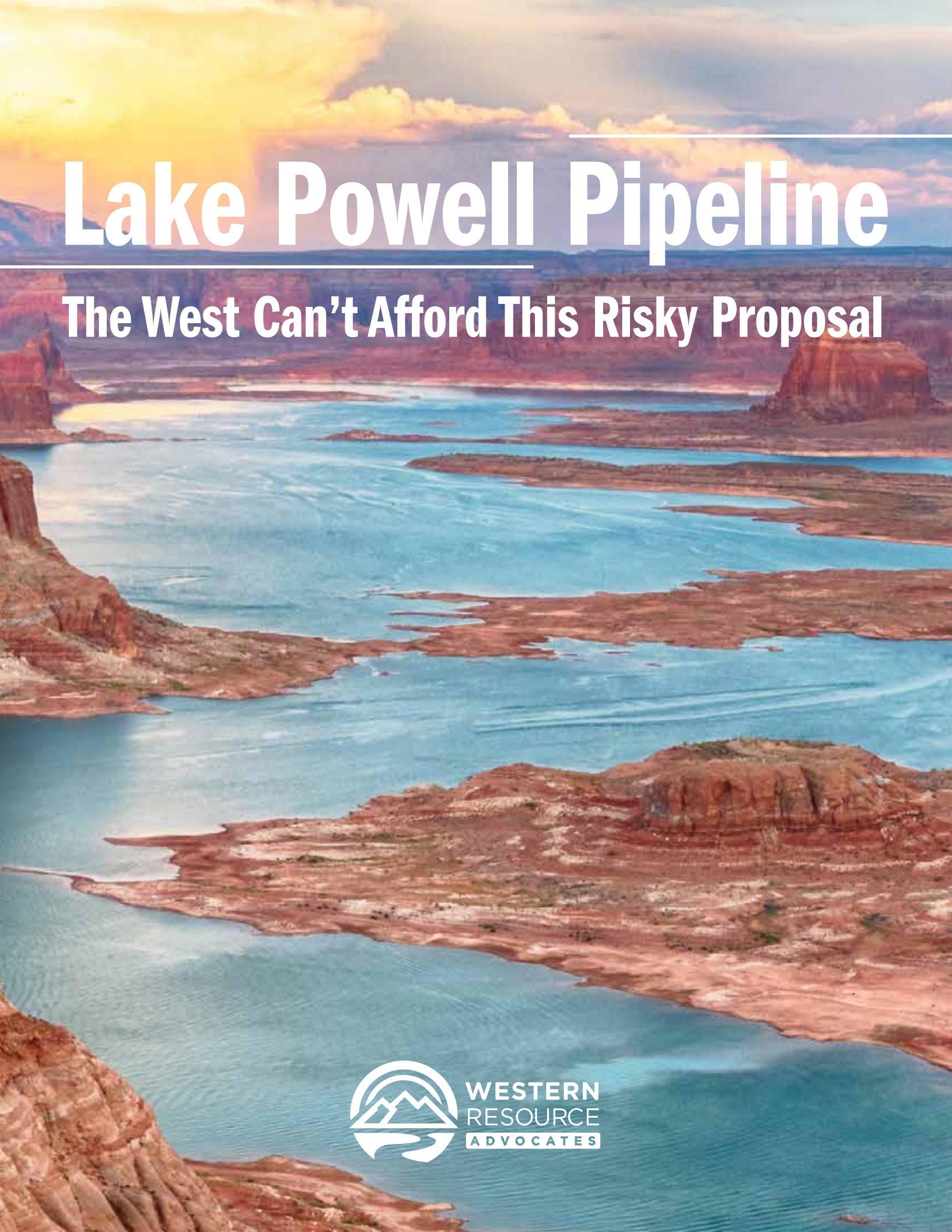


Lake Powell Pipeline

The West Can't Afford This Risky Proposal

WESTERN RESOURCE ADVOCATES

Executive Summary

The Colorado River is an iconic symbol of the American West. It is responsible for carving our region's scenic canyons, supports world-renowned wildlife, and has sustained communities for millennia. But in the face of climate change and a growing population, the river is at risk of running dry in just a few short decades. Now is the time for aggressive conservation and protection of the Colorado River.

The proposed Lake Powell Pipeline threatens to undo the important progress the seven states that share the Colorado River are making to protect this vital waterway. The pipeline represents outdated thinking of the past, the type of solution of old that underlies our problems of today. Further, the pipeline has raised numerous economic, environmental, and legal concerns, and has continued to face delays since it was proposed. As a region, we can and need to do better. The best way forward for Utah, its residents, and the entire Colorado River Basin would be to abandon the proposed pipeline and instead pursue an affordable and common-sense alternative.

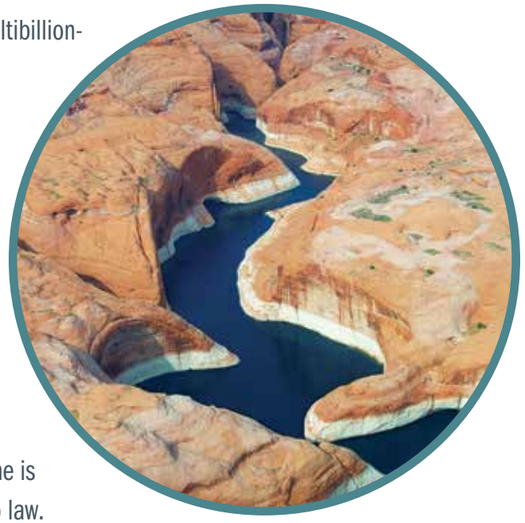
This report illustrates that Utah and the West would be better served by Utah meeting its water needs through the Local Waters Alternative 2.0 rather than building the expensive Lake Powell Pipeline. The report also briefly explains what is at stake in the Upper Basin and Lower Basin states should the pipeline move forward.

As the Local Waters Alternative 2.0 shows, Utah can meet its water needs while protecting the Colorado River. As flows in the river continue to decline and the Basin moves toward declared shortages, it is essential for Utah to join other Western states in prioritizing water conservation, reuse, and other options rather than pipelines to meet its water needs.

A dock stranded on land at Lake Powell as lake levels recede.

Lake Powell Pipeline 101

In 2006, the Utah Board of Water Resources proposed building a multibillion-dollar pipeline to carry water 140 miles from Lake Powell on the Colorado River to Washington County, and originally to Kane County, which pulled out of the proposal in 2020, in southwestern Utah. The proposal was made at the urging of local leaders who contended the pipeline was necessary to address imagined future water supply limitations. But the proposal lacked a thorough and realistic review of the areas' water supplies or likely future demands. Fifteen years later, reports by Western Resource Advocates (WRA) and critiques of the proposed pipeline by conservation groups, Indigenous communities, and the six other Colorado River Basin states continue to demonstrate that the pipeline is unnecessary, unsustainable, unreasonably expensive, and contrary to law.



Aerial view of Lake Powell and its iconic "bathtub ring" as lake levels drop.

Background

The Lake Powell Pipeline is a proposed multibillion-dollar pipeline project that would pump up to 86,000 acre-feet of water annually out of the already overstressed Colorado River to meet claimed future development needs in the desert communities in Washington County in southwest Utah. Beginning at Glen Canyon Dam on Lake Powell, the pipeline would traverse 140 miles of Utah and Arizona landscape and Native American sacred lands, climbing 2,000 feet in elevation and ending in the Sand Hollow Reservoir near St. George, Utah.

The project has faced resistance since it was first proposed because of its high cost, questionable benefits, and environmental impacts. It was delayed for a decade in a Federal Energy Regulatory Commission proceeding based on a since-abandoned notion that it would have hydropower generation benefits. Further, as WRA demonstrated through preparation of its original 2013 Local Waters Alternative (now updated as the Local Waters Alternative 2.0), construction of the pipeline is unnecessary. Washington County could meet its future water demands at a much lower cost if it adopted standard water conservation measures and other alternatives used across the Southwest.

Despite the clear issues with the pipeline, in 2020 the Trump Administration attempted to fast-track the project. It directed the U.S. Bureau of Reclamation (BOR) to hastily prepare a draft environmental impact statement (DEIS). The draft was met with massive public outcry because the BOR ignored recommendations from the Federal Energy Regulatory Commission and the Army Corps of Engineers. It also failed to even consider a lower-cost conservation-based approach to meeting future water needs, such as the original Local Waters Alternative. The BOR did not adequately consider the impact of the pipeline on dwindling Colorado River water supplies, the risks to other water users, or the impacts upon Native American tribal resources. Finally, the BOR ignored significant legal concerns under the Colorado River Compact raised by the pipeline's proposed transfer of water between the Upper and Lower Basins of the Colorado River, a transfer that cannot happen without congressional approval.

The pipeline is so contentious that in September 2020, the six other Colorado River Basin States—Arizona, California, Colorado, Nevada, New Mexico, and Wyoming—wrote a letter to the Secretary of the Interior to stop the pipeline's permitting process due to the project's "outstanding legal and operational concerns" and its high "probability of multi-year litigation."

In response to that unified opposition, Utah in September 2020 requested that the BOR temporarily withdraw the pipeline's DEIS from consideration. However, six months later Utah created a new Colorado River Authority, an entity authorized to act with limited public oversight, to attempt to move the pipeline forward. Further, in 2021, BOR announced it would be preparing a supplemental DEIS for the pipeline. BOR agreed in this supplemental DEIS to consider a "modified" Local Waters Alternative to the pipeline, but only after adding additional and unnecessary elements that would unrealistically increase the cost of such an alternative.

The Lake Powell Pipeline is unsustainable and would increase risk for other Colorado River water users

The Lake Powell Pipeline seeks to pump water that the Colorado River– the source for the pipeline– will be less and less able to provide due to reduced flows from climate change. Average flows in the Colorado River during the first two decades of the 21st century have been roughly 19% less than pre-2000 levels, and experts project that flows will decrease by as much as an additional 20% by mid-century. Those projections show that the Colorado River will not have enough water to satisfy even existing demands. That means that the pipeline in many years will not provide the water it promises.

Some Utah state and local leaders argue that the Lake Powell Pipeline is necessary to develop the state's Colorado River allocation. But the reality is that allocations in the Upper Basin states are not set in stone and will continue to decline because of climate change. If the pipeline moves forward, it could greatly complicate the multistate effort to prevent devastating shortfalls in Lake Powell and Lake Mead, putting millions of Colorado River water users at risk.

Proven, cost-effective alternatives make the Lake Powell Pipeline unnecessary

The Lake Powell Pipeline seeks to pump water to benefit communities that don't need that water. Reports by multiple experts have demonstrated that implementation of modest, widely adopted water conservation and reuse measures can easily and reliably meet the water demands of Washington County's real projected future growth. St. George in Washington County uses more than double the per capita amount of water as Albuquerque, Denver, Phoenix, and Tucson. Washington County would increase its Colorado River water usage as other communities are working to cut back on the amount they pull from the Colorado River.

A lush golf course in Washington County, UT where water use is above the national average. Wasteful water use is commonplace in Washington County, where residents use far more water per-person than other Southwestern communities who have embraced cost-effective conservation measures. Photo credit: Carl Berger Sr.

Pumping and piping this unneeded Colorado River water to Washington County would come at great cost. The DEIS for the pipeline projects the immediate construction cost as exceeding $1.9 billion, excluding interest; that could be three to four times the cost of conservation-based measures. Further, the Utah Legislative Auditor General estimated that the total cost after interest could range upwards of $4.5 billion. Utah taxpayers, including those who don't live in Washington County, will be on the hook for that multibillion-dollar debt, which could become insurmountable if projected population growth does not materialize.

Many communities across the West have shown how effective water conservation and reuse are for maintaining a high quality of life at a lower cost. Solutions that Washington County can pursue are detailed extensively in the Local Waters Alternative 2.0.

The Lake Powell Pipeline threatens tribal communities and puts culturally significant tribal resources at risk

Several proposed pipeline routes threaten to run through the Kaibab Paiute Indian Reservation or through adjacent sacred areas, as well as Kanab Creek Canyon, which is of critical importance to the Kaibab Paiute tribe for cultural, historic, and religious reasons. Further, by increasing the draw on the Colorado River, the Lake Powell Pipeline could impact the Navajo Nation's effort to develop a similar volume of water recently approved by Congress through a settlement of the Nation's water rights in Utah. Many tribal nations, including the Navajo Nation, already experience significant gaps in access to piped water, and according to a recent report, Navajo residents are 67 times more likely than other Americans to live without access to running water.[1] Building the Lake Powell Pipeline could further constrain the ability of tribal nations in Utah to develop their own, much-needed supplies.

7 Things You Need to Know About the Proposed Lake Powell Pipeline

The Lake Powell Pipeline is unnecessary, unreliable, expensive, and contrary to law. Better alternatives are available for the communities in Utah and for the health of the Colorado River.

1 RISKY
The Lake Powell Pipeline is a proposed multibillion-dollar 140-mile pipeline project that would seek to pump every year from the Colorado River up to 86,000 acre-feet of potentially unavailable water to serve exaggerated future water demands in Washington County in southwestern Utah.

2 DAMAGING
The Lake Powell Pipeline is culturally and environmentally damaging. The pipeline would disturb Native American cultural and sacred lands, compete with tribal water rights, harm riparian environments, increase the risk of Colorado River shortages, and damage environmentally sensitive desert habitat.

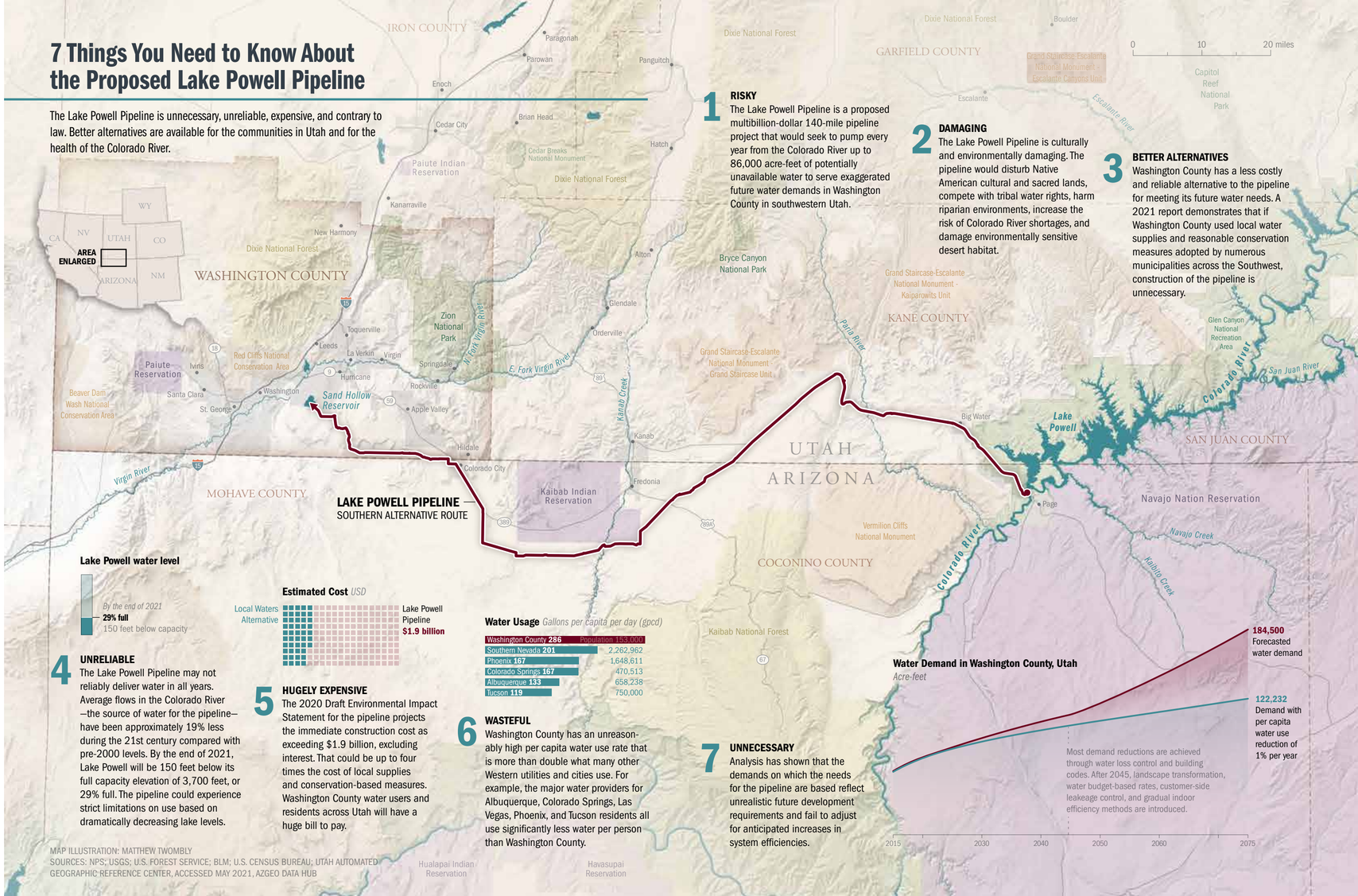
3 BETTER ALTERNATIVES
Washington County has a less costly and reliable alternative to the pipeline for meeting its future water needs. A 2021 report demonstrates that if Washington County used local water supplies and reasonable conservation measures adopted by numerous municipalities across the Southwest, construction of the pipeline is unnecessary.

4 UNRELIABLE
The Lake Powell Pipeline may not reliably deliver water in all years. Average flows in the Colorado River —the source of water for the pipeline— have been approximately 19% less during the 21st century compared with pre-2000 levels. By the end of 2021, Lake Powell will be 150 feet below its full capacity elevation of 3,700 feet, or 29% full. The pipeline could experience strict limitations on use based on dramatically decreasing lake levels.

5 HUGELY EXPENSIVE
The 2020 Draft Environmental Impact Statement for the pipeline projects the immediate construction cost as exceeding $1.9 billion, excluding interest. That could be up to four times the cost of local supplies and conservation-based measures. Washington County water users and residents across Utah will have a huge bill to pay.

6 WASTEFUL
Washington County has an unreasonably high per capita water use rate that is more than double what many other Western utilities and cities use. For example, the major water providers for Albuquerque, Colorado Springs, Las Vegas, Phoenix, and Tucson residents all use significantly less water per person than Washington County.

7 UNNECESSARY
Analysis has shown that the demands on which the needs for the pipeline are based reflect unrealistic future development requirements and fail to adjust for anticipated increases in system efficiencies.



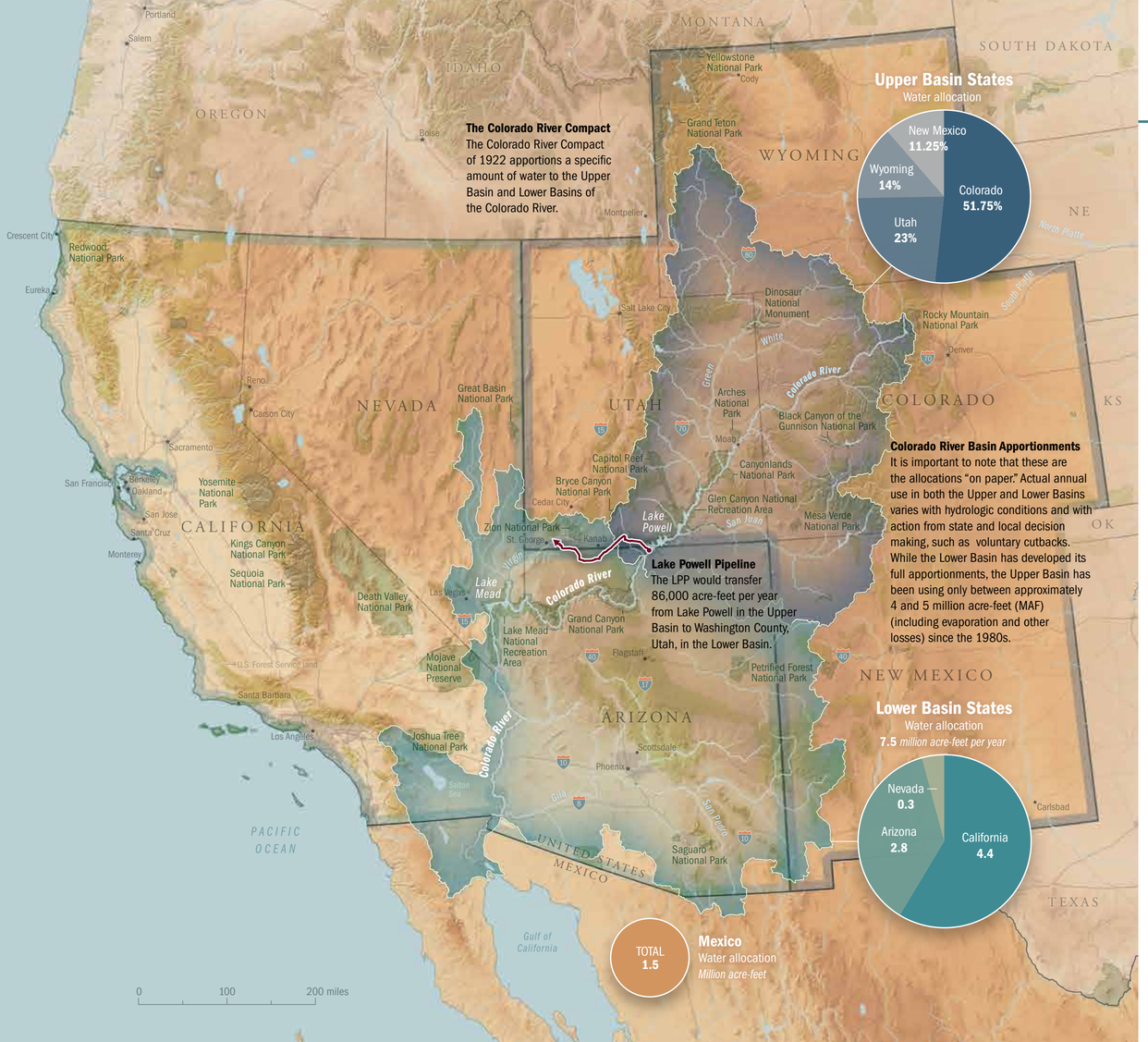
MAP ILLUSTRATION: MATTHEW TWOMBLY
SOURCES: NPS; USGS; U.S. FOREST SERVICE; BLM; U.S. CENSUS BUREAU; UTAH AUTOMATED GEOGRAPHIC REFERENCE CENTER, ACCESSED MAY 2021, AZGEO DATA HUB

The Lake Powell Pipeline Conflicts with the Colorado River Compact

The proposed multibillion-dollar 140-mile Lake Powell Pipeline would transfer 86,000 acre-feet of water from the Upper Basin of the Colorado River to the Lower Basin, as defined under the Colorado River Compact. Previously, those transfers have occurred only after congressional authorization and approval by all seven states that share the Colorado River. The proposed Lake Powell Pipeline project has neither.

In 2020, all six states that share the Colorado River with Utah opposed progress on the Lake Powell Pipeline without further discussions to address the proposed interbasin transfer, as well as other Colorado River Compact issues. Those six states successfully requested that the U.S. Bureau of Reclamation and Utah delay action on the Lake Powell Pipeline until the states had the opportunity to resolve their concerns.

Allowing the Lake Powell Pipeline to move forward without appropriate congressional authorization and Basin state approval could potentially create damaging precedent, costly legal battles under the Colorado River Compact, and great delay. It is essential to the health of the Colorado River—and to the 40 million people who rely on the river—that communities in southwestern Utah embrace a less controversial approach to meeting their needs instead of the Lake Powell Pipeline.



MAP ILLUSTRATION: MATTHEW TWOMBLY
SOURCES: NPS; USGS; U.S. FOREST SERVICE

The Local Waters Alternative 2.0: A better, more reliable, less expensive water supply option

Read the full Local Waters Alternative 2.0 report: https://westernresourceadvocates.org/local-waters-alternative-2-0/

What Is the Local Waters Alternative 2.0?

The Local Waters Alternative 2.0 is a new report prepared by esteemed engineering firm WaterDM and reviewed by multiple experts in the field of water conservation and efficiency, that compares available local water supply and demand management options in Utah's Washington County with the proposed Lake Powell Pipeline. The Local Waters Alternative 2.0 builds on initial analysis released in March 2013, which has been revised and updated since. The Local Waters Alternative 2.0 recommends the following solutions for meeting Washington County's current and future water demand without developing the Lake Powell Pipeline.

1. Optimize Virgin River Supply

Washington County draws water from the Virgin River. If fully optimized, the Virgin River combined with common-sense conservation measures can provide a more reliable, resilient, and cost-effective long-term supply option than the Lake Powell Pipeline. The Virgin River can provide a future supply of at *least* 111,000 acre-feet of drinking water and an ongoing 15,600 acre-feet of secondary water, or water that is untreated and used for outdoor residential irrigation. That additional water supply is sufficient to meet anticipated future demands as Washington County continues to grow.

The optimized local water supply portfolio recommended in the Local Waters Alternative 2.0 includes capping secondary water systems at their current size, storing excess Virgin River water in high-flow years, transferring unused irrigation water rights from the agriculture sector to the municipal sector, and further exploring and expanding aquifer storage and recovery.

2. Manage Water Demand in Washington County

A series of key measures and policies suggested in the Local Waters Alternative 2.0 would drastically reduce water demand in Washington County. Measures include:

- Strong development and landscape codes
- Integration of water efficiency throughout the development process
- Water budget-based rates
- Water loss control
- Adoption of climate-appropriate landscapes
- Incentives for low-flow toilet replacement
- Customer leak detection and monitoring

As an example, the price Utahns—particularly the highest water users—pay for their water use does not reflect the true cost. A large share of Washington County residents' water costs is paid through property taxes, which subsidizes water rates and obscures the true cost of water use. Correcting for that inaccurate price signal for high volumes of irrigation and outdoor use could help Washington County dramatically lower its water demand to be more in line with many other parts of the West and Southwestern U.S.

3. Use Realistic Demand Forecasts

The June 2020 DEIS prepared by BOR failed to include the impacts of ongoing water efficiency after 2045 and inflated secondary water demand. It forecasts a remarkably high level of system water loss that is never shown to improve over 50 years. That misleading information in the Lake Powell Pipeline DEIS results in a highly inflated and unrealistic demand forecast for Washington County. Including ongoing efficiency improvements for existing and new customers will cut Washington County's current and future per capita water demand by almost half, from 286 gallons per capita per day in 2018 to a projected future water demand of 183 gallons per capita per day.

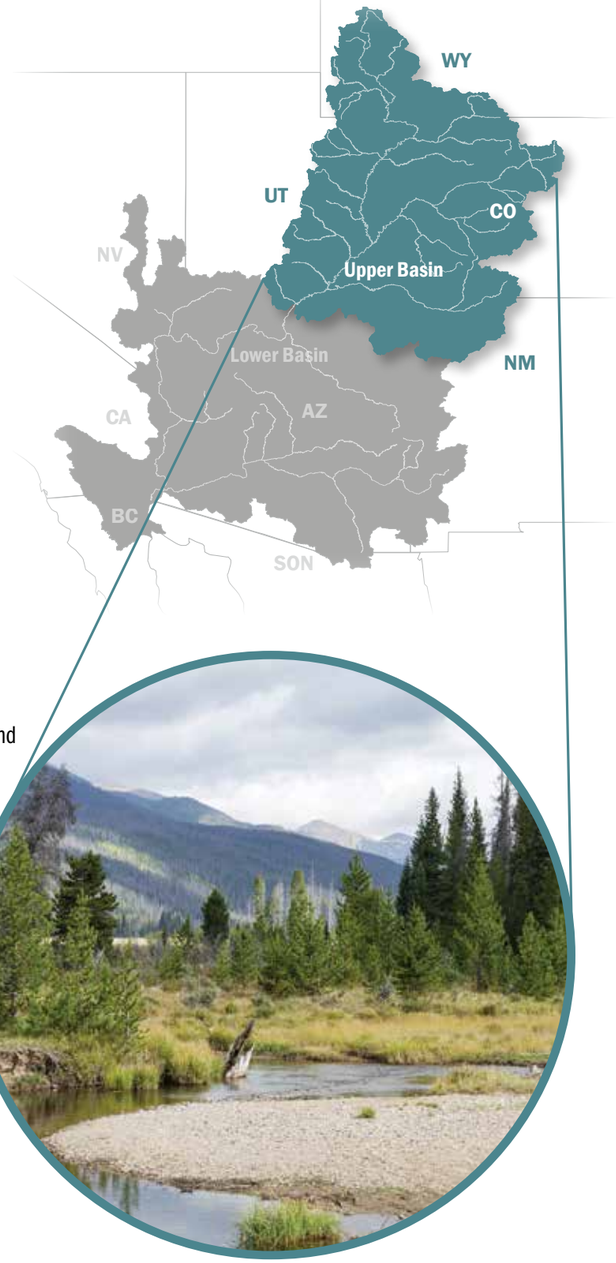
The Local Waters Alternative 2.0 Includes Reverse Osmosis Only as a Last-Resort Treatment Option.

The Local Waters Alternative 2.0 provides Washington County with a more than sufficient water supply to meet its anticipated future needs. Additional supplies likely will be unnecessary if Washington County adopts reasonable conservation measures and the Virgin River supply is optimized. If additional water supplies are needed beyond those included in the revised portfolio, the water quality may vary, depending on the source, necessitating additional treatment. However, it would not be necessary to rely upon highly saline sources that require significant treatment, such as reverse osmosis, until other available higher quality sources have been exhausted. If it were to prove necessary to rely on more saline sources, such as to provide some small portion of culinary water to Washington County residents, significant treatment would be necessary for only an incrementally small portion of the total supply.

Upper Basin

The Colorado River Compact of 1922 apportions a specific amount of water to the Upper Basin and Lower Basin of the Colorado River. However, the compact also provides that the Upper Basin states, which include Colorado, New Mexico, Utah, and Wyoming, must not deplete the flow of the river to the Lower Basin states below 75 million acre-feet during any period of 10 consecutive years.

The Upper Basin had been able to meet that "non-depletion" requirement in the past, when its water demand was lower, the river's main reservoirs were filled, and snowpack was plentiful. However, climate change, population growth, increasing demands on the river, and rapidly dropping reservoir levels mean that meeting the requirement will be increasingly difficult. Recent studies have projected that unless the Upper Basin lowers its demands on the river, meeting the compact in future years will require forced curtailment of some water uses in the Upper Basin. The Upper Basin states need to quickly get on a more sustainable path. The Lake Powell Pipeline threatens to disrupt their efforts.



Flows in the Colorado River have declined over the past twenty years and likely will continue to decline going forward. Lake Powell is one of the Colorado River's main reservoirs that assist the Upper Basin states in meeting their non-depletion requirement by storing Upper Basin water every year for delivery to the Lower Basin. The lake level is dropping rapidly amid one of the watershed's driest series of years on record. Lake Powell is currently forecast to be at 29% of capacity by the end of September 2021, the lowest level since the reservoir first started filling in 1963.

That has significant implications for the Upper Basin states. As Lake Powell levels continue to drop, the amount of water the Upper Basin has in storage to meet its non-depletion requirement also decreases. The decrease in storage thus increases the likelihood that the Upper Basin states will be subject to a "call" under the Colorado River Compact, resulting in forced curtailment of Upper Basin water uses.

Small Colorado River headwater stream in the Rocky Mountains.

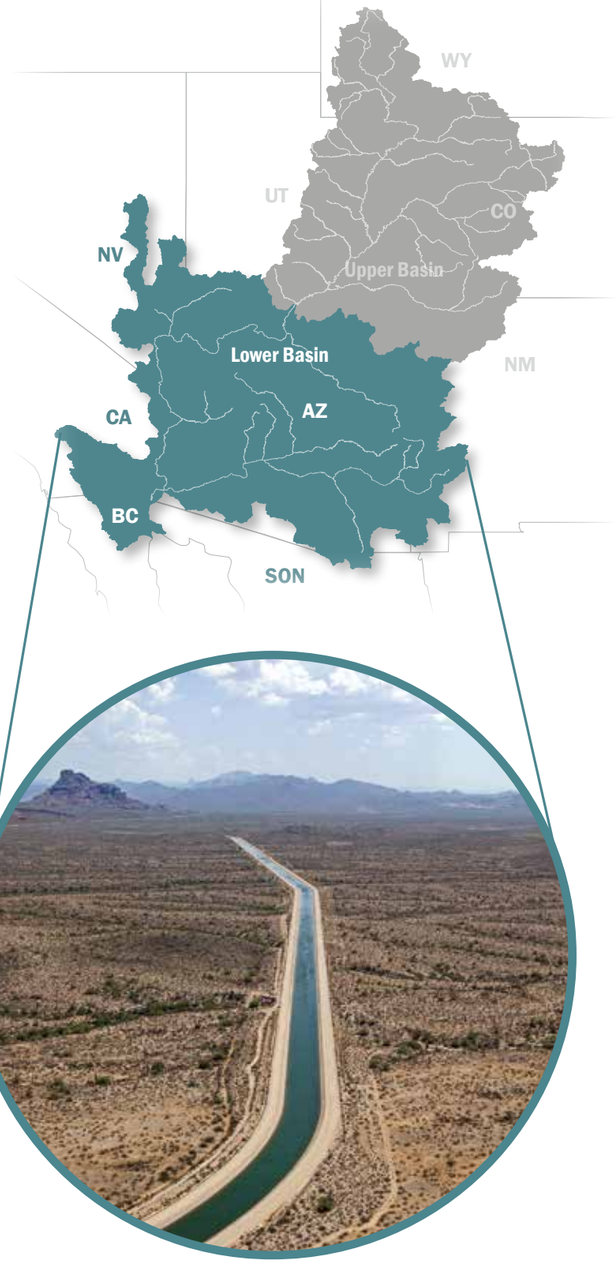
Building the Lake Powell Pipeline will cause Lake Powell water levels to drop further and increase the likelihood of forced curtailment in the Upper Basin. That would happen despite important strides made over the years to reduce water use and take less water from the river. Indeed, under a landmark Drought Contingency Plan enacted in 2019, all seven Basin states agreed to do their part to conserve water and protect the entire Colorado River system. Construction of a wasteful, unnecessary pipeline flies in the face of such thoughtful conservation efforts.

Lower Basin

The Colorado River Compact of 1922 also apportions a specific amount of water to the Lower Basin of the Colorado River, which includes Arizona, California, and Nevada. Before now, the Lower Basin has been able to use the full amount of its apportionment. Further, in many years the Lower Basin received additional water because the Upper Basin did not use its entire apportionment. However, climate change, population growth, increasing Upper Basin demands on the river, and rapidly dropping reservoir levels mean that the Lower Basin states not only may not receive additional water but may not receive their legal apportionment under the compact.

That has significant implications for the Lower Basin states. Under the 2019 Drought Contingency Plan, a Tier 1 shortage on Lake Mead automatically triggers deep cuts in water use in Arizona. The state would lose access to 512,000 acre-feet of water, which is roughly enough water for more than a million households for one year. Nevada stands to lose 21,000 acre-feet of water. If Lake Mead fell another 25 feet, into what is called a Tier 2 shortage, even further cuts would be triggered in Arizona and Nevada.

Those deeper cuts in water supplies would happen despite the Lower Basin states' important strides over the years to reduce water use and take less water from the river. The Drought Contingency Plan enables all seven Basin states to do their part to conserve water and protect the entire Colorado River system, but every state, including the states of the Upper Basin, must contribute to such conservation efforts.



Central Arizona Project canal flowing between Mesa and Fountain Hills.

Arizona

Arizona has some of the most junior water rights in the Lower Basin, following an agreement the state made with California and the federal government to build the Central Arizona Project, which brings water to major cities like Phoenix and Tucson. Because of that, Arizona is first in line to experience significant cuts to its Colorado River supplies when Lake Mead drops to certain levels. Importantly, 40% of Arizona's annual water supply comes from the Colorado River, meaning the state has a lot to lose as Lake Mead levels continue to decline.

Fortunately, Arizona has taken steps over the years to conserve and use water more efficiently. The state is using as much water today as it did decades ago, despite its population being far larger. The state also worked in 2019 to create its own intrastate Drought Contingency Plan to help prepare for cuts in water supply and share shortages among all water users while protecting communities, tribal nations, businesses, and rivers and ecosystems.

Although the state is working hard to conserve its limited water supplies and protect all water users, the Lake Powell Pipeline presents a direct threat to Arizona's efforts to secure its water future. The proposed pipeline puts Arizona ranchers and agricultural producers at particular risk. Arizona farmers in Pinal County have been the first in line in the state to experience cuts to their water supplies, and they will lose access to Colorado River water entirely in 2023 and transition to groundwater.

As states like Arizona are finding ways to conserve as much water as possible to avoid devastating cuts and extend lifelines to water users, the state of Utah is pursuing more water development through the Lake Powell Pipeline, putting Arizona residents, cities, farmers, and businesses at risk.

The Central Arizona Project, which came online in 1993, has the capacity to divert 1.4 MAF of water from the Colorado River to water users like farmers, ranchers, and cities as part of Arizona's Colorado River allocation. The Lake Powell Pipeline poses a threat to Arizona's water supply.

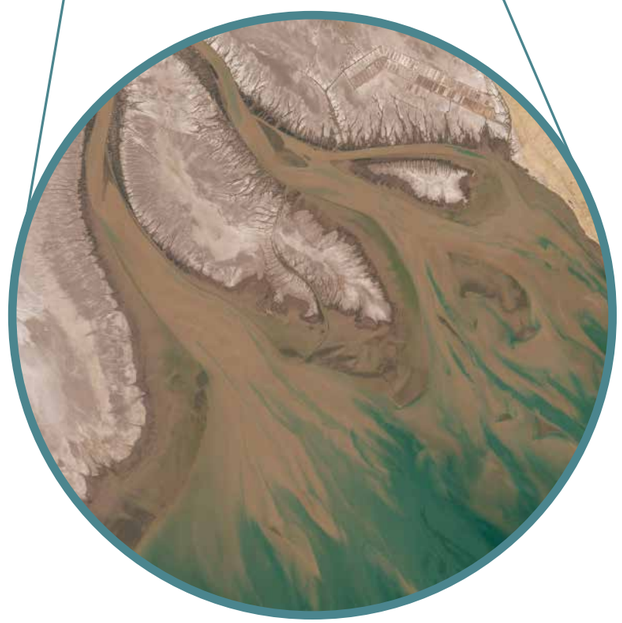
Mexico

Along with Arizona and Nevada, Mexico is one of the first to see cuts to its Colorado River water supply when Lake Mead falls to critically low levels under the U.S. and Mexico's equivalent to the Lower Basin Drought Contingency Plan, the Binational Water Scarcity Contingency Plan.

Back in 1922, author and ecologist Aldo Leopold visited the Colorado River Delta in Mexico, writing, "A verdant wall of mesquite and willow separated the channel from the thorny desert beyond." He wrote of egrets, fleets of cormorants, mallards and the "hundred green lagoons." Leopold described the river as being "everywhere and nowhere."

The Colorado River once reached its natural end point, in the Gulf of California in Mexico.

The hundred green lagoons of Leopold's experience are no more. The Colorado River no longer reaches the ocean regularly, aside from scheduled "pulse flows" that bring water to the Delta. Today the Delta looks much different from a century ago. Nearly all of the wetlands, mesquite, and willows have vanished, as has the wildlife that once frequented that oasis.[2] Additional depletions from the Colorado River proposed by the Lake Powell Pipeline will only further complicate the possibility of water reaching the Delta.



The Colorado River used to reach the Pacific Ocean at the Gulf of California, its natural end point. Outside of a designed pulse flow in 2014 released from Morelos Dam in Mexico, the river has not consistently met the sea in decades. Photo credit: NASA

Citations:

1. Universal Access to Clean Water for Tribes in the Colorado River Basin: http://www.naturalresourcespolicy.org/docs/water-tribes/wti-full-report-4.21.pdf

2. Green Lagoons No More: https://earthobservatory.nasa.gov/images/146839/green-lagoons-no-more

Learn More

Read the Local Waters Alternative 2.0 full expert report:
https://westernresourceadvocates.org/local-waters-alternative-2-0/

Explore the Lake Powell Pipeline interactive StoryMap:
https://westernresourceadvocates.org/lake-powell-pipeline-storymap

Stay up to date on the latest Lake Powell Pipeline developments:
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