



Recommended State Water Strategy

July 2017

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Compiled by the Governor's Water Strategy Advisory Team

Invited by

The Honorable Gary R. Herbert

Governor, State of Utah

Facilitated by Envision Utah

Executive Summary

Utah faces a daunting challenge. We have the distinction of being both one of the driest states in the nation and one of the fastest growing. At the convergence of those two realities is the challenge of providing water for a population that is projected to nearly double by 2060 while maintaining strong farms and industries and healthy rivers, lakes, wetlands, and aquifers. This challenge is magnified by climate projections from the State Climatologist that show a significant decrease in Utah's snowpack, which presently provides more annual water storage capacity than all of Utah's human-made reservoirs combined.

In 2013, Governor Gary R. Herbert invited a group of stakeholders with extensive backgrounds in various aspects of water and with a diverse set of perspectives to form the State Water Strategy Advisory Team.¹ He tasked them to (1) solicit and evaluate potential water management strategies; (2) frame various water management options and the implications of those options for public feedback; and, (3) based on broad input, develop a set of recommended strategies and ideas to be considered as part of a 50-year water plan.

Despite the often-contentious nature of water policy debate, the Team engaged in earnest discussion and reached agreement on the set of critical issues and strategy recommendations contained in this document, that if studied and advanced will help ensure a vibrant and sustainable water future. This document represents the culmination of a collaborative four-year effort that solicited input from thousands of Utahns through public meetings, written comments, an online survey, and a random-sample poll. The result of these efforts, as published here, lays the foundation for much needed water policy dialogue and collaborative decision-making.

¹ The Team members are listed in Appendix A.

The recommendations that follow do not constitute a prescriptive plan for providing water supplies over the next 50 years; the information and data to definitively create such a plan do not currently exist. Instead, these recommendations provide strategic direction and represent common ground upon which the needed information can be gathered and future decisions can be made. In the Utah tradition of working together to solve difficult problems, the Team has volunteered countless hours to define, plan for, and ultimately achieve a shared, long-term vision. Though additional planning and implementation will be required of stakeholders and the public in years to come, the team has elevated water analysis and discourse to a new level and produced this water strategy with what is likely the broadest and most inclusive body of water expertise that has come together in the history of our state.

VISION

Our vision sees Utahns working together to solve what may be one of the most daunting problems we have ever faced: how to stretch limited water supplies to meet the needs of the estimated 6 million people expected to call Utah home by the year 2060² and to do so in a way that provides enough clean and affordable water to sustain thriving communities and businesses, robust agriculture, ample recreation, and a healthy and resilient natural environment—all in the face of wide variations in precipitation and uncertain climatic patterns. To do so, we envision using science, technology, education, public deliberation, innovative policies, and well-designed incentives to find the best ways to use water in our homes, businesses, and farms, while also protecting our natural environment. We foresee working within the prior appropriation system to refine transparent, cost-effective, and fair processes to resolve conflicts and allocate water. We anticipate new levels of cooperative effort to collect data and conduct research necessary to ensure balanced and informed decisions consistent with this vision.

SUMMARY OF RECOMMENDATIONS

A summary of key strategies follows—organized by eleven key policy questions and recommended strategies to address each question. The Advisory Team offers these recommendations with the hope that elected officials and other policymakers, water planners, state and federal agencies, nongovernmental organizations, water user groups, and the public at large will seriously study these recommendations and take concrete steps to implement them. Actively engaging the broad range of water issues and taking proactive steps based on sound science and constructive policy deliberations will secure a promising water future for ourselves and those who come after us—our children, grandchildren, and future generations.

1. What is the role of water conservation and efficiency in Utah?

- 1.1. Prioritize the efficient and sustainable use of water as a critical strategy for meeting Utah’s water needs.
- 1.2. Establish and utilize clear standards for water use measurement, tracking, and reporting.

²Of course, Utah’s population will not cease to grow after 2060. Nevertheless, the Advisory Team had to select a timeframe in which to analyze these issues. Based on current estimates, 2060 represents the year in which the current population will approximately double.

- 1.3. Establish water efficiency standards to benchmark water use and identify conservation potential.
 - 1.4. Support research on water conservation constraints and ways to overcome them.
 - 1.5. Identify intended and unintended consequences of water efficiency and conservation to ensure appropriate choice and implementation of particular strategies.
 - 1.6. Provide leadership and commitment for ongoing implementation of water conservation and efficiency strategies.
 - 1.7. Provide adequate funding and investments for effective water efficiency and conservation.
 - 1.8. Promote local, regional, and statewide water conservation planning, implementation, and evaluation.
 - 1.9. Integrate water planning and land use planning to achieve long-term water use efficiencies in urban areas.
 - 1.10. Determine and quantify the contributions that increasing water use efficiencies and conservation can make to future water supplies.
- 2. How will diverted water supplies be developed to meet competing and ever increasing demands?**
- 2.1. Utilize water conservation and improved efficiencies to optimize water supplies.
 - 2.2. Manage and restore watersheds to decrease transpiration, increase runoff, and protect water quality.
 - 2.3. Develop and beneficially use Utah's allocated share of interstate rivers.
 - 2.4. Develop other regional water supply projects for beneficial use.
 - 2.5. Increase aquifer storage and recovery.
 - 2.6. Implement water reuse.
 - 2.7. Increase capacity of existing reservoirs.
 - 2.8. Consider costs and benefits of water development.
- 3. How does Utah provide water for agricultural lands and food production in the face of competing water demands?**
- 3.1. Mandate and fund a broad stakeholder engagement process to identify, sustain, and advance the multiple values associated with agricultural water use.
 - 3.2. Combine the knowledge and cooperative foundation of mutual water companies with state agency planning to assure ongoing agricultural water management.
 - 3.3. Continue and expand efforts to preserve the productive capacity of Utah agricultural lands and water through the Legislative Water Development Commission or Executive Water Task Force.
 - 3.4. Establish basin-level councils to create benefits for farmers who help optimize regional water supplies, conserve in-stream flows, or enhance water quality.
 - 3.5. Create mechanisms that help agricultural water users contribute to improving water quantity and quality management.
 - 3.6. Enact or amend local land use regulations to enable costs to irrigation systems created by urbanization to be carried by those benefiting from the new development.
 - 3.7. Support agriculture's infrastructure, water use measurement, data, and reporting needs.
 - 3.8. Monitor the USU Extension Water Initiative and evaluate whether to modify or expand the program.
 - 3.9. Create a clearinghouse to collect, compile, and publish real-time stream gauging, snowpack, soil moisture, and reservoir monitoring and to preserve a historical database.

3.10. Establish an education center dedicated to providing information on agriculture, water, and food production.

4. What should we do to preserve natural systems in the face of increasing water demands?

- 4.1. Improve science and conservation planning and funding.
- 4.2. Expand tools to protect instream flows.
- 4.3. Facilitate creation of a state water trust to acquire rights for instream flows.
- 4.4. Study opportunities and risks of more efficient water delivery.
- 4.5. Facilitate development of environmental water markets.

5. How do we protect and sustain the quality of Utah's water?

- 5.1. Implement nutrient controls where excess nutrients pose a problem.
- 5.2. Maintain sufficient stream flows and lake levels to sustain water quality and healthy ecosystems.
- 5.3. Incentivize agricultural practices that improve water quality.
- 5.4. Collaborate on salinity controls.
- 5.5. Recognize the connectivity between surface water and groundwater and manage those resources accordingly.
- 5.6. Control invasive species.
- 5.7. Adequately fund needed drinking water and water quality infrastructure.
- 5.8. Upgrade wastewater treatment plants and improve stormwater systems.
- 5.9. Regulate water quality in ways that protect the Great Salt Lake and its ecosystem.
- 5.10. Improve monitoring and mitigation strategies for nonpoint sources associated with mining, oil, and gas industries.
- 5.11. Improve drinking water source protection plans.
- 5.12. Embrace a holistic watershed planning approach.

6. How will Utah plan for, adequately fund, and use innovative solutions to maintain, replace, and redesign existing water infrastructure and build new water infrastructure over the next 40-50 years?

- 6.1. Plan for infrastructure to support a growing population and economy and make investments consistent with best scientific, engineering, management, and accounting practices.
- 6.2. Increase returns on investments for water infrastructure through designing and funding optimization strategies that integrate across the different domains of water infrastructure.
- 6.3. Ensure that water users and uses with less financial capacity, such as rural areas, less wealthy communities, and the environment, also receive necessary infrastructure investments to secure their water futures.
- 6.4. Ensure safety, reliability, and continuing service of existing water infrastructure by financing timely rehabilitation, expansion, and redesign.
- 6.5. Utilize judicious prioritization and sequencing in approving and funding new infrastructure.
- 6.6. Implement cybersecurity and physical security measures for water infrastructure.
- 6.7. Develop a state water infrastructure financing plan to account for changing levels of federal financing and competing water needs.
- 6.8. Water providers should pursue grants, loans, bonds, public-private partnerships, and other creative funding opportunities when and where appropriate to fund new infrastructure and appropriately allocate costs to beneficiaries.

- 6.9. Implement ongoing assessments of infrastructure investment portfolios to ensure financial accountability, adaptability, and minimization of long-term financial risks.
- 6.10. Incorporate energy consumption and provision considerations into planning and financing to achieve energy efficiency in water infrastructure.

7. In what ways will weather and a changing climate impact future water supply and demand?

- 7.1. Increase coordination among the state, water districts, local governments, and climate researchers.
- 7.2. Assess vulnerabilities and develop risk management strategies developed through studies to plan for climate change impacts.
- 7.3. Identify and develop adaptation strategies.
- 7.4. Identify and plan mitigation strategies.
- 7.5. Build on scientific knowledge base of climate research through increased resources and funding to enhance planning processes.

8. How do we optimize our water resources to sustain the economy and quality of life for Utah residents?

- 8.1. Maintain and provide sustainable water supplies for existing and future economic activity.
- 8.2. Structure water-related revenues to balance social, economic, and environmental values.
- 8.3. Promote stewardship of water to support our quality of life, recreation, and preservation of the natural environment.
- 8.4. Recognize and support agriculture's role in Utah's economy.

9. What is the framework for Utah water law and policy, and how will stakeholders modernize it?

- 9.1. Give the State Engineer more direction on "public welfare."
- 9.2. Expedite and fund water rights adjudications of water basins.
- 9.3. Clarify and strengthen the State Engineer's authority in administering change applications to avoid depletion enlargement.
- 9.4. Allow the State Engineer to define water duties.
- 9.5. Facilitate temporary transfers of water.
- 9.6. Allow water right holders to subordinate water rights.
- 9.7. Review constitutional requirements that preclude cities from selling surplus water.
- 9.8. Provide regular and robust forums for stakeholder involvement in modernizing Utah water law and policy.
- 9.9. Provide increased ongoing funding and resources for Division of Water Rights activities.

10. What is the role of policymakers, both elected and appointed, at all levels of government?

- 10.1. Create ongoing learning opportunities for policymakers and residents, relying on input from a broad range of water experts and professionals, to help them design and implement effective water policies.
- 10.2. Establish mechanisms to engage the public in decision-making processes with policymakers before decisions are made.
- 10.3. Support and fund research, science, and technology to enhance understanding of and education about water issues to facilitate decision-making on the various elements of this water strategy.

- 10.4. Encourage cooperative interagency water decision making within and between Utah's Departments of Natural Resources, Environmental Quality, and Agriculture and Food, and with states that share watersheds with Utah.
- 10.5. Accelerate funding for adjudication of water rights in order to provide greater certainty and marketability of rights.
- 10.6. Provide adequate ongoing funding and staff for technical work and intergovernmental cooperation needed to quantify and settle Federal Reserved Water Rights claims.
- 10.7. Enhance legislative and public support for ongoing funding to meet Utah's water-related needs.

11. What roles will science, technology, and innovation play in addressing Utah's future water needs?

- 11.1. Conduct and assess new water conservation programs and initiatives.
- 11.2. Pilot test and demonstrate water treatment technologies and processes.
- 11.3. Explore technology's effect on agricultural water usage.
- 11.4. Improve working relationships between regulatory agencies and water providers.
- 11.5. Explore green infrastructure and greywater projects.
- 11.6. Innovate wastewater treatment and reuse projects.
- 11.7. Increase integrated water management across all sectors.
- 11.8. Improve the quality of water data collected and reported.
- 11.9. Make water data more accessible to the public.
- 11.10. Optimize water operations with automation.
- 11.11. Minimize water distribution system losses.
- 11.12. Invest financial resources in science, technology, and education.
- 11.13. Improve understanding of the geology and quantity of water in Utah.

We understand that all these recommendations cannot be implemented overnight, and we recognize that some water-related problems lie beyond the scope of this document. Even so, we believe that with focused resolve, collaboration, and careful planning, Utahns can come together to ensure we wisely manage our water resources to support thriving communities and businesses, robust local agriculture, a healthy environment, and world-class outdoor recreation.