

Wyo looks to store, divert more water as Lake Powell dries up

[Angus M. Thuermer Jr.](#) July 27, 2021



Lake Powell and Glen Canyon Dam. The photo from May, 2021, shows the lake's white 'bathtub ring'. (Ted Wood/The Water Desk)

As Lake Powell dropped to its lowest-ever level Friday — a decline that has forced dam tenders to unexpectedly release 125,000 acre-feet of water from Flaming Gorge Reservoir — Wyoming stood behind five projects that could divert tens of thousands more acre-feet from waterways in the troubled

Colorado River Basin.

Powell's surface elevation dipped to 3,555.09, lower by 12 hundredths of an inch than the previous post-completion nadir of April 8, 2005. The [new benchmark](#) is "probably worth noting," Wayne Pullan, the U.S. Bureau of Reclamation's Region 7 director, said in a press call Wednesday.

"The fact that we've reached this new record underscores the difficult situation that we're in," he said.

Friday's mark amounts to a 150-foot drop in the storied Utah-Arizona reservoir over 24 years, a decline that's spurred action to preserve irrigation flows, millions of dollars in hydropower revenue and myriad necessities for 40 million people in the West.

As the BOR began its "emergency" release of 125,000 acre-feet from Flaming Gorge Reservoir on July 15, a coalition of downstream water users called for a moratorium on new dams and pipelines.

"New diversions are going to increase the depth of this crisis and the impacts on the 40 million users," said Steve Erickson, a board member with the Great Basin Water Network. "The [moratorium] idea is: 'Let's all take a deep breath and start talking to one another [about] what this

amounts to.'"

In an era of drought, aridification and climate change, new water projects will be closely scrutinized, Pullan said.

"Any complete analysis of new projects, would need to really take into account what the impact will be on operations ... in the larger picture."

Meantime Gov. Mark Gordon announced he will appoint a drought working group to ensure "local perspectives on issues that impact our water users and the State" are heard when planning for a crisis that "may last for years."

Wyoming will not be deterred from its water development goals that would store, divert or otherwise use another 115,000 acre-feet in the upper reaches of the 246,000-square-mile Colorado River system, top officials told WyoFile.

"A pure, strict moratorium flies in the face of rights held by all seven [Colorado River Compact] states," said Pat Tyrrell, Wyoming's member on the Upper Colorado River Commission. "I would have a hard time recommending that Wyoming get itself in that position."

The Bureau of Reclamation has a limited say in what Wyoming can do with its water and development, state Senior Assistant Attorney General Chris Brown said.

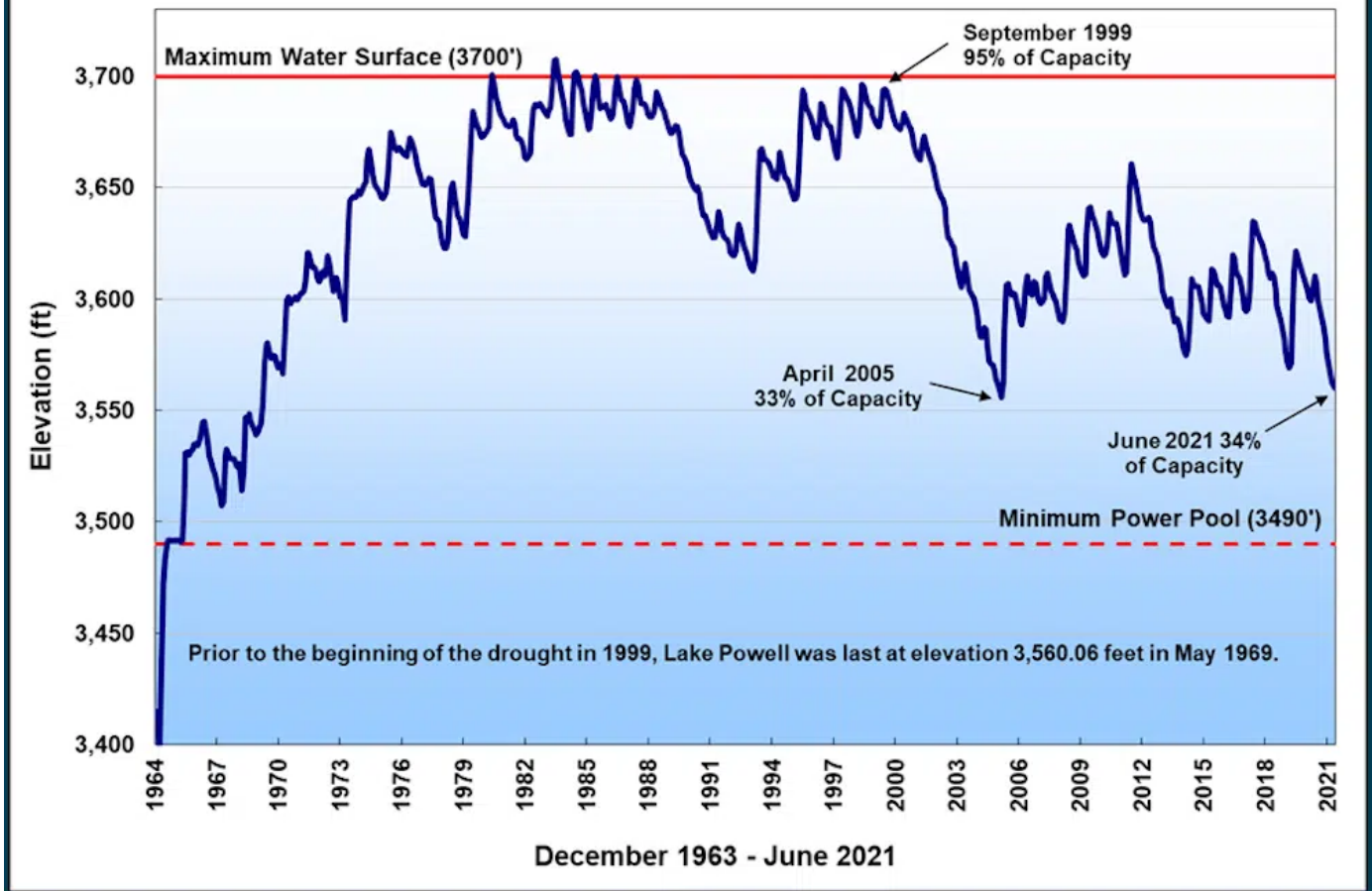
"They certainly don't get to say 'no,'" he said. "They certainly don't have that authority in Wyoming to decide how Wyoming wants to develop its water."

Task 1: Lake Powell

The immediate goal — of both the BOR and Wyoming — is to maintain a sufficient level at Lake Powell to generate power valued at about \$120 million a year and also meet obligations to downstream users. Doing so, Gordon said, will help ensure that Wyoming's residents get their shares of water under Colorado River Basin laws and compacts.

Those agreements were forged under the now-questionable assumption that there would be at least 15 million acre-feet annually to divide among upper and lower basin states — Wyoming, Utah, Colorado and New Mexico upstream and Arizona, California and Nevada below. However, "there isn't 7.5 million acre-feet available to the upper states," said Mark Squillace, a professor of natural resources law at the University of Colorado Law School.

Lake Powell End of Month Elevation



The water level in Lake Powell dropped to its lowest elevation Friday since the reservoir began filling some 50 years ago. (Bureau of Reclamation)

"The problem is that the river provides only between 12 and 13 million acre-feet of water today," he told WyoFile. "The reservoirs on the Colorado River system have far more storage capacity than they can use, so building additional storage capacity does not seem to make much sense."

He reserved judgment on the merit of individual water-storage projects but said damming a river and creating a reservoir doesn't give the state any greater claim to that water.

"At the end of the day, this is problematic for the whole Colorado system," he said, "there just isn't capacity any more."

Members of the Great Basin Water Network last week said instead of damming rivers, it wants to "damn the status quo" that too easily supports water diversions. The group is particularly focused on Utah's Lake Powell Pipeline, which would divert 84,000 acre-feet annually to the St. George area. But its call for a basin-wide development moratorium is necessary "before everybody dives in to grab what they can," board member Erickson said.

"You can't get enough water out of the river to do all those things," Erickson said of current proposals that envision everything from expanding cities to irrigating more land. "We would want to evaluate each project on its own merits," he said. A moratorium would help prevent investments in what "may turn out to be stranded assets."

The group wants the public to pay keen attention to the federal infrastructure bill and other post-pandemic aid packages where, as the network group's executive director Kyle Roerink said, "there are a lot of opportunities for skullduggery."

Declining 'a lot quicker'

Lake Powell's drop of 150 vertical feet since 1997 represents a loss of 16 million acre-feet, enough to support 64 million suburban households, BOR regional director Pullan said last week. Although the reservoir is about 423 feet deep at the dam today, its martini-glass-shaped profile means Powell now holds only about 32% of its capacity.

The latest declines came "a lot quicker than we imagined," Pullan said, forcing the agency to release flows from Flaming Gorge under the authority of a Drought Response Operations Agreement forged with upper division states. Flaming Gorge will contribute 125,000 acre-feet through October while dam tenders will release 56,000 acre-feet combined from Colorado's Blue Mesa and New Mexico's Navajo reservoirs this year. The total of 181,000 acre-feet should raise the water level in Lake Powell by about 3 feet, Pullan said.



Fontenelle Reservoir may hold the key to relieving fears of water users in the Green River and Little Snake River basins that drought could cut their supplies. (Rufio/FlickrCC)

Powell's elevation Sunday, the latest available, stood at 3,554.72 feet, not quite 20 feet above the critical hydropower minimum elevation (and 35-foot buffer) of 3,525. But the Bureau's most recent forecast is dire.

"Our 24-month [forecast] shows that you will fall below that 3,525 elevation in the spring," Pullan said. It's uncertain how that will affect Wyoming and the other upper division states' obligation not to diminish the delivery of an average of 7.5 million acre-feet to Lee Ferry, the measuring point just below Lake Powell's Glen Canyon Dam.

Drought contingency planning — part of what Gov. Gordon

wants his task force to be involved with — might first seek voluntary reductions before irrigators or others start to see diversions cut off. [Demand management](#) could forestall mandatory curtailment, which would be done according to priority of water rights, the oldest rights being superior and the last to be diminished.

New storage projects in the 1,450-mile long basin are going to live and die on their own merits, Pullan said, “and whether they make sense.”

“Depending on how those are operated, they may degrade our ability to fill those [Powell and Mead] reservoirs or they may enhance our ability to fill those reservoirs,” he said.

The BOR might be part of the environmental review process for water storage projects in the basin, he said, including Wyoming’s five planned projects. The agency would “absolutely” look at each in light of today’s dwindling water supply.

“In this, we bring all of the expertise and knowledge we have,” he said of any review. “It would be informed by our last survey,” or forecast.

The BOR’s releases to prop up Powell’s water level will be undertaken within environmental safeguard parameters, Pullan said. Gordon also is committed to “maintaining

environmental commitments," he said in announcing the Wyoming task force.

Five water projects

Construction plans in Wyoming call for a new dam that could release an additional 9,400 acre-feet annually from [New Fork Lake](#). The Big Sandy Dam is scheduled to be raised to hold back another 12,900 acre-feet for irrigation. The state is reconstructing the Middle Piney Dam to impound 3,370 acre-feet there. All three are in Sublette County.

At Fontenelle Reservoir, located mostly in Lincoln County, Wyoming is negotiating with the bureau for access to [80,000 acre-feet](#) that's historically not been used. Above the Little Snake River in Carbon County, irrigators want to build a 280-foot-high concrete dam to impound 10,000 acre-feet on the [West Fork of Battle Creek](#).



New Fork Lake provides recreation for boaters, as seen in this 2016 photo, and feeds a blue-ribbon trout fishery downstream on the New Fork River. More of the lakebed would be uncovered and a larger shoreline "bathtub ring" exposed if the lake's outlet was lowered 7.1 feet as planned. (Angus M. Thuermer Jr./WyoFile)

All told, the Wyoming projects in the Green and Little Snake river basins, subsets of the Colorado River Basin, would cost about \$123 million. Much of the water proposed to be held back would be used for irrigation, with some exceptions.

Fontenelle water could be used to meet Wyoming's compact obligations, officials have said. But there would need to be "some huge level of demand" before that water would be needed, Tyrrell said.

At the West Fork of Battle Creek, the project calls for a minimum 2,000 acre-foot pool and 1,500 acre-feet earmarked as a “bypass flows” for river health. Between 67 and 100 irrigators would benefit from another 6,500 acre-feet held annually behind the proposed \$80 million project, according to plans.

Colorado River compacts say Wyoming has water to develop. If the state were to use its entire share allocated under the river laws — 14% of 7.5 million acre-feet annually — that would amount to 1.05 million acre-feet. Wyoming’s average annual usage, however, is only about 548,000 acre-feet, Tyrrell said.

Obligations to lower-division states are based on a 10-year average and the upper states are surpassing their 75-million-acre-feet commitment. “Our current 10-year running average is about 88 million acre-feet,” state attorney Brown said.

“We feel [curtailment is] at least not coming in the near future,” Brown said. Unless, he added, Powell eats through its 35-foot hydropower buffer, falls below elevation 3,490 “and we have trouble actually releasing water.”

Wyoming’s average annual usage of 548,000 acre-feet is less than the amount of water the state has authorized through permits for beneficial use, he said. “We don’t use

near as much as has been adjudicated."

Another twist favors Wyoming. "Most of our irrigation rights are pre-compact," Brown said, meaning they would not be subject to curtailment under Colorado River laws and agreements. Most municipal and industrial rights are post compact, he said.

Different operations

Different impoundments might be operated differently from one another during years when water is short, Tyrrell said. Middle Piney, for example, will hold pre-compact water rights not subject to restrictions. The enlargement of Big Sandy, however, would create a new right, junior to others.

"That'll come under a more recent priority date, and it won't be allowed to fill if we are, for example, under any kind of curtailment," Tyrrell said.

At other impoundments, stored water could be used to meet downstream obligations if such was the intent of its builders.

"It depends on beneficial uses for which that storage is granted," Tyrrell said. "It would have to say something like 'compact compliance' on there."

Neither Brown nor Tyrrell sees a conflict between storing and diverting more water in Wyoming's part of the Colorado

River Basin and downstream struggles.

"Much of this water finds its way ultimately down to Lake Powell and to Lee Ferry [the critical measuring point between the upper and lower states] through return flows, through late-season flows and the benefits associated with that," Brown said. Return flows are excess irrigation water that goes back into the river, sometimes directly and other times through wetlands and springs.

"Water just doesn't automatically get lost to the system," he said, and storing it high in the basin, rather than in the desert, might save some of it from evaporating. "The idea that these [uses] have a net detrimental impact on the system as a whole, I think, is probably a conclusion too easily jumped to," Brown said.

"Having additional diversions being somehow contrary to the dropping elevations Lake Powell and Lake Mead is not a one-for-one thing, by any stretch of the imagination," he said, "and perhaps not a detriment at all but a benefit."

The two emphasized a couple of points.

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"Generally, at least historically, the lower basin has overused its apportionment," Brown said. "And so it's difficult to make

a blanket statement that applies with some equity all the way across the basin."

Wyoming will honor applications for new diversions, Tyrrell said.

"If somebody comes into the state engineer's office tomorrow [seeking] a permit to irrigate 200 acres outside of Pinedale," he said, "they're going to get their permits."