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## NEW MEXICO WATER POLICY AND INFRASTRUCTURE TASK FORCE: A ROADMAP TO RESILIENCE

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### Introduction

In 2022, New Mexico faced what state leaders viewed as a water crisis. Reservoirs were near empty, with declining snowpacks and river flows leaving little hope that they would refill. Irrigation ditches often ran dry when crops needed water the most. Rural communities faced growing water infrastructure challenges, made worse by wildfires ravaging many headwaters communities.

But there was a convergence of opportunity as well, with renewed attention from a state political leadership that knew something needed to be done, combined with a massive infusion of federal infrastructure spending, as well as booming oil and gas revenue pumped into state government coffers.

Amid that storm, state officials in the summer of 2022 created the New Mexico Water Policy and Infrastructure Task Force. Over the following six months, the Task Force's members — a range of state agency officials and stakeholders across the breadth of New Mexico's water-using communities — tackled the tasks of first defining the problems, and then presenting a far-reaching list of legislative and executive policy recommendations to address them.

At the heart of their work was a bold premise, which emerged from the group's efforts to define its charge, and was formalized in this language from the group's charter: : "Driven by drought and climate change, New Mexico's water crisis has laid bare water policies and processes that users, practitioners, and lawmakers agree *are not meeting the 21st century needs of New Mexicans* under the stress of drought, aging infrastructure, and climate change." (Emphasis added) CITATION

The Water Policy and Infrastructure Task Force offers a case study in modernizing water governance in a state facing multiple complex challenges — a classic "wicked problem," in which there are many differing ways to define a problem, each drawn from a different community's perspective, each suggesting a different path toward action. Importantly, "wicked problems" are never solved, but rather subject to never-ending adjustments to changed circumstances and societal values and a steady stream of surprises.

Given that framework, the Task Force developed 17 specific recommendations for the legislative and executive branch of government. But perhaps equally important, the Task Force assembled and built upon a community of people with an increased understanding of one another's values and issues, an accumulation of social capital that, if it endures, could contribute in the long run to the adaptive governance of New Mexico's water.

**NM Task Force****Multifaceted Definitions****Coping and Taming****Challenges****Developing Policy****Diverse Perspectives****Wicked Problems**

Developing effective water policies requires balancing competing interests of various stakeholders — a classic “wicked problem,” or “set of wicked problems,” in which complex, multifaceted problems lack a clear solution in large part because there is no one agreed-upon definition of what the problem — or problems — actually are. Wicked problems are difficult to solve because the causes and effects are often unclear, and there is no agreement on the appropriate problem definition, which inevitably leads to differences over what approaches might count as “solutions.”

In fact, as the University of California Berkeley theorists Horst Rittel and Melvin Webber argued in the seminal 1973 paper that first defined “wicked problems,” they “are never solved.” (Rittel, Horst WJ, and Melvin M. Webber. “Dilemmas in a general theory of planning.” *Policy sciences* 4.2 (1973): 155-169. <https://doi.org/10.1007/BF01405730>). Coping and taming, rather than solving problems, has been suggested as an alternative framework for problems like New Mexico’s complex water management future, and broad multi-stakeholder processes have been suggested as one approach that can be fruitful. Emery Roe, also from Berkeley, called the challenge “making the most of mess.” Problems are never, in Roe’s view, cleaned up. Instead, we manage the mess in a way that ensures that the underlying service society needs can be reliably provided in spite of the messiness of the process. (Roe, Emery. *Making the most of mess: reliability and policy in today’s management challenges*. Duke University Press, 2013.)

New Mexico’s water challenges match up nicely with the “wicked problems” framework:

- A significant time deadline for finding a solution;
- Those seeking to solve a problem are also causing it;
- There is no central authority dedicated to finding solutions, and with the political or legal power to implement them; and
- Certain policies irrationally impede progress.

With this challenge in mind, under the direction of the state’s governor, the leadership of New Mexico state agencies with responsibility for pieces of the water management puzzle convened a task force in the summer of 2022 to identify problems and develop policy options for the state’s legislature and executive branch of government.

The range of state agencies involved is a testament to the “wickedness” of the water policy agenda: the Office of State Engineer, the Interstate Stream Commission, the New Mexico Finance Authority, the Department of Finance and Administration, the Environment Department, the Bureau of Geology and Mineral Resources, the Game and Fish Department, the Indian Affairs Department, and the Department of Agriculture.

This list includes agencies with regulatory authority, agencies with responsibility for management of on-the-ground projects, and agencies with oversight over financing. The non-state-government members of the task force drew on similar diversity, with representatives of municipal and agricultural water agencies, sovereign Tribal governments, non-governmental organizations devoted to environmental issues, and New Mexico’s traditional rural acequia irrigation communities.

The purpose was to bring together a diverse set of perspectives and expertise to develop a suite of water policy proposals that reflected the needs and interests of all stakeholders.

**Advantages of Stakeholder-Driven Task Forces:**

Stakeholder-driven task forces offer several advantages for developing water policy proposals. First, they promote collaboration and cooperation among stakeholders, which is essential for developing effective policies. By bringing together diverse perspectives, the task force can identify common ground and develop proposals that reflect the needs and interests of all stakeholders.

Second, stakeholder-driven task forces can lead to more innovative and effective policy proposals. The diverse set of perspectives and expertise that the task force brings together can lead to creative solutions that would not have been possible with a narrow group of experts.

Third, stakeholder-driven task forces help to build trust among stakeholders. Trust is essential for developing effective policies because stakeholders are more likely to support policies that they believe are fair and equitable. The task force provides a forum for stakeholders to express their concerns and work together to find solutions that are acceptable to all.

Fourth, building on the trust built among stakeholders, the New Mexico process created a network of social capital that has endured after the completion of the task force work, helping shepherd its recommendations through state legislative and executive branch governance processes.

**NM Task Force****Water Setting****New Mexico's Water Challenges**

Located in the arid southwestern United States, New Mexico is a relatively poor state, ranking 45th of the 50 US states in per capita income. Its four most populous cities are concentrated in the state's central Rio Grande corridor, along a river that stretches from its headwaters in Colorado to the borderlands of Texas and Mexico. The river is governed by an interstate compact among Colorado, New Mexico, and Texas, and a treaty between the United States and Mexico — two external legal structures that impose significant constraints on each state's water management.

Native American communities have practiced agriculture since long before colonization, many of them enduring on the same lands on which they lived when the Spanish first arrived from the south in the 1500s. In water law terms, their rights are cited as dating to “time immemorial,” a notion rooted in English common law: a “time where of the memory of man runneth not to the contrary.”

New Mexico water law is based on the doctrine of prior appropriation, but the state's ability to manage water is constrained by the reality that many of the state's most important watersheds — including the state's populous Middle Rio Grande Valley — are not adjudicated: the date, purpose, and place of use of thousands of water rights have not been formally determined or recorded. New Mexico was one of the earliest US states to explicitly statutorily recognize the connection between surface water and groundwater.

**Water Use**

New Mexico styles itself the “Chile Capital of the World” because of the famous hot peppers grown in the Rio Grande Valley, and irrigated agriculture dominates the state's human use of water, according to the New Mexico Office of State Engineer:

- Irrigated agriculture: 76.3 percent
- Municipal water supplies: 9.1 percent
- Other (mining, commercial, livestock, etc.): 14.6 percent

But while it dominates the use of water, has significant cultural importance, and is economically important in the rural areas where it is practiced, agriculture makes up less than two percent of the state's Gross Domestic Product, according to the US Department of Commerce.

**Climate Change****Climate Setting**

New Mexico is a dry state, and the struggle to build lives in the arid landscape has shaped the state's culture and communities since time immemorial. But the Task Force's work was motivated by a recognition that climate change is pushing the state toward a breaking point.

A series of immediate challenges provided the impetus and context for the Task Force:

- The state endured an unprecedented wildfire season, including the two largest wildfires in the state's recorded history, which devastated watersheds and communities across New Mexico.
- Flows in the Rio Grande, the state's most important source of surface water supply, have been below average for all but four years in the 21st century, with the river through central New Mexico at its lowest flows in recorded history. To put an exclamation point on the crisis, the river briefly dried up in the summer of 2022 through Albuquerque, the state's largest city, for the first time in four decades.
- Total water storage in the Rio Grande's major reservoirs entered the third decade of the 21st century at their lowest levels since the drought of the 1950s.

**Groundwater Decline**

Accelerated decline of many of the state's major aquifers is the result of pumping water to make up for chronic shortages of rain and snow, while adding additional demands as the state's population increases. Gaps in New Mexico's groundwater monitoring network leave communities with no clear picture of the status of the state's aquifers in many parts of the state. Several communities have seen their wells go dry, forcing them to take emergency measures such as trucking in water.

**Aging Infrastructure**

Aging water infrastructure, especially in New Mexico's smaller communities, is under increasing pressure to meet the challenges posed by the climate crisis. Decaying infrastructure and lack of community capacity to repair, replace, and manage water and wastewater systems threaten equitable access to the basic necessity of clean, safe drinking water.

Climate change is making things worse, as noted in *Climate Change in New Mexico Over the Next 50 Years: Impacts on Water Resources*, a comprehensive report prepared for the state by a team of New Mexico researchers led by the New Mexico Bureau of Geology and Mineral Resources. Dunbar, N.W., Gutzler, D.S., Pearthree, K.S., Phillips, F.M., Bauer, P.W., Allen, C.D., DuBois, D., Harvey, M.D., King, J.P., McFadden, L.D., Thomson, B.M., and Tillery, A.C., 2022, *Climate Change in New Mexico Over the Next 50 Years: Impacts on Water Resources*: New Mexico Bureau of Geology and Mineral Resources, Bulletin 164, 218 p. (Available at: <https://geoinfo.nmt.edu/publications/monographs/bulletins/164/>). Requested by Gov. Michelle Lujan Grisham, this review of the latest science literature presents a sobering picture of the probable impacts of climate change to New Mexico's water resources (page vii):

**NM Task Force**

[T]he climate will continue to warm over the next 50 years, likely without an increase in precipitation, leading to greater statewide aridity. Hydrological modeling indicates declines in both runoff and recharge going forward, amounting to 3% to 5% per decade for both quantities. Historical trends in runoff indicate significant year-to-year variability, as do trends in soil moisture and recharge. But all are generally decreasing, consistent with the results of climate models that project a drying climate. Combining the historical trends with modeling of future changes, significant decreases in runoff and recharge seem very likely.

**New Normal**

While there will be regional variability, the report suggested, all water users in the state should expect decreased water availability as a warming climate turns what were once droughts — due to end with the next wet years — into something more permanent, which scientists have begun calling “aridification.” This reflects not merely the need to adjust to a “new normal,” but rather a need to adapt to an inexorable downward trend in New Mexico’s water supplies.

The analysis nicknamed the “Leap Ahead Report” provided a critical ingredient for policymaking in complex settings — a foundation of shared understanding of the resources under discussion.

**Government Agency Setting**

The Task Force quickly converged on a core issue: the state agencies responsible for working on the problems the group hoped to address have long been starved for resources. There are too many ongoing projects to effectively oversee, too many water users to effectively monitor, and too many potential sources of contamination to effectively police.

Local agencies, especially among small communities, face similar struggles: too many small water systems dependent on volunteers; too few technical experts to provide the help to design and manage the construction of new projects; and too few resources to maintain existing infrastructure.

Many water users themselves have delayed adapting to changing circumstances, the Task Force concluded, as they recall the bounty of supplies during the “fat and happy” period of 1979-2000 and being bailed out year upon year by proactive water management of meager winter snowpacks and sporadic monsoons. But awareness is growing that these creative workarounds — which worked in the past to get the state through multi-year droughts — may be overwhelmed by climate change-driven aridification and inexorably declining water supplies. This realization is setting in and worried mindsets can lead to conflict unless trust and compromise are pursued.

The Task Force’s charge was based on the belief by the state’s water leaders that New Mexico has a once-in-a-generation chance to make transformational change in the policies and processes inherited from the 20th century — policies and processes that need serious review and reform to provide the tools necessary to rise to the task of addressing persistent drought overlain with climate change.

**Resources Needed****Task Force Process**

In its charter, the Task Force outlined the circumstances driving its work: “a generational opportunity to make major inroads toward transformational change on established water policies and processes that users, practitioners, and lawmakers all agree are not currently meeting the 21st century needs of New Mexicans under stress resulting from persistent drought, aging infrastructure, and other pressures.”

The urgent need combined with growing political attention and an influx of both federal funding and state revenue from New Mexico’s oil and gas boom combined to open a window of opportunity the Task Force sought to exploit.

The Task Force’s charge, via a self-developed charter, was to:

- Use existing scientific and policy analyses of New Mexico’s climate, hydrology, water law, and policy
- Develop consensus-based, actionable recommendations to be delivered in time to be taken up in the New Mexico legislature’s 2023 session
- Identify common barriers and root causes associated with financing infrastructure projects
- Investigate means and propose recommendations to efficiently and deliberately manage State and federal funding to prioritize, optimize, and target programs to equitably fund improvements to irrigation delivery, drinking water, stormwater, wastewater, and natural infrastructure systems, including watershed health initiatives, across the State — with an emphasis on assisting under-resourced communities
- Serve as ambassadors and subject matter experts for each region by conveying to the Water Task Force information from constituents and the public regarding priorities of interest on water and

**Transformation Change****Task Force Charter**

**NM Task Force****Membership**

infrastructure funding concerns, and by carrying information from the Water Task Force back to members' communities to support transformational change

The Task Force was chaired by Mike Hamman, who as State Engineer, runs the state's primary water agency. Membership included representatives of key state natural resources, finance, and agricultural agencies' staff including:

- Environment Department
- Energy, Minerals and Natural Resources Department
- Interstate Stream Commission
- Department of Agriculture
- Department of Game and Fish
- Indian Affairs Department
- Finance Authority
- Department of Finance and Administration

In addition, membership included appointed volunteers from across the state with knowledge and experience in all aspects of water and related infrastructure management. Member representation included: the agriculture sector; municipal and domestic water users; Tribes, Pueblos, and Nations; New Mexico's acequia communities; environmental advocates; oil and gas interests; philanthropy; and academic and research institutions.

**Legislative Involvement**

As a creation of the executive branch of state government, the Task Force by design included no formal representation by members of the New Mexico state legislature. But, recognizing legislators' keen interest, and crucial role, the Water Task Force Executive Committee invited eight legislative advisors, and one alternate, to engage in the Water Task Force process. These legislative advisors were encouraged to join in discussion at meetings, provide comment on draft recommendations and coordinate on next steps. Legislative advisors brought valuable expertise related to their communities and constituents, as well as the policy-making process.

To manage and moderate the consensus-driven stakeholder work, the state contracted with New Mexico First, a non-profit organization with a long history of town halls, forums, and other non-partisan work on a range of public issues ranging from the economy to education, natural resources, and public health.

**Thornburg Foundation**

With financial help from the Thornburg Foundation, a New Mexico-based philanthropy, the Task Force also drew on the expertise of the Utton Transboundary Resources Center, a public interest research and service group based at the University of New Mexico School of Law with a long history of natural resources policy work.

**Recommendations****Meetings**

After a series of in-person and remotely held meetings over the summer of 2022 to define the Task Force's mission, the group broke down into three subgroups to analyze and formulate recommendations in three areas:

- Community Drinking Water, Wastewater and Stormwater Capacity, Infrastructure and Finance
- Water Resources Management and Planning
- River, Aquifer, and Watershed Health

The full Task Force then reconvened in a series of late fall meetings to review the sub-groups' recommendations and finalize the details of their recommendations to Governor Michelle Lujan Grisham and the state legislature.

**Equity**

Equity in water resources management refers to the fair and just distribution of water resources among all users, without discrimination or favoritism. It involves ensuring that all individuals, communities, and stakeholders have access to sufficient and safe water for their basic needs and livelihoods, regardless of their social, economic, or cultural status.

Equity requires considering the needs and rights of different users, such as households, farmers, industries, and ecosystems, and allocating water resources in a manner that reflects their relative importance and value. It also involves recognizing and addressing historical inequalities and power imbalances that may have resulted in some groups being marginalized or excluded from decision-making processes related to water resources management. Equity also requires transparency and accountability in the management of water resources, to ensure that decisions are made in a fair and just manner, and that the benefits of water resources are distributed equitably among all users.

Having recognized that New Mexico's water problems have affected some groups more than others — for example, the inequities in access to clean water that became starkly apparent during the COVID-19

**Access to Water**

**NM Task Force****Defining  
“Water Equity”**

pandemic — the Task Force intentionally grounded its analysis and findings in the principle of “equity.” This included working as a group to clarify precisely what that term meant in the context of its charge.

The group settled on a definition developed by the US Water Alliance, in which “water equity” occurs when all communities:

- Have access to safe, clean, affordable drinking water and wastewater services;
- Share in the economic, social, and environmental benefits of water systems; and
- Are resilient in the face of floods, drought, and other climate risk.

**Core Problems**

The Task Force identified core problems in four areas:

**Water Supply:** coping with the reality of climate change impacts on the state’s already overallocated rivers and aquifers

**Identified Problems**

**Community Capacity:** massive wildfires, deep and lasting drought, and warming hammering communities — especially small, rural, and Tribal communities — that lack the resources to adapt

**State Government Capacity:** state water agencies lack of programs, technology, and resources — including the resources to take advantage of underused policies — to protect public welfare and help communities improve their resilience and equitably adapt to substantially less water

**Watersheds and Aquifers at Risk:** jeopardy for the health of New Mexico’s forests, rivers, and aquifers; jeopardy for those who depend on them and the services they provide

**Core Solutions**

The proposed solutions are clustered in five key areas:

**Capacity:** Building the ability of existing state and local entities to cope with the growing scale and complexity of our water problems

**Funding:** Increasing the amount of money available to fix the problems we know we have, including the resources needed to effectively spend the bounty of federal and state grants and loans now available

**Identified Solutions**

**Science, Data, and Planning:** Filling major gaps in the scientific understanding of New Mexico’s water writ large by investing in hydrogeologic investigations and aquifer monitoring wells, providing the basis for the regional water planning needed to adapt to a difficult future

**Community Engagement:** Drawing on the knowledge and values of those closest to the problems and potential solutions. Solutions cannot be imposed from above

**Water Conservation:** Finding and promoting ways for New Mexicans to use less water

**Findings: Problems and Solutions**

Identification of problems, and proposed legislative and executive actions to address them, emerged from three subgroups formed by Task Force members. Each group identified a motivating problem or problems and recommendations for actions in response.

**Community Drinking Water, Wastewater and Stormwater Capacity, Infrastructure and Finance  
The Problem**

The challenges of providing safe and reliable drinking water, managing wastewater, and managing stormwater, drove much of the Task Force’s work. It was a problem that many of the group’s leadership have long wrestled, and the availability of unprecedented levels of federal and state funding offered a unique opportunity, but also exposed the challenges. Money is necessary, but not sufficient, to overcome the problems facing communities lacking capacity.

- The challenges these communities face, as identified by the Task Force, are manifold:
- Aging and frequently inadequate infrastructure

**Challenges**

**NM Task Force**

- A lack of local and Tribal government capacity — technical, managerial, and financial — to operate and maintain current systems, let alone plan for their upgrade or replacement
- Needed infrastructure investments for reuse, aquifer storage and recovery, water conservation (e.g., leak reduction) and energy efficiency, which may be more acute needs for larger water systems
- A shortage of needed private sector capacity among engineering firms and others

The problem is growing, the Task Force found, even as New Mexico provides more non-federal dollars for water infrastructure problems in proportion to its population than any other state. Many critical projects go unfunded or underfunded due to factors beyond issues of local and Tribal government capacity, including:

**Addressing Capacity**

- New Mexico's process for allocating capital dollars
- Unpredictability of funding levels in any given year
- Uncertainty of amount of funds available for various purposes across multiple agencies and funding sources
- Added stress on infrastructure and water supply associated with increased drought, flooding and severe weather conditions, which may exacerbate the scale and scope of needed infrastructure improvements
- A tangle of funding programs at the state and federal levels with differing requirements and selection criteria that leave small communities lost and unable to find a way through the morass to get the help they need
- A lack of prioritization of funding by policymakers
- The challenge of coordination across state agencies, Tribal governments, and with the federal government

**Finding Solutions****Recommendations**

- Create a Water Infrastructure Projects Authority to assist small communities
- Support regional water system collaboration
- Enhance technical assistance support to small communities
- Create an emergency relief fund to help communities like those hit by fires and post-fire flooding in 2022
- Grow the water workforce

**Economies of Scale****Water Infrastructure Projects Authority**

Driven by the views of Task Force members (both within and outside state government) who have struggled with the problem for decades, the Task Force identified a key factor in this core problem. Many communities lack resources and economies of scale and need a capital investment model that encompasses the planning, project management, and execution of water infrastructure projects, services not now provided by the state departments that oversee such spending. These agencies include: the Department of Finance (DFA) and Administration, Water Trust Board, Colonias Infrastructure Fund, New Mexico Finance Authority, Environment Department, and Indian Affairs Department.

**WIPA's Goal**

Creation of a new Water Infrastructure Projects Authority (WIPA), a state government entity, would help these communities by vetting, prioritizing, funding, planning, designing, and constructing drinking water, wastewater, stormwater, irrigation, and dam infrastructure projects using a dedicated stream of state funding from severance tax bond proceeds, the Task Force found.

A goal of the new WIPA would also be to provide navigation services to help communities navigate the range of other possible funding sources and support Technical Assistance Providers that currently assist communities with these challenges.

**Small Systems****Regional Collaboration**

Collaboration among small drinking water and wastewater systems — ranging from informal to formal arrangements — can help them overcome the lack of economies of scale that larger systems take for granted, the Task Force found.

Steps to incentivize such collaboration include:

- Legislative direction that drinking water and wastewater finance programs prioritize and incentivize regional collaboration
- Creation, by NMED (New Mexico Environment Department), of a list of drinking water and wastewater systems that might benefit from some form of regionalization, to be provided to state infrastructure finance program managers

**NM Task Force****Regional Resources****Technical Assistance**

New Mexico has a network of technical assistance providers — e.g., regional Councils of Government, Southwest Environmental Finance Center, Rural Water Association, Rural Community Assistance Corporation — which help address gaps in local and Tribal capacity, including governance, planning, and certified operator training. Recurring appropriations are needed to bolster this system to ensure small local communities have the help they need.

**Financial Support****Emergency Fund**

The wildfires of 2022 and the flooding that followed exposed New Mexico’s need for a more robust way of helping communities respond to such emergencies. The Task Force concluded that establishment of an emergency fund with clear protocols and strategies to mobilize resources would help. Legislative establishment of such an emergency fund is needed, with a direction to DFA to administer the fund and coordinate with other state agencies for technical assistance in allocation of money and project oversight.

**Education****Water Workforce**

Legislation, with appropriations to support it, can help grow the water workforce to meet the demands of water and wastewater systems for certified operators, staff, and volunteers. Allowing state retirees to return to the workforce, creation of an apprenticeship program, and supporting educational programs to strengthen local water systems could all play critical roles.

**Water Resources Planning and Management****The Problem**

Drawing on research compiled in the New Mexico Bureau of Geology’s “Leap Ahead” report, the Task Force emphasized the impact of New Mexico’s changing climate as a key motivation for the group’s work. With higher temperatures resulting in greater aridity and less available water, the group found, New Mexico lacks institutional tools suited to the scale of the response needed.

**Scientific Analysis**

Like much of the Task Force’s work, the group’s analysis of the state’s water resources and planning problems was built on the foundation laid by the state’s scientists. Key findings from the scientific analysis included reservoirs, aquifers, and rivers at or near record lows, with an expectation of a further 25 percent decrease in streamflow and aquifer recharge over the next half century. The Task Force believed New Mexico must nevertheless prepare for a growing population and changing economy.

**Challenges**

Resulting challenges, the Water Resources Planning and Management subgroup found, include:

- Risk to New Mexico’s ability to comply with interstate compacts given increasing scarcity and competing demands between New Mexico and neighboring states as well as the subsequent need for significant funding for legal defense and/or settlement negotiations
- The lack of clarity of Tribal and non-Tribal water rights due to many unadjudicated stream systems and unresolved Tribal and Pueblo water right settlements
- Threats to all forms of agriculture — commercial and cultural, large and small, rural and urban, irrigated and dryland
- Threats to the water supplies that sustain municipalities and industry
- The disproportionate impact to communities both in the amount of water available during drought and times of shortage, and the socioeconomic impact of water right transfers from agriculture to other uses, particularly in rural and acequia communities. In consideration of equity and private property rights, this must be balanced with the need to move water around via water banking, transfers, and markets to adapt
- The need to augment supply regionally, through such tools as brackish groundwater desalination, wastewater reuse, and treated or recycled produced water
- The need to conserve water across sectors with investment in innovative conservation technology

**Existing Capabilities**

The group focused extensively on existing state government capabilities that are not currently being utilized, attempting to avoid the policy trap of creating new programs and authorities rather than providing the needed resources to carry out the programs and authorities already present in state law. For example, in 2019 the state legislature authorized creation of an integrated scientific platform, the New Mexico Water Data Initiative, to improve and integrate the availability of the state’s water data, making it more accessible and usable for decision makers.

Water data was one of several “underused and under-resources institutional tools” that required funding and institutional support to provide the benefits for which they were developed, including:

- An alternative to priority administration found in New Mexico’s statutorily authorized Active Water Resources Management (AWRM); voluntarily negotiated shortage sharing agreements; and other



**NM Task Force****Data Platform**

- mechanisms for water management during drought
- Aquifer recharge (AR) and aquifer storage and recovery (ASR), which are commonly used throughout the western United States, but which are underutilized in New Mexico in part because of bureaucratic roadblocks
- Wastewater reuse
- The state's Strategic Water Reserve, which allows the state to buy and hold water rights for environmental and interstate compact compliance purposes, but which is underutilized because of a lack of funding and inadequate staffing
- Equitably structured, regulated, and managed water banks and water markets

**Key Recommendations**

- Equip state agencies — especially the Office of the State Engineer (OSE), the Interstate Stream Commission (ISC), and the Environment Department (NMED) — to effectively address New Mexico's 21st Century emerging water security challenges and help New Mexicans across the state improve their water resilience and adaptation to reduced water supplies. Set targets and ensure accountability through regular reporting by agencies
- Elevate water planning, through statutory clarification of its purpose and proper funding. Empower regional and local water agencies, to set clearly identified goals for permanent and escalating reductions in water use over the coming decades
- Capitalize a new state fund needed to capture and leverage the bounty of federal funding currently available for needed state and local water infrastructure
- Support the resilience of the state's diverse agricultural communities with effective water rights administration by the Office of the State Engineer (OSE), inclusion of agricultural stakeholders in water management, and consideration of equity, conservation, and sustainability
- Advance our scientific understanding of groundwater through measuring, monitoring, and models to protect the quantity and quality of groundwater resources

**Funding, Research, Support*****River, Aquifer, and Watershed Health*****The Problem**

New Mexico's rivers, aquifers, and watersheds face unprecedented stress from a warming and drying climate, over-allocation of water rights, and human impacts on surface and groundwater quality.

The work group noted that over-allocation of surface water rights, depletion of groundwater reserves, impaired surface and groundwater quality, fire suppression, and manipulation of the land magnify New Mexico's water issues. The current conditions and anticipated stressors in coming decades imperil New Mexico's communities — including, but not limited to our agricultural communities — threaten many species and associated ecosystems, impact traditional cultural users of the river by residents, indigenous, and acequia communities, and may contribute to public health hazards.

In crafting proposed solutions, the work group focused on the state's long history of resilient community adaptation dating to the state's many Native American communities and early Spanish settlers. That history of "practicing equitable water management," the work group argued, "serves as a model for all levels of governance." The group highlighted an important commitment that provided one of the key foundations for the Task Force's application of the principle of equity — the government-to-government relationships with indigenous Tribes, Pueblos, and Nations must continue to guide and influence how we are evolving New Mexico's water policy.

**Stressors****Key Recommendations**

- Fully fund and staff the Strategic Water Reserve and River Stewardship Program, two underutilized existing programs
- Fund New Mexico Environment Department to take over surface water quality regulation from the federal government
- Review modifications to New Mexico groundwater law to enable New Mexico to increase the resilience of the state's groundwater supplies and groundwater-dependent users
- Modernize forest management programs, both preventative and post-fire response
- Fund programs that help educate decision-makers and the public on water issues

Many of these recommendations focus on strategies that involve working with natural systems (such as natural and green infrastructure) to build New Mexico's water resilience and provide communities with equitable and sustainable access to water resources. Strategies that use natural and green infrastructure are well positioned to access federal funding.

## NM Task Force

**Green infrastructure** is an approach to water management that protects, restores, or mimics the natural water cycle. Green infrastructure incorporates both the natural environment and engineered systems to provide clean water, conserve ecosystem values and functions, and provide a wide variety of benefits to people and wildlife.

## Taking Action

### Conclusion

In the early months of 2023, positive results from the Task Force’s work had already begun to emerge. Seventeen legislative bills and memorials were introduced that were either inspired by, or directly adapted from, the Task Force’s recommendations, with another four bills indirectly related to the recommendations.

Action on the issues raised by the Task Force will be necessary to build the resilience of New Mexico’s water system in the face of climate change. But while necessary, it may not be sufficient, for two reasons.

First, the major river basins and aquifers that provide water to New Mexicans’ span state, tribal, and national boundaries. Accordingly, interstate and international negotiations and collaboration are required to ensure shared goals — including water security, food security, economic development, nature conservation, and environmental justice — are met. One of the critical pieces of successful water management is ensuring structures are in place to deal with these cross-scale linkages.

Second, the scale, scope, and speed of climate change may overwhelm government’s efforts to keep pace. More radical or fundamental changes may ultimately be needed to sustain the communities and ecosystems of the southwestern US. This is at the heart of the notion of “wicked problems.” To again cite Rittel and Webber, they “are never solved.” To that end, however, the social capital built during the Task Force process shows promise of enduring in a way that might help to provide adaptive capacity to pursue the ongoing necessary changes.

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