

**BUREAU OF RECLAMATION
NAVAJO UNIT
FORECAST FOR OPERATIONS WATER YEAR 2020**

**Sent Via Email
April 21, 2020**

In response to the recommendations from the CDC, local authorities, and Department of Interior guidance, the next coordination meeting for the operation of the Navajo Unit, scheduled for Tuesday, April 21st, at 1:00 pm, was canceled.

The purpose of these meetings, held annually in January, April, and August, is to gather input for determining upcoming operations for Navajo Reservoir. This input is used in Reclamation's development of an overall 24-month study for operation of Reclamation projects in the Upper Colorado River Basin, which includes plans for Glen Canyon, Flaming Gorge, Aspinall Unit and Navajo. Input from individuals, organizations, and agencies along with other factors such as weather, water rights, endangered species requirements, flood control, hydro power, recreation, fish and wildlife management, and reservoir levels, will be considered in the development of these reservoir operation plans. In addition, the meetings are used to coordinate activities and exchange information among agencies, water users, and other interested parties concerning the San Juan River and Navajo Reservoir.

A forecast and operational plan summary follows below. In keeping with the spirit and purpose of this meeting as a time for coordination, we request that you provide any updates you may want to share that would be relevant to this audience from your organization or agency. As always, you are welcome to contact us directly if you have any questions or comments on the hydrologic conditions, inflow forecast or operation plan. We regret that we are unable to hold this meeting in the usual format, but hopeful to hold the August edition of this meeting as usual at the Farmington Civic Center. A notice will be sent out when the meeting is firmly scheduled.

If you have questions, please call Susan Behery at 970-385-6560, or email sbehery@usbr.gov. Visit the Navajo Dam website at <https://www.usbr.gov/uc/water/crsp/cs/nvd.html> for operational updates.

Review of Water Year 2020 Operations to date

The release at the beginning of October was 600 cfs. By early November, the release was decreased to 300 cfs for a period of time to allow baseflows in the critical habitat to drop to their minimum of 500 cfs. During this time some instream work was performed by a variety of entities who required low flows. The release was increased back to 600 cfs after the work was completed in mid-November. Navajo has been slowly losing storage over the winter, as is typical. The reservoir began the water year (October 1st, 2019) at 6063.0 ft (1,386,548 af live storage). This is 43 feet higher than the reservoir elevation at the start of the previous water year.

Despite the long and late spring runoff season last year, summer and fall baseflows in the basin have been average to below-average. This is likely due to the persistent dry soils from the previous year, coupled with lack of monsoon this year.

Releases are made to target the San Juan River Basin Recovery Implementation Program's (SJRIP) recommended target base flow of between 500 cfs and 1,000 cfs through the critical habitat area. The target base flow is calculated as the weekly average of gaged flows throughout the critical habitat area (Farmington to Lake Powell).

Water Year 2020 Current Conditions

Current snowpack above Navajo Reservoir is at 12.5 inches of snow water equivalent (SWE), which is 109% of average. Snowpack above the Animas River basin is at 11.4 inches of SWE, which is 113% of average for that basin.

Reservoirs in the San Juan River Basin are all at average or above average storage levels for this time of year. Navajo Reservoir is 77% full, or 63% of active storage. Other area reservoirs are as follows: Vallecito, 62% full; Lemon, 44% full; Nighthorse, 97% full; McPhee, 76% full, and Jackson, 37% full.

Water Year 2020 Weather and Hydrologic Forecast

The latest water supply forecasts for the April-July runoff season (as provided by CBRFC on April 16, 2020) are as follows:

Navajo: 380 kaf (52% avg)
Vallecito: 133 kaf (69% avg)
Lemon: 37 kaf (67% avg)
Animas: 270 kaf (65% avg)
McPhee: 167 kaf (57% avg)
Powell: 5300 kaf (74% avg)

NWS

Aldis Strautins of the National Weather Service in Grand Junction, Colorado, provided an update on weather and the forecast. Please refer to the NWS slides in the presentation.

Southwestern Colorado has been warmer than normal so far this year. Precipitation has been well below normal over the headwaters since the first of the year. April has so far seen above average temperatures and below average precipitation. The latest storm (last week and weekend) brought precipitation to northern Colorado and very little to the southwest part of the state.

Moderate drought remains entrenched over the headwaters with severe drought over the lower elevations of southeastern Utah and southwestern Colorado. ENSO neutral conditions are present and are expected to continue into fall of 2020. CPC is showing a higher chance of above normal temperatures late spring into summer. Drought is predicted to remain in the Four Corners.

SNOTEL stations are showing typically just below average conditions, with melt beginning in most areas.

CBRFC

Ashley Neilson of the Colorado River Basin Forecast Center (CBRFC) in Salt Lake City, Utah, provided an update on the runoff forecast. Please refer to the CBRFC slides in the presentation.

Water supply forecasts in the San Juan River basin are currently below normal. The most favorable conditions are located in the western half of the basin (Animas, Lemon, and Vallecito) and deteriorate as you move east into the headwaters above Navajo reservoir. The Navajo reservoir forecast has been gradually decreasing since January with the most current (April Mid-Month) 50% exceedance forecast is 380 kaf (52% of average). Monthly precipitation has been below average since January with the exception of March, which had near normal precipitation.

Snow conditions in the basin exhibit a similar geographic trend as the volume forecasts. Near to slightly above normal conditions exist in the Animas, Lemon and Vallecito drainages while below normal conditions exist in the eastern headwaters.

Typically snow begins to accumulate above ~11k feet in October in the San Juan mountains. However, due to a very dry October there was essentially no snow accumulation above 11k feet by November 1st. This is represented in the upper zone (11k – 13k feet) of the CBRFC model, but not well represented by the SNOTEL locations, as they lie in a lower elevation band. A large portion of the seasonal runoff originates in the area above 11k feet, and the below normal snow conditions are being reflected in the forecasts (lower than you might expect given the conditions at the SNOTELS).

Dry soil moisture conditions are also negatively impacting the forecasts. The models predict that a portion of the runoff will be lost to soils. The degree of this impact will depend on spring weather and what type of melt scenario we see. In a “best case” runoff scenario, cool spring weather will give way to one prolonged warming period. This would lead to efficient runoff and less loss to soils. In the worst case, there would be repeating warm and cool periods, which would produce less efficient runoff and more loss to soils.

Based on long-term forecasts, which do not show significant precipitation on the horizon, forecasts are expected to continue to decline.

Water Year 2020 Proposed Operations

Based on the latest forecasts from NWS and the CBRFC, there is no spring peak release planned at Navajo Reservoir this spring. Releases from Navajo are expected to remain at or near their current level (400-600 cfs) throughout spring runoff season. Following spring runoff, releases will be increased as needed as the Animas River declines and irrigation increases. Releases will be made to target the SJRIP’s recommended target baseflow range of 500 to 1000 cfs in the critical habitat reach.

Under the most probable forecast, the reservoir is expected to peak between 6060 ft and 6065 ft in early to mid June. The end of water year storage elevation is expected to be near 6056 ft under this forecast. This elevation will greatly depend on summer weather and rains.

The range of likely flows in the critical habitat area (7-day average) are expected to be within the SJRIP recommended range of 500 to 1000 cfs with the exception of spring runoff, where the 7-day average will be closer to 3,000 cfs in early June.

Other area reservoirs: There will be no pumping to fill Lake Nighthorse this year. Lemon Reservoir has a low chance of filling. Vallecito has a 50% chance of filling. McPhee has a 30% chance of filling.

Please feel free to call or email (sbehery@usbr.gov, 970-385-6560) with questions and updates to operations plans. I will be doing my best to keep the Navajo Unit website updated with current status. <https://www.usbr.gov/uc/water/crsp/cs/nvd.html>

The next coordination meeting is planned for late August. A notice will be sent out when this meeting is scheduled.