



# Utah Department of **NATURAL RESOURCES**

## FOR IMMEDIATE RELEASE

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## **Drought Update for the Week of July 26**

**Salt Lake City** (July 28, 2021) – Drought continues to have a stranglehold on the state despite wild weather swings that dumped rain in some areas. The [U.S. Drought Monitor](#) categorizes 100% of the state as “extreme” or “exceptional” drought. By comparison, this time last year just over 1% was in the “extreme” category, with nowhere in “exceptional” drought.

The Great Salt Lake hit an all-time low since monitoring began in 1847 (as reported July 24 based on the average daily reading from July 23). USGS anticipates levels will continue to drop until fall storms (hopefully) help refill the lake and summer irrigation season concludes.

“Low water levels at many reservoirs across the state continue to have widespread impacts on water quality, water supplies, wildlife, recreation, agriculture and the environment,” said Utah Department of Natural Resources Executive Director Brian Steed. “We have received some much-needed rain in some areas, which helps water our landscapes and improves dry soils but is not sufficient to pull the state out of drought.”

The following [drought](#) impacts from the week of July 26 are compiled by the Utah Divisions of [Water Resources](#), [Water Rights](#), [Wildlife Resources](#), [State Parks](#) and the [Department of Environmental Quality](#).

### **At-a-glance changes for the week:**

- Decreasing reservoir levels are leading to more boat ramp closures. Seven boat ramps are currently closed at six state parks, including Antelope Island, Echo, Millsite, Piute, Willard Bay and Yuba. Caution advisories have been issued for eight additional state park boat ramps as well. Get up-to-date information [here](#).
- The magnitude of harmful algal blooms (HABs) continues to be a concern for recreators on Utah’s water bodies. The lake-wide Warning Advisory for Utah Lake remains in place,



and a Danger Advisory has been issued by the Utah County Health Department for Lindon Marina. Visitors to the marina should avoid swimming, skiing or boating in the waterbody, and pets and children should not be allowed in the water. Fishers are advised to clean fish well and discard guts. Current state-wide HAB status can be found [here](#).

- In anticipation of continued low water levels due to extreme drought conditions across the state, the Utah Division of Wildlife Resources issued more emergency changes to Utah's fishing regulations. Those changes will allow anglers to catch and keep more fish at some additional waterbodies around the state. More information [here](#).
- Reservoir storage statewide continues to drop and now averages 55% (down from 56% last week). **Thirty of Utah's largest 42 reservoirs are below 55% of available capacity.** Lost Creek and Lower Enterprise all dropped below 55%.
- Current statewide reservoir levels are now lower than they were at the end of last year's irrigation season in October (55% now compared to 61% in October 2020). There are about two-and-half months remaining in the irrigation season when water use is traditionally at its peak. View levels [here](#).
- The average daily value of the Great Salt Lake hit a new record low July 23 (reported July 24) when it dropped to 4191.3 as measured at the [SaltAir gauge](#) location. Levels are continuing to drop and set new records, currently 4191.2. Levels are unlikely to improve until fall storms move in and agricultural irrigation ends for the season. The previous record was set in October 1963, with an elevation of 4191.35, rounded to 4191.4 to conform with current data collection and a recorded size of 950 square miles. (In 1963, levels were measured to the hundredth. Today, they are measured to the tenth of a foot.)
- Streamflows statewide remain low with 72 of the 97 measured streams flowing below normal. Daily flow from 28 headwater streams is currently flowing slightly above the previous minimum daily flow record due to monsoonal precipitation over the last week.

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## FULL REPORT: WEEK OF JULY 26

### Public Water Systems

- Echo Mutual: Water supplies in the town of Echo remain low, however their tanks are holding at one-third full. The town may need to haul more water to increase reserves for fire protection.
- Scofield Reservoir: Scofield Reservoir, a water source for both the City of Price and the Price River Water Improvement District, is currently under a Danger Advisory for harmful algal blooms. In order to ensure the safety of drinking water, the water systems, in partnership with the Southeast Utah Health Department and the Division of Drinking Water, are sampling for cyanotoxins weekly. No issues have been found to date.
- North Ogden: The city is preparing for their anticipated secondary water shut-off in August with a new ordinance that prohibits using culinary water for lawn or turf irrigation.
- Secondary water shut-off: Several systems with secondary water suppliers are anticipating early shut-offs this year. The Division of Drinking Water is working with systems to prepare for an increased demand on culinary water to ensure consumers do not overuse limited culinary supplies for outdoor watering.

## **Precipitation and soil moisture**

- Precipitation accumulation (as measured at NRCS SnoTel sites) continues to be record low. To restore conditions to “average” for the year, Utah still needs about 13.5 inches of rain: 9 inches to cancel the deficit and 4.5 inches to account for the precipitation traditionally accumulated from late July through September.
- To get streams running at healthy levels while filling reservoirs, Utah needs late summer and early fall storms to return soil moisture levels to normal, which will help snowpack runoff make it to streams and reservoirs rather than get absorbed by dry soils. The state also needs an above-average snowpack to refill reservoirs.
- Air temperatures for the week were 2.3 degrees Fahrenheit above average.
- Overall (mountain and valley locations), the state has seen 58.5% of the precipitation typically received in a normal water year (Oct. 1 through Sept. 30).
- Soil moisture saw a significant increase due to rainstorms around the state. It is 0.2 inches above average for the first time this water year. Wet soils are critical in the fall as the state begins to accumulate its winter snowpack.

## **Streamflows**

Streams statewide continue to flow at less than 50% of normal.

- Seventy-two (76 reported last week) of Utah’s 97 streams reporting data are flowing below normal. This is four less than the previous week.
- Seven streams are flowing at their lowest levels ever recorded. This is roughly half as many as last week.
- Daily flow from 28 headwater streams is currently flowing slightly above the previous minimum daily flow record.

## **Reservoir and Lake Levels**

About 95% of Utah’s water comes from snowpack. This statewide average ranges from around 75% in the southwest corner to over 95% in the northern part near the Weber Basin headwaters. Different-sized reservoirs are located throughout the state to catch and store runoff. Small reservoirs store about one year’s worth of water, while larger reservoirs, like Strawberry or Jordanelle, store several year’s worth. Reservoir storage helps to prevent water shortages and is dependent on snowpack and runoff.

- The capacity of major reservoirs statewide dropped another 1% this week compared to last week. Current storage is 55%.
- Thirty of Utah’s largest 42 reservoirs are below 55% of available capacity. Lost Creek and Lower Enterprise all dropped below 55%.
- The Great Salt Lake’s current elevation sits at 4191.2. On July 23, it passed the historic recorded low of 4191.4 feet documented in 1963. Lake levels are expected to continue dropping until irrigation season concludes, evaporation slows down, and more water flows into the lake.

# GREAT SALT LAKE ELEVATION



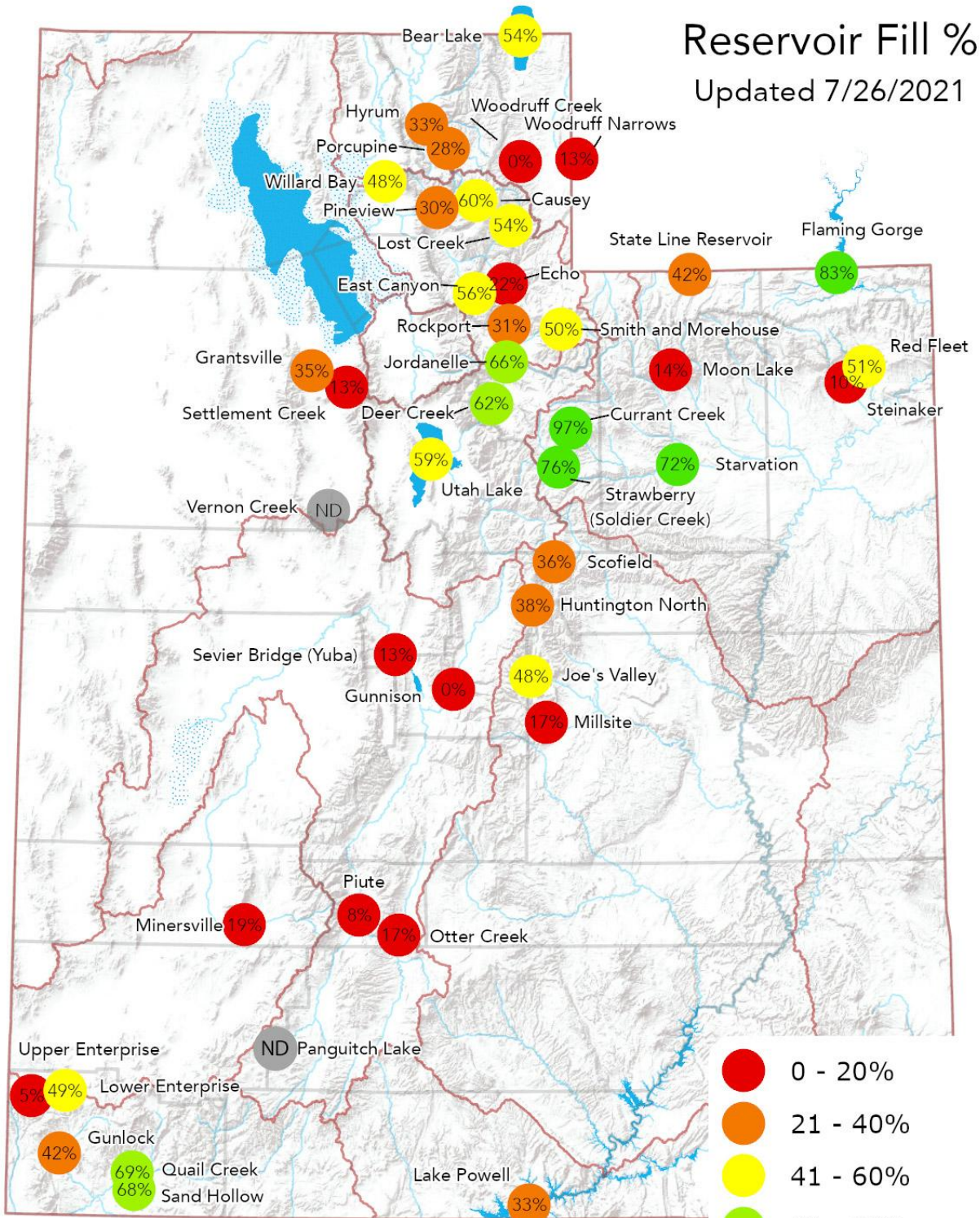
RECORD HIGH  
**4211.65 FEET**

AVERAGE  
**4202.2 FEET**

**NEW RECORD LOW** CURRENT  
**4191.2 FEET**

# Reservoir Fill %

Updated 7/26/2021



### Data Sources

Bureau of Reclamation, Bear River Commission,  
 Emery Water Conservancy District,  
 Sevier River Water Users Association,  
 Washington County Water Conservancy District



## **Drought Effects on Priority Distribution of Water Rights in Utah (updated June 26)**

Water rights are distributed by the state engineer with priority going to the earliest rights. For example, a water right established in 1889 is entitled to receive its full flow before water rights established in 1890 or later can receive any water. This principle is called the “Prior Appropriation Doctrine” or “first in time, first in right.” The earliest water rights in Utah are called “direct flow” rights, meaning they cannot be stored. Storage reservoirs were built later on so storage rights generally have priority dates later than direct flow rights, although some “high” water rights (direct flow rights with late priority dates) exist.

While some water rights are owned by public water suppliers, others are held by individuals like farmers and ranchers. Priority distribution happens every year, not just during droughts, and occurs irrespective of the type of use. Most water rights are fully or partially curtailed by mid-summer when the natural flow of a stream drops following spring runoff. The term “natural flow” refers to the total supply of a stream, which is generally different from the flow of the stream at any particular point.

Natural flow on complex systems is determined using accounting models developed by the Division of Water Rights. When the natural flow is greater than 100% of the direct flow rights, water can be stored on the system. When the natural flow drops below 100% of the direct flow rights, these rights are reduced according to priority date. Storage, if available, can be released to make up all or part of the deficit. The amount of storage available on each system is a function of the specific projects developed on the system over the last hundred-plus years. This year has seen an early decrease in natural flow because of very little spring runoff. In previous years systems were generally storing water in mid-June, sometimes in considerable amounts, while 2021 is already seeing some of the earliest water rights being curtailed.

While statewide there are many different river systems, the information below highlights water rights priorities, natural flow and direct flow on just four of them. CFS below stands for cubic feet per second.

**Middle Bear River** – Priorities: Direct Flow (1860 - 1909), Storage (1911), High Rights (1914 - 1989)

<i>Date</i>	<i>Priority from River</i>	<i>Natural Flow</i>	<i>% Direct Flow Rights</i>
July 24, 2019	1909	1,315 cfs	94%
July 24, 2020	1901	851 cfs	61%
July 24, 2021	1889	281 cfs	20%

- The water supply on the Logan River, tributary to the Middle Bear, is third lowest on record out of 58 years (1977 and 1992 were lower) according to the CRBFC Water Supply Forecast (Station LGNU1).
- Currently, only 20% of the direct flow water rights are being met with earliest priority rights being fulfilled from 1860 to 1889.

**Upper Provo River** – Priorities: Direct Flow (1<sup>st</sup> Class - 17<sup>th</sup> Class), Storage

<i>Date</i>	<i>Priority from River</i>	<i>Natural Flow</i>	<i>% Direct Flow Rights</i>
July 26, 2019	60% 1 <sup>st</sup> Class	92 cfs	20%
July 26, 2020	50% 1 <sup>st</sup> Class	76 cfs	17%
July 26, 2021	30% 1 <sup>st</sup> Class	46 cfs	10%

- The water supply on the Provo River at Hailstone is the third lowest on record out of 67 years (1977 and 1961 were lower) according to the CRBFC Water Supply Forecast (Station PVHU1).

- Currently, only 10% of the direct flow water rights are being met, consisting of only 30% of 1st Class rights.

**Upper Duchesne River – Priorities: Direct Flow (1900 - 1964), Storage (1964)**

Date	Priority from River	Natural Flow	% Direct Flow Rights
July 25, 2019	Storage	705 cfs	64%
July 25, 2020	1918	304 cfs	27%
July 25, 2021	1910	145 cfs	13%

- The water supply on the Duchesne River at Randlett is the second lowest on record out of 79 years (1977 was lower) according to the CRBFC Water Supply Forecast (Station DURU1).
- Currently, only 13% of the direct flow water rights are being met with the earliest priority rights being fulfilled from 1900-1910.

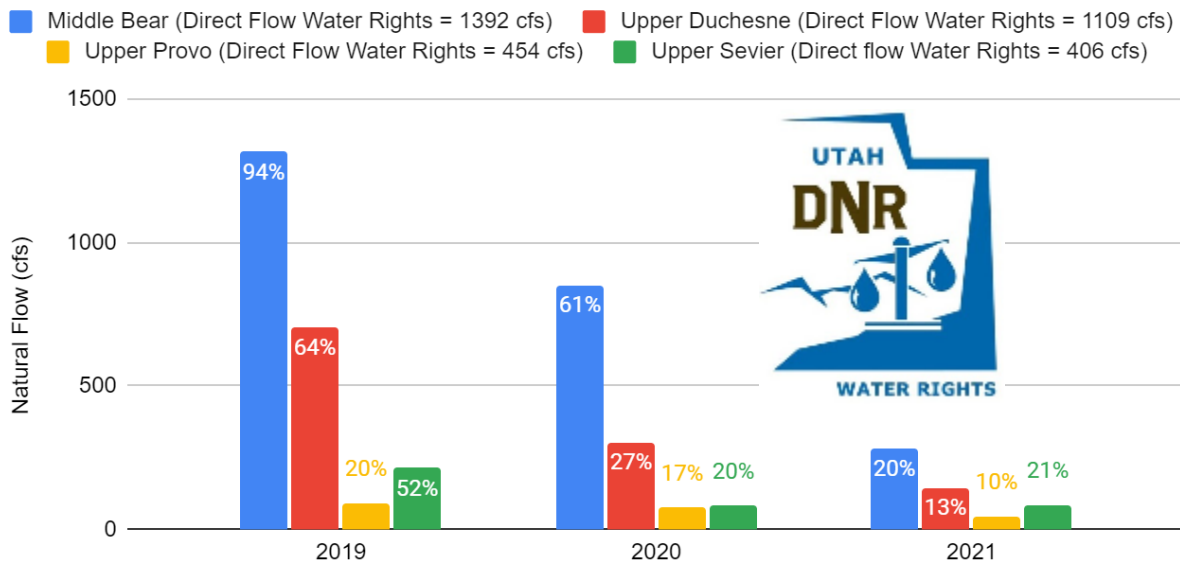
**Upper Sevier River – Priorities: Direct Flow (1<sup>st</sup> Class – 3<sup>rd</sup> Class), Storage**

Date	Priority from River	Natural Flow	% Direct Flow Rights
July 25, 2019	72% 1 <sup>st</sup> Class	213 cfs	52%
July 25, 2020	28% 1 <sup>st</sup> Class	83 cfs	20%
July 25, 2021	28% 1 <sup>st</sup> Class	84 cfs	21%

- The water supply on the Sevier River at Piute is the third lowest on record out of 103 years (1957 and 1934 were lower) according to the CRBFC Water Supply Forecast (Station PIUU1).
- Currently, only 21% of the direct flow water rights are being met, consisting of only 28% of 1st Class rights.

**Natural Flow Distribution on Four River Systems (July 26)**

Percent Values Greater than 100 Indicate Water Being Stored



## **Well Replacements**

In addition to surface water rights, the state engineer oversees the appropriation of groundwater and construction of groundwater wells. As groundwater conditions change, well owners may need to replace their well. This may be due to issues of the existing well, or the need to drill deeper. When this happens a water user files either a replacement or renovate application. In some cases, a change application may need to be filed. This is dependent on the individual status of the user's water right.

- Four new replacement well and well deepening applications were filed in the last week. The total number of replacement and deepening requests this year is 88 statewide.
- As a comparison, there were 113 in 2020 and 102 in 2019. The average annual count during the past five years is 107.