



## FOR IMMEDIATE RELEASE

### Media Contacts

Kim Wells  
Utah Department of Natural Resources  
801-803-03366  
[kimwells@utah.gov](mailto:kimwells@utah.gov)

Ashley Sumner  
Utah Department of Environmental Quality  
801-856-5683  
[ssumner@utah.gov](mailto:ssumner@utah.gov)

## Drought Update for the Week of Sept. 20

**SALT LAKE CITY** (Sept. 23, 2021) – Fall is officially here, and the water year, which ends Sept. 30, is winding down. With some of the worst water supply conditions on record this summer, Utahns have been using water stored in our reservoirs. It will take an above-average snowpack to start to refill reservoirs, making continued conservation critical.

Due to limited water supply, many irrigation systems have implemented early shut-off dates for secondary water. The Department of Environmental Quality, Division of Drinking Water has issued the following reminders for communities with secondary water:

- Water users should adhere to local watering schedules or restrictions to preserve drinking water for indoor needs as well as fire protection.
- All landscape irrigation systems connected to the public drinking water system must be approved by your local water system.
- Connections must be equipped with an approved backflow prevention device or assembly. **Unapproved or cross-connections risk contaminating the entire water system.**

“It is critical to the health and safety of our communities that users that rely on secondary water systems work to limit their use of drinking water for irrigation, and avoid unapproved irrigation system cross-connections that risk contaminating the entire drinking water system,” said Division of Drinking Water Assistant Director Nathan Lunstad. “Unfortunately, every year we see unapproved connections at households that threaten their health and the health of their neighbors.”

The following [drought](#) impacts from the week of Sept. 20 are compiled by the Utah Divisions of [Water Resources](#), [Water Rights](#), [State Parks](#), [Wildlife Resources](#), the [Department of Environmental Quality](#) and the [Department of Agriculture & Food](#).

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



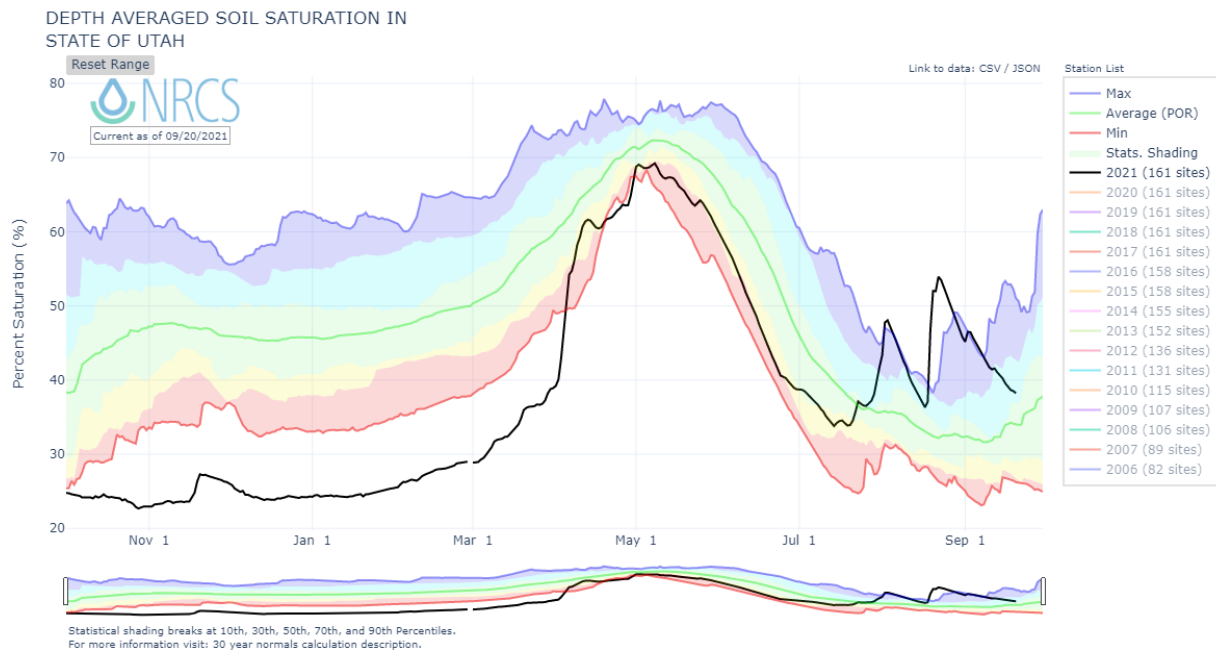
- Boil orders have been issued for the Rendezvous Beach campground and South Duchesne due to high levels of E. coli. In addition, a public notice has been issued to East Carbon residents due to water quality concerns caused by low reservoir levels and equipment issues.
- Thirty-two of Utah's largest 42 reservoirs are below 55% of available capacity, the same as last week. Overall statewide storage is 48% of capacity, slightly less than last week.
- Of the 98 measured streams, 53 flowed below normal this week compared to 50 last week.
- The Utah Department of Agriculture and Food has launched an Emergency Disaster Relief Loan Program; this program provides loans of up to \$100,000 to producers to assist with losses experienced due to drought conditions such as crop loss, increased feed costs, loss of livestock, and more. More information and applications can be found [here](#).
- Waterfowl hunting season begins soon in Utah, and hunters should be aware that drought conditions have impacted some species, likely resulting in fewer birds in Utah this fall. Low water levels in some areas will also impact access to some waterfowl management areas. [Visit the DWR website](#) for more details.
- Boat ramp closures remain the same as last week, with 12 closures at 10 state parks, including Jordanelle, Antelope Island, Echo, Hyrum, Millsite, Piute, Rockport, Quail Creek, Willard Bay and Yuba. Caution advisories have been issued for seven additional state park boat ramps. View conditions [here](#).

###

## **FULL REPORT: WEEK OF SEPT. 20**

### **Precipitation and soil moisture**

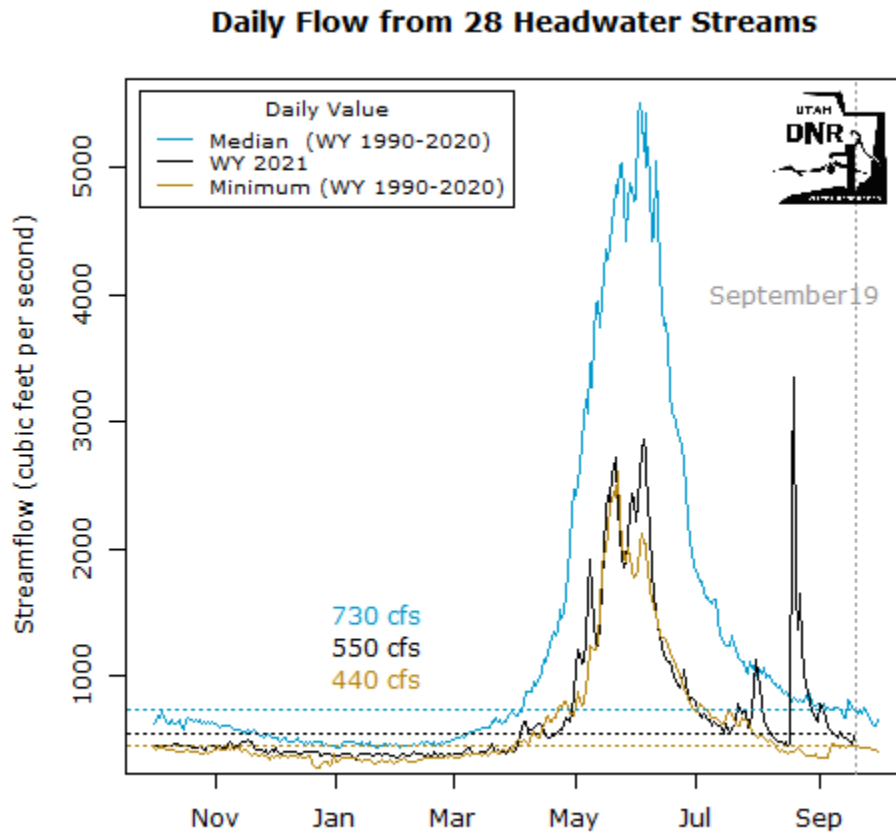
- Precipitation accumulation (as measured at NRCS SNOTEL sites) continues to be well below average. To restore conditions to "average" for the year, Utah still needs 7.5 inches of rain between now and the end of September.
- Overall (mountain and valley locations), the state has seen 74.1% of the precipitation typically received in a normal water year (Oct. 1 through Sept. 30).
- Air temperatures for the week were 5.4 degrees Fahrenheit above average.
- Soil moisture remains high at 4.2% above average (8.6% last week) for this water year. Wet soils are critical in the fall as the state begins to accumulate its winter snowpack. As seen in the chart below, significant increases and decreases in soil moisture are typical for fall.



Recent rainstorms are reflected as a significant increase in soil moisture followed by a significant decline in the state soil moisture sensors (found at mountain [SnoTel sites](#)). Healthy soil moisture levels allow snowpack runoff to enter the streams and reservoirs rather than get absorbed by dry soils. Monsoonal patterns never occurred the last two years, leading to record dry soils in October 2020 and throughout the winter (reflected in the graph above).

## **Streamflows**

- Cumulative flow of 28 headwater streams is just below the lowest on record for the previous 30 years.
- Fifty-three (50 reported last week) of Utah's 98 streams reporting data are flowing below normal. Temporary high flows due to rainstorms have receded and streams are returning to lower flows typical of this year.
- Six streams are flowing at their lowest levels ever recorded, one less than last week.
- Daily flow from 28 headwater streams has decreased as the effect of rainfall recedes. Flow is currently between the 30-year median and minimum.



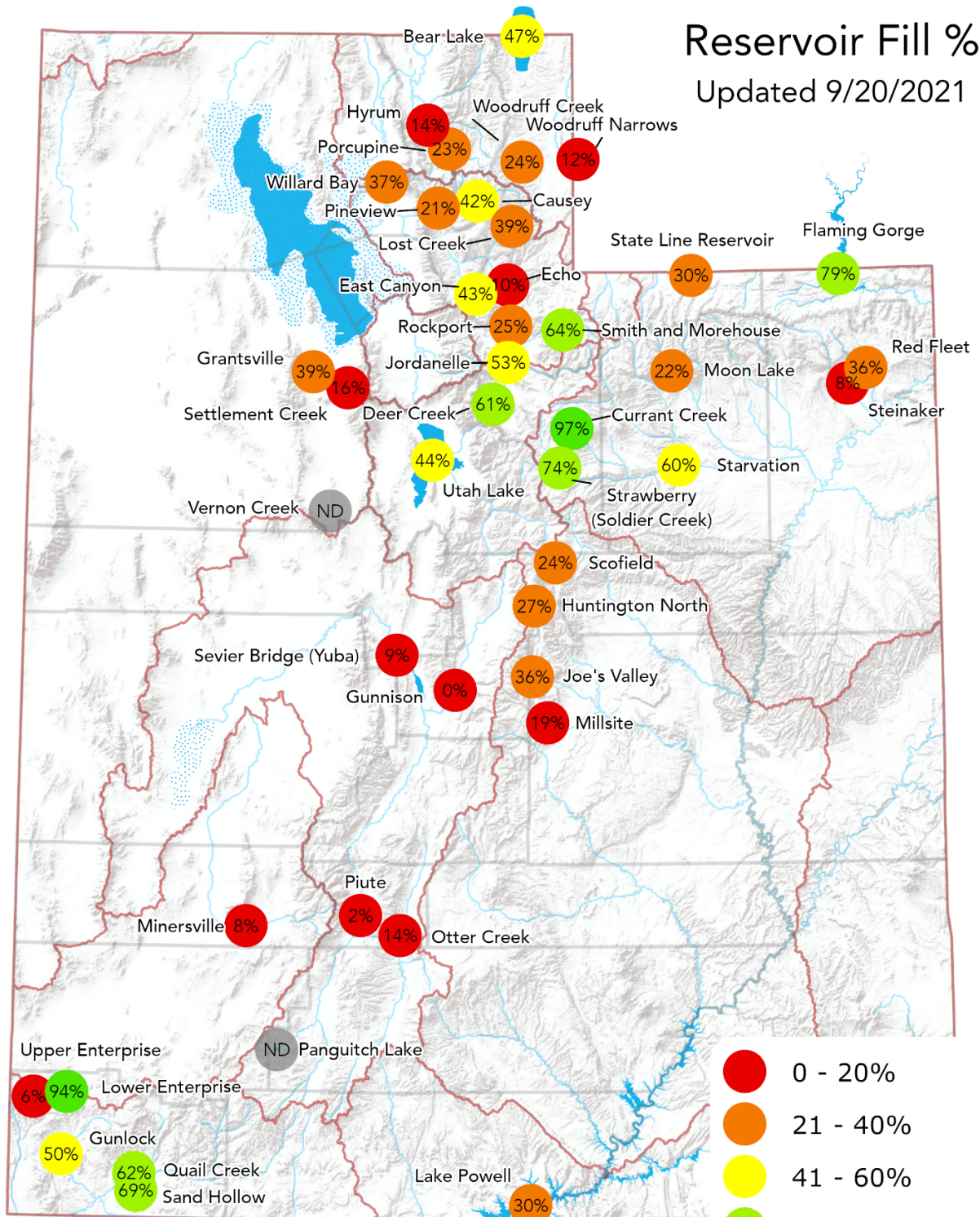
*Flows for 28 headwater streams were added together to show how Utah's water supply is being affected. This chart shows the Water Year (WY) from October to September as compared to the median and minimum values (1990-2020). Significant increases from recent storms can be seen. Unfortunately, a few days of high flows don't make up for over a year of near-record low flows.*

### **Reservoir and Lake Levels**

- The capacity of major reservoirs statewide dropped to 48% of storage capacity (49% last week).
- Thirty-two of Utah's largest 42 reservoirs are below 55% of available capacity (32 last week).
- The Great Salt Lake's elevation stayed roughly steady at 4190.7, about 8 inches below the record low.

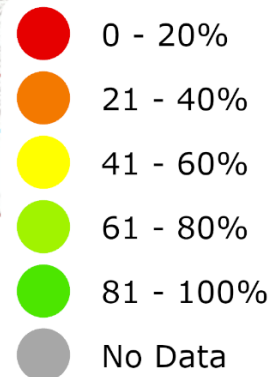
# Reservoir Fill %

Updated 9/20/2021



## 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 Sept. 23)**

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. However, some “high” water rights (direct flow rights with late priority dates) exist.

While public water suppliers own some water rights, 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. Water can be stored on the system when the natural flow is greater than 100% of the direct flow rights. 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 has seen 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>
Sep 12, 2019	1909	1306 cfs	94%
Sep 12, 2020	1899	831 cfs	60%
Sep 12, 2021	1897	562 cfs	40%

- Currently, 40% of the direct flow water rights are being met with earliest priority rights being fulfilled from 1860 to 1897.

**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>
Sep 23, 2019	70% 1 <sup>st</sup> Class	108 cfs	24%
Sep 23, 2020	40% 1 <sup>st</sup> Class	62 cfs	14%
Sep 23, 2021	30% 1 <sup>st</sup> Class	46 cfs	10%

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

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

<i>Date</i>	<i>Priority from River</i>	<i>Natural Flow</i>	<i>% Direct Flow Rights</i>
Sep 22, 2019	Storage	468 cfs	42%

Sep 22, 2020	1918	195 cfs	18%
Sep 22, 2021	1935	267 cfs	24%

- Currently, 24% of the direct flow water rights are being met with the earliest priority rights being fulfilled from 1900-1935.

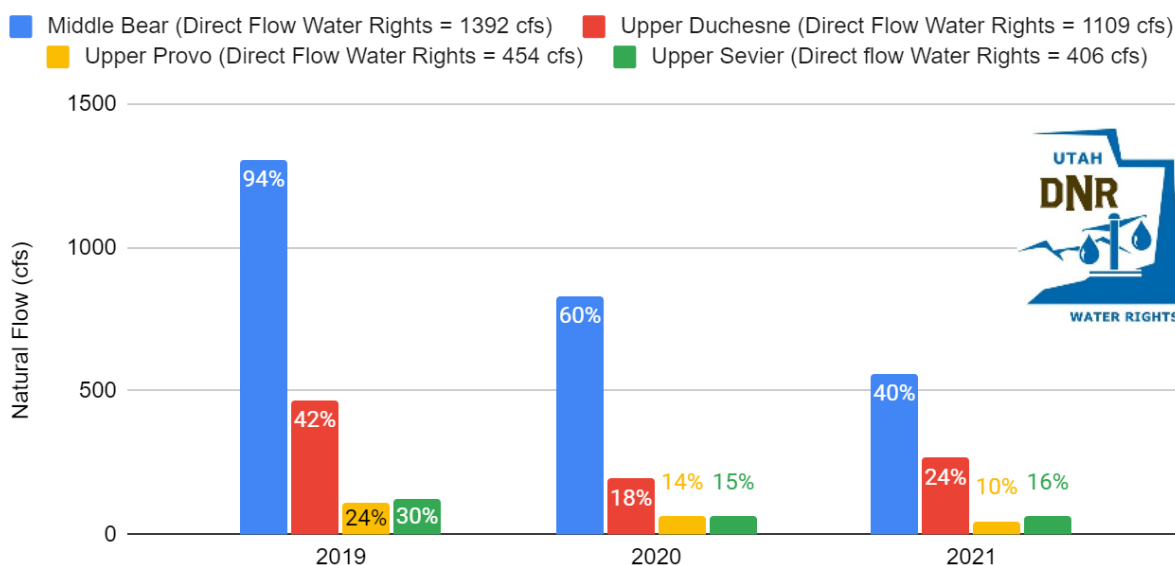
#### Upper Sevier River – Priorities: Direct Flow (1<sup>st</sup> Class – 3<sup>rd</sup> Class), Storage

Date	Priority from River	Natural Flow	% Direct Flow Rights
Sep 22, 2019	41% 1 <sup>st</sup> Class	123 cfs	30%
Sep 22, 2020	21% 1 <sup>st</sup> Class	62 cfs	15%
Sep 22, 2021	21% 1 <sup>st</sup> Class	63 cfs	16%

- Currently, 16% of the direct flow water rights are being met, consisting of 21% of 1st Class rights.

### Natural Flow Distribution on Four River Systems (Sep 23)

Percent Values Greater than 100 Indicate Water Being Stored



### Well Replacements

In addition to surface water rights, the state engineer oversees groundwater appropriation and construction of groundwater wells. As groundwater conditions change, well owners may need to replace their well. This may be due to issues with 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.

- Five new well-replacement and deepening applications were filed in the last week. The total number of replacement and deepening requests this year is 116 statewide.
- As a comparison, there were 113 in 2020 and 102 in 2019. The average annual count during the past five years is 107.