

Living Within Utah's Water Means

Comments and Recommendations on the Draft 2026 State Water Plan

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I. Introduction

Water shapes nearly every dimension of life in Utah. It determines where and how we grow food, build communities, produce energy, attract businesses, and recreate. Healthy rivers, aquifers, wetlands, and lakes support our health, economy, wildlife, and quality of life. Poor water decisions can leave communities with declining aquifers, degraded ecosystems, greater public-health risks, and infrastructure that may be costly to build and maintain. Decisions we make about water today shape the Utah that will be inherited by people yet to be born in the coming decades.

That is why I have spent considerable time reviewing the draft 2026 State Water Plan and its appendices. I approach this work as a hydrologist and professor who has spent more than 25 years studying rivers, watersheds, floods, droughts, and ecological change, but also as an outdoor recreationalist, gardener, educator, and community member who cares deeply about this place and its future.

The plan is impressive in scope. It brings together water supply and use, future demand, water law and administration, infrastructure, watershed health, community resilience, agriculture, and basin-specific challenges. It reflects substantial work by agency staff and engagement with tribes, watershed councils, local governments, water districts, nonprofit organizations, and the public.

Utah has also made meaningful progress in recent years through investments in measurement and secondary metering, agricultural water optimization, improved integration of water and land-use planning, and better coordination among agencies.

I especially appreciate the themes guiding this plan: reliability and resilience, collaboration, and stewardship. The plan calls for decisions that reflect physical, hydrologic, legal, financial, and operational limits; better integration of water and land-use decisions; multiple benefits across ecosystems, communities, and the economy; protection of public health; and long-term stewardship of both infrastructure and natural systems. Those are the right principles.

The central question is whether the plan's recommendations consistently live up to them.

The draft itself acknowledges that most available surface water and groundwater resources have already been developed, that new supply projects are increasingly difficult and expensive, and that historical water use cannot simply be the blueprint for the future.

It concludes that adapting to modern hydrologic realities will require reducing diversions and depletions and balancing human use with a diminishing supply.

Those are consequential conclusions. As climatic, economic, ecological, and demographic pressures converge, this is not a moment for incremental adjustments around the margins. It is a time for thoughtful, visionary, and utterly pragmatic leadership on water.

My central concern is that the draft State Water Plan contains many of the facts, principles, and tools Utah needs, but stops short of organizing water policy around the central requirement of living within our hydrologic and ecological means. Its analysis is often more candid and forward-looking than its recommendations.

The deeper question we should be seeking to answer is:

How do we build a water system that meets essential human needs, supports viable farms and communities, protects public health, restores rivers and aquifers, and sustains the natural systems upon which Utah's long-term prosperity depends?

My comments and recommendations are offered as an invitation to broaden that conversation.

II. A Broader Vision for Utah's Water Future

For much of Utah's history, water planning focused on a fairly straightforward question: How can we capture, store, move, and deliver enough water to support communities, agriculture, and economic growth?

That approach helped build Utah as it is today. But we are no longer operating in an era of largely undeveloped supplies. Most available surface water and groundwater has already been developed, groundwater is declining in several areas, and large new supply projects are increasingly difficult and expensive.

A forward-looking State Water Plan must therefore ask more than how to move water more efficiently or develop additional supplies. It must ask how to create a healthier and more resilient relationship between people, water, and place.

I believe that relationship can be grounded in four practical principles.

1. Recognize the full value of water in natural systems

Water flowing through rivers, replenishing aquifers, sustaining wetlands, or reaching Great Salt Lake is not unused or wasted. It supports drinking-water supplies, agriculture, public health, wildlife, recreation, water quality, and resilience during drought. The plan itself recognizes that healthy watersheds recharge aquifers, sustain rivers and wetlands, filter pollutants, reduce erosion, and provide other essential services.

We must also be careful about what we call “water savings.” Piping a leaky canal or improving irrigation efficiency may reduce the amount withdrawn at one location, but some of that water may previously have recharged groundwater or remained available downstream. A local efficiency improvement does not always create more water for the system as a whole. Utah should evaluate projects based on how much water is actually consumed and what happens to the water that remains.

2. Pursue the greatest public return and least damaging solutions first

Utah should prioritize investments that produce the greatest overall public value with the fewest long-term costs and unintended consequences. That return should include not only water delivered or dollars generated, but also public health, agricultural viability, affordable utility rates, healthier rivers and aquifers, recreation, wildlife habitat, energy use, and resilience to future uncertainty.

Before committing the public to expensive pipelines, reservoirs, pumps, or treatment facilities, communities should seriously evaluate conservation, leakage reduction, pricing reform, water-wise development, reuse, and protection or restoration of natural infrastructure. The plan itself identifies municipal demand reduction as one of the most cost-effective ways to maintain reliable supplies and notes that conservation can delay or avoid costly infrastructure.

3. Match our legal, financial, and growth commitments to dependable wet water

Sound water planning begins with the water nature can reliably provide. Water rights and infrastructure determine how that water is allocated and delivered, but our legal, financial, and growth commitments should remain grounded in the dependable wet water available through both average and dry periods. Planning within those limits gives Utah the best chance to support thriving communities, a strong economy, viable agriculture, and healthy natural systems over the long term.

Utah should base long-term commitments on defensible estimates of dependable wet water under a range of plausible future conditions, while maintaining sufficient water to sustain rivers, aquifers, wetlands, and lakes. Where uncertainty is substantial, prudence argues for a margin of safety rather than committing every estimated acre-foot.

While this sentiment is mentioned in the draft plan, the recommendations fall short of aligning our commitments with the amount of water actually available.

4. Integrate water into the broader decisions shaping Utah’s future

Water planning should be embedded in decisions about land use, housing, transportation, energy, agriculture, public health, business recruitment, industrial siting, and economic-development incentives. These choices determine how much water Utah will need, where it will be used, what infrastructure must be built, and who bears the costs and risks.

The plan already moves meaningfully in this direction. It calls for integrating water and land-use decisions and notes that growing energy demands and water-intensive industries such as large data centers can strain local resources without coordinated planning.

Water considerations should enter those decisions early and in a robust manner. This is not about preventing growth. It is about supporting forms of prosperity Utah can sustain.

Together, these principles offer a broader way to understand water security. **Water security is not simply the ability to deliver more water to more users. It is the capacity to meet essential human needs while keeping depletion within sustainable limits and maintaining the rivers, aquifers, wetlands, soils, forests, and lakes upon which our communities and economy depend.**

Utah should be willing to learn from places that have treated water scarcity with the seriousness it demands. Seth Siegel's book *Let There Be Water* shows what becomes possible when an extremely dry place treats water security as a long-term public responsibility rather than a series of disconnected projects. Scarcity becomes more manageable when measurement, transparent accounting, pricing, infrastructure, reuse, research, public education, and long-term planning are aligned around a common purpose.

Measurement reveals where water is going. Transparent accounting distinguishes genuine savings from changes that merely move water elsewhere in the system. Thoughtful pricing can discourage waste while protecting access to essential water. Wastewater can be treated as a resource. And institutions designed to insulate technical decisions from short-term political pressure are more likely to manage water in the long-term public interest.

The state water plan is also a plan for economic health. Economic vitality cannot simply mean accommodating more growth or generating additional construction and employment. A healthy economy also depends on affordable utility rates, viable farms, clean drinking water, healthy rivers and lakes, recreation, reliable infrastructure, public health, and communities that remain livable for ordinary families.

A water investment that generates near-term economic activity but leaves future residents with higher rates, depleted aquifers, degraded ecosystems, or stranded infrastructure may diminish rather than strengthen long-term prosperity.

The draft plan's goal of supporting economic vitality within water constraints is therefore important. "Within water constraints" is not a modest qualifier. It is the physical foundation upon which every other objective rests.

III. The Plan's Analysis Is Stronger Than Its Recommendations

One of the most encouraging aspects of the draft is how clearly it recognizes many of Utah's underlying water challenges.

The plan distinguishes diversions from depletion and return flows. It recognizes that groundwater and surface water are interconnected, that natural systems perform critical hydrologic functions, that conservation can defer costly infrastructure, and that population growth does not necessarily require comparable growth in municipal water demand. It also recognizes that improved agricultural irrigation efficiency does not automatically translate into reduced consumptive use.

The supply-and-demand modeling is similarly revealing. Under the plan's "No Change" scenario, projected municipal and industrial demand could exceed estimated available supply by roughly 674,000 acre-feet in 2060. Continuing current conservation trends reduces that modeled deficit to about 128,000 acre-feet. While it's important to acknowledge uncertainty in the predictions, the larger message is important: **demand management can fundamentally change what infrastructure Utah actually needs.**

The climate discussion also deserves credit. Chapter 3 directly evaluates climate change and incorporates a moderate greenhouse-gas emissions scenario into future outdoor-demand modeling. Elsewhere in the report, long-term directional change is sometimes softened into "climate variability." Variability is real, but it is not a substitute for planning candidly around sustained warming, diminishing snowmelt, increasing evapotranspiration, and prolonged drought. Scientific terminology should not be weakened to accommodate political discomfort.

The weakness in the plan is translatable analysis into action. Too many recommendations call for continuing existing programs, expanding funding, improving coordination, conducting studies, or increasing public education. Those actions may all be worthwhile, but they fall short of what is needed, establishing the limits within which Utah intends to operate and what changes when existing commitments exceed those limits.

Better data, research, funding, and collaboration are necessary. But they are not, by themselves, a strategy. A strategy must establish priorities, confront tradeoffs, define measurable outcomes, and explain what changes when we are off course.

The recommendations below are intended to help close that gap.

IV. From Principles to Action: Key Findings and Recommendations

1. Turn basin-scale water budgets into decision tools

The draft State Water Plan makes an important advance by presenting water budgets for each of Utah's hydrologic basins and committing to continued improvements in data, modeling, and basin-level planning. The next step is to make those budgets more directly useful for decision-making. In addition to describing where water comes from and where it goes, they should help answer the question that matters most: **Are existing uses and future commitments reasonably aligned with what each basin can reliably provide while maintaining the natural systems upon which communities and economies depend?**

The answer to that question will never be known with perfect precision. Groundwater recharge, surface-water interactions, return flows, and evapotranspiration are difficult to constrain. Rather than waiting for certainty, Utah should report defensible ranges, major uncertainties, groundwater trends, depletion, return flows, and the water needed to sustain rivers, wetlands, aquifers, and terminal lakes.

Recommendation: Build on Utah’s existing basin-scale water budgets by using them to assess whether current and projected depletion is consistent with dependable water supply and the flows and water levels needed to sustain aquifers, rivers, wetlands, and terminal lakes. These assessments should report uncertainty explicitly, evaluate prolonged-drought and warming scenarios, and identify basins where existing or projected commitments create the greatest risk of exceeding dependable wet water.

2. Make water accounting transparent, uncertainty-aware, and independently reviewed

The appendices define reliable supply as the limiting combination of hydrology, infrastructure, and legal availability. Yet the current estimate of roughly 1.1 million acre-feet of “reliable” municipal and industrial supply is based primarily on water rights and infrastructure; the plan acknowledges that hydrologic constraints still need to be reconciled with those estimates.

The recent change in modeled outdoor municipal depletion deserves similar scrutiny. The Division increased its assumed depletion rate from 40% to 91% and applied the new assumption across the historical record. The appendix appropriately states that the resulting increase is a methodological change, not evidence that Utahns suddenly began using more water.

The new estimate may be better. But a change of that magnitude materially alters how depletion is attributed among sectors and therefore warrants transparent supporting data, uncertainty bounds, sensitivity testing, comparison with previous model versions, and independent technical review. An accurate estimate for outdoor water use depletion varies substantially across landscapes and conditions. A reasonable statewide average likely resides somewhere between 40% and 91%. Model estimates should therefore reflect a defensible range, rather than implying more precision than the available evidence supports.

Recommendation: Major state water models and methodological changes should be fully documented, uncertainty-aware, publicly reproducible where possible, and independently reviewed. Supply estimates should incorporate actual hydrologic constraints and multiple drought and climate scenarios before being characterized as reliable.

3. Require a broad public-value and “no-regrets” test for major investments

Utah will continue to need substantial investment in water infrastructure. But not every project that stores or moves more water provides the greatest public value.

Major investments should be evaluated for lifecycle and ratepayer costs, effects on depletion and groundwater, energy demands, public-health and ecological consequences, performance during prolonged drought, and stranded-asset risk. They should also be compared fairly against demand-management infrastructure: metering, leak detection, modern control and billing systems, and better water-use data, as well as conservation, reuse, pricing reform, water-wise land use, and natural infrastructure.

The Bear River Development project illustrates the need. The draft describes development of up to 220,000 acre-feet and says Great Salt Lake levels “would be impacted.” For a project that would substantially reduce flows from the lake’s largest tributary, the magnitude and cumulative consequences should be quantified under multiple hydrologic scenarios and compared explicitly with Great Salt Lake recovery objectives.

The proposed Lake Powell Pipeline should likewise be stress-tested against sustained low reservoir conditions, changing legal constraints, higher pumping costs, construction-cost escalation, and lower-than-forecast demand.

The evidence now warrants moving beyond continued study of Bear River Development and the Lake Powell Pipeline as they are currently envisioned. Utah should retire these projects from its long-term water portfolio and redirect the public funds reserved for their development toward investments that provide benefits today: demand-management infrastructure, repair and modernization of existing systems, water-quality protection, and projects that reduce depletion or increase water reaching Great Salt Lake.

Cloud seeding warrants similar skepticism. The plan states that cloud seeding can increase targeted snowfall by 5–15%; a statewide program should clearly disclose the evidence, uncertainty, spatial scale of demonstrated benefits, costs, and environmental risks.

The continued emphasis on the Bear River Development Project, Lake Powell Pipeline, and cloud seeding reflects an older supply-expansion mindset: when demand presses against available water, find or create more supply. In a state where most developable water is already (over-) committed and climate change is making supplies less reliable, the most financially and ecologically viable strategy moving forward is to reduce depletion, live within dependable wet water, and treat new supply as a carefully justified exception rather than the default response.

Recommendation: Utah should require a consistent public-value and no-regrets assessment before major state funding or approval of water projects, including reasonable alternatives, lifecycle costs, net depletion, environmental and public-health effects, energy use, drought performance, and stranded-asset risk.

4. Integrate water into development and economic decision-making

Utah has made progress in integrating water and land-use planning. Counties and larger municipalities are now required to include water use and preservation elements in their general plans, including assessing how development affects water demand and infrastructure and identifying ways to reduce demand in both existing and future development.

That logic should extend further. Housing patterns, industrial recruitment, data centers, power generation, transportation, agriculture, and economic-development incentives all shape future water demand. Water is already considered in many land-use and development decisions, and Utah has made important progress in integrating water planning with growth. The remaining challenge is to make that consideration more consistent and rigorous, so major commitments are robustly evaluated against dependable supply, expected depletion, drought reliability, infrastructure costs, and effects on existing users and natural systems before they are approved.

Public support for substantial new water demands should therefore require transparent assessment of dependable supply, depletion, drought reliability, infrastructure costs, pollution risks, and effects on existing users and natural systems. Communities seeking substantial state support for new supply should also demonstrate serious progress on metering, system-loss reduction, conservation pricing, and water-wise development. The plan notes that tiered pricing is a powerful conservation tool and that Utah water rates remain substantially below those of surrounding states.

Recommendation: Utah should integrate water-security review into major land-use, infrastructure, energy, industrial-siting, business-recruitment, and economic-development decisions before public incentives or major infrastructure commitments are made.

5. Reconcile paper water rights with dependable wet water while protecting agriculture

Agriculture accounts for roughly 70% of statewide human-caused depletion and is therefore central to bringing water use into balance in many stressed basins. Meaningful restoration of Great Salt Lake will likewise require agricultural participation. But farmers operate within a water-rights system, infrastructure network, and economic system they did not create on their own. Blaming producers is both unfair and counterproductive.

Farmers also deserve honesty about the physical limits of the system. Continuing to act as though every legal entitlement can be reliably satisfied does not protect agriculture. It increases the likelihood that adjustment will eventually come through declining groundwater, emergency restrictions, litigation, or abrupt and uncompensated losses.

Utah has already created important mechanisms for voluntary leasing, dedication, and sale of water for Great Salt Lake and other public purposes. But creating a market is not

the same as achieving the reductions that hydrology may require. Participation may be constrained by compensation, transaction costs, uncertainty, concern about losing future options, or other factors. Whatever the reasons, voluntary transactions should be a tool for accomplishing needed adjustment, not a substitute for determining how much adjustment is necessary.

The prudent approach is therefore to reconcile paper expectations with dependable wet water deliberately, basin by basin, and on a clear timeline, relying on voluntary and compensated approaches wherever possible while establishing clear goals and a plan for what happens if those approaches prove insufficient.

Recommendation: Utah should develop a long-term, basin-by-basin strategy for bringing water use and legal expectations into alignment with dependable wet water. Voluntary leasing, purchases, and conservation incentives should remain important tools, but the state should establish clear depletion-reduction goals, provide attractive and predictable long-term options for agricultural producers, track whether those goals are being achieved, and identify in advance what additional steps will be taken if voluntary programs prove insufficient.

These five recommendations do not require Utah to abandon the progress already underway. In many ways, they simply ask us to follow the principles already articulated in the draft plan to their logical conclusions.

V. Conclusion

Utah has a wealth of water professionals, sophisticated models, dedicated farmers, thoughtful local leaders, and people who care deeply about the future of this state. The 2026 State Water Plan demonstrates how far Utah water policy has evolved from an earlier era focused primarily on developing new supplies.

The challenge now is to act on what we know.

We know that much of Utah's dependable water is already committed. We know that groundwater and surface water cannot be managed as separate systems. We know that conservation can fundamentally alter future infrastructure needs. We know that water remaining in rivers, aquifers, wetlands, and lakes provides real public value. We know that agricultural producers need viable options rather than an eventual crisis. And we know that decisions about development, energy, industry, and land use will determine much of our future water demand.

The draft State Water Plan contains most of these insights. What it needs now is a clearer commitment to translate them into priorities, state policy action, decision rules, measurable outcomes, and accountability.

That would make this plan more than a description of Utah's water challenges and a catalogue of worthwhile programs. It could make it a genuine strategy for living well within the limits of a dry and changing place.

Utah's water future will not be secured by finding ever more ingenious ways to postpone difficult choices. It will be secured by being honest about our limits, recognizing the full value of water wherever it is doing useful work, and making disciplined investments that leave our farms, communities, economy, and natural systems more resilient for generations to come.