

# Wyoming girds for a fight over Green, Little Snake River water

State believes water cuts, if drought continues, won't happen before 2028. Other stakeholders may disagree.



Agricultural lands in the Little Snake River valley on the border of Wyoming and Colorado.  
(Angus M. Thuermer, Jr./WyoFile)

A water fight is brewing in the West, and Wyoming water officials want to prepare for it with a study aimed at parsing and defining the state's consumption from its Colorado River

tributaries.

Anticipating a drier future and either voluntary or imposed restrictions, Wyoming should undertake a “conveyance-loss study,” Jason Mead, interim director of the Wyoming Water Development Office, told the state Water Development Commission on Oct. 6. The goal, State Engineer Brandon Gebhart told the WWDC, is to have a “defensible consumptive-use number to take to the other states,” when and if push comes to shove and Colorado River Basin water users face cuts to irrigation, industrial or municipal uses.

When Colorado River Basin water rights were divvied up starting in 1922, officials overestimated the amount of water the system would produce each year and ultimately promised more water to stakeholders than actually existed. Climate change, drought, shifting weather patterns and a population explosion in the region have exacerbated that initial over-subscription.

Further complicating the picture, the U.S. Bureau of Reclamation — the government’s Western water agency — admits there’s “an inability to exactly quantify these uses.” This “has led to various differences of opinion” regarding who gets to use how much water, the BOR states in [a 2022 accounting](#) of the river’s flows and uses.

As a result, the Colorado River and its tributaries — including

Wyoming's Green and Little Snake Rivers — do not have as much water as originally thought and apportioned. On top of that, the water that does flow can't be precisely measured, and the 40 million people in the seven states and Mexico who rely on it haven't agreed on how to resolve conflicting views on their rights to use what water there is.

*"The Upper Basin and the Lower Basin have different opinions about that [downstream] obligation."*

*Wyoming state water attorney Chris Brownnone*

The goal of the conveyance-loss study is to pin down Wyoming's consumptive use in case it needs to engage in those types of water rights' conversations with other states.

As a foundation to that study, Wyoming has "a pretty good handle on consumptive use of the crop," Mead told the water commission. But the state is less certain about another key measurement — the loss from canals and ditches that carry the water diverted from rivers and streams to crops, and how those losses should be accounted for. Only some of those losses may be a debit to Wyoming's share of the basin's flows.

With the proposed study, Wyoming would be able to more precisely measure the differences between diverted flows

and consumptive use.

That would allow the state to say “when we shut off a ditch ... we’re actually saving this amount of consumptive use just along the ditch,” Gebhart told the WWDC. With such information at hand, “I think we could make a sensible argument that we would have to shut off less users.”

## **Ticking clock**

Wyoming doesn’t expect potential curtailments any earlier than 2028, Gebhart told the Water Development Commission. Not all stakeholders agree with that timeline assessment, however, and say a “pinch point” in 2025 could prompt debate and conflict among states.

“The first pinch point [in 2025] raises the issue of the Upper Basin’s obligation to Mexico, if any, under the 1922 [Colorado River] Compact,” Chris Brown, a senior assistant attorney general in the Wyoming Attorney General’s office Water and Natural Resources Division wrote WyoFile.

Mexico was not part of the 1922 compact, but the Mexican Water Treaty Act of 1944 granted that country 1.5 million acre-feet of Colorado River water annually. The compact and treaty are part of a suite of decrees, agreements and court decisions that make up what’s known as the [Law of the River](#).

Regarding Mexico's share, "the Upper Basin and the Lower Basin have different opinions about that obligation," Brown wrote. That difference should be addressed before 2025 to "avoid a dispute" he stated.

"That does not mean we will curtail our water uses and, under current circumstances, we will not curtail when we reach that [2025] pinch point..." he wrote. "The difference of opinion itself will not result in a curtailment."

Sen. Larry Hicks (R-Baggs), an influential water developer in the Little Snake River Basin, recommended the study, Mead and Gebhart said. It's an "officially proposed project" Gebhard said, and will be discussed by the WWDC further in November with an eye toward securing funding, either from over-subscribed state water accounts, through a different appropriation from the Legislature or some other source.

The study's first phase could be completed in 2025, after two irrigating seasons of research, officials said.

## **Pinning down losses**

After water is diverted from a river or stream into conveyance systems of canals, ditches and pipes, some of it feeds crops. But leaks and seepage in those canals and ditches also results in loss. Water managers agree that some ditch losses return to "the system" that sustains a river's

flow.

Like “return flow” water that runs back into a river after flooding an irrigated field, conveyance losses that then return to the system shouldn’t count as a debit or depletion against Wyoming’s share of Colorado River Basin water, state officials say, and a study could help determine how much that is.

“Ditch losses that do return to the system (seepage), at some point, are not considered depletions because the water re-enters the stream,” Gebhart wrote in an email.

Some diverted water, however, doesn’t benefit a crop or return to the river and must be counted as a debit. “Losses from ditches that do not return to the system, at some point, are depletions, also known as consumptive use,” Gebhart stated.

These types of losses could be from evaporation, consumption by non-crop plants like willows, consumption by trees on the ditch bank, recharge to deep groundwater aquifers that don’t flow to the Colorado River and other, similar things, Gebhart wrote.

The loss from canals and ditches is only estimated today, and only by some irrigation districts. In [a 2021 accounting](#) by the WWDC, only half of the 157 irrigation districts, ditch and



canal companies and other irrigation entities contacted by the agency responded.



An irrigation headgate on a canal in the Upper Green River Basin has a lock that can be used to regulate flows. (Angus M. Thuermer Jr./Wyofile)

Statewide, the survey estimates an average of 24% of the water that runs through the conveyance systems is lost. In the Green River and Little Snake drainages, estimates include as little as 0.5% for the Austin Wall Irrigation District on the Blacks Fork and 25% at the New Fork Irrigation District.

Many entities in the Green and Little Snake basins did not respond to the latest survey, including districts where water developers and irrigators want to spend millions of state

dollars [building or enlarging impoundments](#) to aid irrigation and other uses.

## **Depletions, losses and consumptive uses**

Experts agree that more water is promised to Colorado River Basin water users than the system can actually deliver — essentially 7.5 million acre-feet annually each to the four Upper Division states and three Lower Division states, plus 1.5 million acre-feet to Mexico for a total of 16.5 million acre-feet. The calculation of available water on which the U.S. allocations were based in 1922 was flat-out wrong, many agree, and 23 recent years of drought coupled with climate change have left Lakes Powell and Mead at [28% of capacity](#), an historic low.

Now some experts say managers should anticipate only 9 million acre-feet annually system wide, according to proceedings at a September water seminar covered by [Colorado Public Radio](#). That's about three-quarters of what was used by all states, tribes and Mexico in 2021, CPR reported, and far short of the original 15 million acre-feet estimated in 1922.

If Wyoming faces curtailment or some other regulation in the Colorado River Basin, Gebhart said his office would need more staffers to monitor headgates and diversions. Today, a crew of six oversees more than 2,500 headgates in the



basin, he said, and that might need to be increased to 36 or so.

Scrutiny by the state engineer is necessary because the 1922 compact prohibits Upper Division states from diminishing Colorado River flows at Lee Ferry, a gauge just below Lake Powell's Glen Canyon Dam, below 7.5 million acre-feet annually on a running 10-year average. Wyoming is promised 14% of what's left over to the Upper Division states.

From 2016-2020, the latest data available, a provisional U.S. Bureau of Reclamation report lists Wyoming's average annual use at 421,000 acre-feet. Ranchers irrigated 305,800 acres in the Green and Little Snake River Basins in 2020, the report states. The population of those basins was 83,800, the BOR said.

At full supply — 7.5 million acre-feet available to the Upper Division states annually — Wyoming's yearly portion amounts to a little over 1 million acre-feet, experts say. Should the Upper Division supply dwindle to 4 million acre-feet, under the Law of the River and 1944 Mexico treaty obligation, Wyoming would have rights to use only 553,000 acre-feet, according to a presentation by Gebhart's office in Pinedale in September. In addition to Wyoming's conveyance-loss study, Upper Division states want to use an up-to-date model to determine river flows and uses.

