross-pollination of expertise between the private sector, state agencies, research universities, the national laboratories, and tribal governments.

The state should seek ways to better access and develop the significant technical talent available in the private sector and at state agencies, research universities, the national laboratories, and tribal governments. Streamlined procedures and protocols are needed to allow no additional cost, temporary technical personnel exchanges between state water agencies, research universities, tribal governments, and the national laboratories. This exchange would enhance personnel development, information exchange, and technical program development.

To support a technical exchange program, the state could work with the Water Resources Research Institute to develop a technical water resource talent database that catalogs the breadth of water resource talent and specialties encompassed within the private sector, national laboratories, state water resource agencies and research universities. A state agency liaison could expedite the technical talent exchanges.

- C. Pursue mechanisms to allow state, local, and tribal governments to access the capabilities and expertise in water and energy available in the private sector and at Los Alamos and Sandia national laboratories.

New mechanisms are needed to make the capabilities and expertise of New Mexico's national laboratories more accessible to the state. One option would be for the state to seek a Memorandum of Agreement with the Department of Energy to allow national laboratory personnel to work with university and state agency programs at a competitive cost of service. A second option would be to create a public sector program modeled after the New Mexico Small Business Assistance Program.

The national laboratories have complex modeling capabilities that could help the state plan for a sustainable future. Models that include variables such as water resources availability, climate change, energy production and distribution, economic development, transportation, and agricultural production, could be used to predict the anticipated stresses on sustainable natural resource management for a variety of scenario projections for the latter half of the 21st century.

Blue Ribbon Water Task Force members welcome the opportunity to provide more information about these recommendations. Arrangements to meet with members may be made through Brian Burnett (bburnett@bhinc.com, 505-823-1000) or Lisa Henne (henne@lanl.gov, 505-667-1710).