

BUREAU OF RECLAMATION
NAVAJO RESERVOIR COORDINATION MEETING
April 19th, 2022
SUMMARY

Dear Interested Party:

Enclosed is a summary of our April 19th, 2022 meeting to coordinate Bureau of Reclamation's (Reclamation) operation of the Navajo Unit. The meeting was held virtually over Microsoft Teams video conferencing.

Summary points of the meeting:

- Drought conditions have improved in the Four Corners since this time last year but drought still persists and is still D1 and D2 in the mountain regions and at a D3 level in the downstream parts of the basin. There is a significant soil moisture deficit that will impact runoff.
- SW Colorado SWE peaked at 88% of Median
- April-July runoff projections range from 315 kaf (50% avg) to 590 kaf (94% avg) with a median projection of 390 kaf (62% avg).
- No planned SJRIP-prescribed Spring Peak Release in WY 2022. Summer releases will likely range from 600 cfs to 1,000 cfs.
- No projected shortage to contracted water users in WY 2022
- Projected End of Water Year Storage ranges from 740 kaf live/112 kaf active (6005 ft, 45% full) to 1,060 kaf live/434 kaf active (6040 ft, 64% full) with a median projection of 880 kaf live/254 active (6022 ft, 53% full)

Copies of the material presented, and past meeting notes are available online at:
<http://www.usbr.gov/uc/water/crsp/cs/nvd.html>

If you have any suggestions on improving the operation meetings or the summaries of the meetings, please let us know.

Next meeting date: Tuesday, August 23rd at 1:00 PM. This meeting is currently planned to be held in-person at the Farmington Civic Center, in Farmington, NM with a video and/or phone option for those who would like to attend virtually. This is subject to change based on the situation at the time. Please contact sbehery@usbr.gov for questions or updates. A notice will be sent out in July with meeting updates and details.

NAVAJO UNIT OPERATIONS MEETING

April 19th, 2022

Participation: This meeting was held virtually via Microsoft Teams. The attendance list is attached.

Purpose of Meeting: 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.

Operations in WY 2022 so far and Current Conditions in the Basin

Susan Behery, Reclamation

Throughout most of the fall and winter, Navajo released more than the inflow, losing approximately six feet of elevation from October to March. As runoff has increased over the last several weeks, reservoir storage has rebounded by more than two feet.

The release over most of the winter ranged between 300 cfs and 400 cfs, and was the minimum required to maintain the minimum target baseflow (TBF) in the critical habitat reach. The TBF goal range is between 500 cfs and 1,000 cfs on average along the USGS gages from Farmington, NM to Bluff, UT.

Reservoir elevation is approximately 13 feet lower today than it was this time last year. The reservoir is at approximately the 80th exceedance percentile of 1991-2020 elevations (in 80% of previous years at this time of year, the reservoir has been higher).

Around the basin, reservoirs are beginning to increase in storage as runoff begins. McPhee is at 50% live storage, Lake Nighthorse is at 97% live storage, Lemon is at 38% live storage, Vallecito is at 45% live storage, Jackson Gulch is at 57% live storage, and Navajo is at 51% live storage (24% of active storage).

Looking at the larger Upper Colorado River Basin, Blue Mesa is at 29% live storage, Flaming Gorge is at 78% live storage, and Lake Powell is at 24% live storage.

Weather Summary and Outlook

Aldis Strautins, National Weather Service, Grand Junction

Water Year 2022 Temperatures and Precipitation can be divided into two stories- that of October-December, and another from January to April. The first part of WY 2022, October-

December, saw above average temperatures and above average precipitation, mainly from a large storm system at the end of December. Since January, temperatures have been slightly below average, and precipitation totals have been much below average.

Snow Water Equivalent (SWE) peaked at 88% of median for the Southwest Colorado mountains. The few snow events in late December, late February, and a little bit in March are largely responsible for most of the accumulated SWE.

The drought monitor is showing an improvement over this time last year. In April of 2021, most of the Four Corners was in a D4 Exceptional Drought. In 2022, that has been reduced to a D3 in the lower San Juan, or even D1-D2 in the upper San Juan.

Currently we are in a La Nina event. The CPC/IRI Early-Month Consensus ENSO Forecast probabilities show a possibility moving towards a Neutral condition by late summer.

CPC is showing likelihoods of below average precipitation and above average temperatures throughout the rest of the spring and into summer. A summer monsoonal signature is showing up in the forecast in Arizona and New Mexico.

Runoff Outlook

Ashley Nielson, Colorado Basin River Forecast Center, Salt Lake City

The last monsoon season was much wetter than in recent years, especially across southern Arizona and central Utah. In the San Juan Basin, the summer-fall 2021 monsoon season was near to slightly below normal. While the rains certainly helped the soil moisture deficit, they were not enough to overcome the multiple years of insufficient hydrology. This deficit is expected to have impacts to runoff.

The CBRFC Model Snow Water Equivalent is showing below normal conditions at all elevations. Areas above Navajo Reservoir have slightly better conditions than the rest of the basin. Significant melt has occurred below 11,000 ft, much earlier than normal. Snow accumulation is still possible above 11,000 ft as the normal peak SWE occurs in early May. However, weather forecasts do not show favorable conditions for much snow accumulation in the coming weeks.

Several dust events have occurred this spring. Snow contamination grids from NASA/JPL are made available to the CBRFC. The grids are used to calibrate the model and for daily operations. In the model calibration, the 2000-2020 datasets are used to fine tune snowmelt timing at high elevations. In the daily operations, the current datasets are used to improve model streamflow simulation and short-term forecasts by applying a temperature adjustment to the snow models.

The latest most probable April official forecast is for 390 kaf (62% of average) for April- July. The April 50% exceedance forecasts are very similar to the observed April-July volumes in WY 2021. Forecast guidance has decreased by 5-10% of average since this April official forecast.

The average error for the April official forecasts is 18%. The typical error for the May official forecasts is 15%. The primary sources of forecast error are future weather (precip and temperature, and extreme events), and model state (current conditions representative of reality). Extensive analyses performed annually in the fall aim to learn from and improve on these forecast errors.

Proposed Operations for WY 2022

The official April-July water supply forecasts for the coming spring are as follows:

As of April 2022:

Navajo: 390 kaf (62% avg)

Vallecito: 128 kaf (72% avg)

Lemon: 32 kaf (67% avg)

Animas: 275 kaf (71% avg)

McPhee: 152 kaf (60% avg)

Powell: 4,100 kaf (64% avg)

**1991 –2020 average*

So far, 46.6 kaf modified unregulated inflow has been observed coming into Navajo Reservoir, which is 12% of the MUI forecast.

Based on operational projections from the inflow forecasts, we expect the release at Navajo to remain between 300 cfs and 600 cfs throughout the spring, depending on irrigation and runoff timing. Summer releases will most likely range between 600 cfs and 1,000 cfs to maintain the downstream target baseflows during irrigation season.

No SJRIP-recommended spring peak release is currently forecast due to low storage levels and insufficient hydrology. The currently projected end of water year (Sept 30th, 2022) storage range is 740 kaf live/112 kaf active (6005 ft, 45% full) – 1,060 kaf live/434 kaf active (6040 ft, 64% full) with a median projection of 880 kaf live/254 active (6022 ft, 53% full). No shortages are currently projected.

Around the basin, inflow forecasts are similarly below-average. Forecast inflow for Lemon Reservoir is 58% of average. Lemon is forecast to peak at 62% full. Forecast inflow for Vallecito Reservoir is 90% of average. Vallecito is forecast to peak at 77% full. Forecast inflow for McPhee Reservoir is 61% of average. McPhee is forecast to peak at 64% full. Forecast inflow for the Animas River is 71% of average. Nighthorse is anticipated to require approximately 30 days of pumping at 64 cfs to recover a total volume of 3,779 af.

Drought Response Operations Update

The Drought Response Operations Agreement (DROA) is a key tool we have for addressing the impact of drought on the Colorado River and on operations at Glen Canyon Dam, in collaboration with our state partners and other federal and non-federal stakeholders and tribes. The purpose of DROA is to protect critical elevations at Lake Powell.

Elevation 3,490 feet at Lake Powell is the lowest elevation at which we can generate power, which is critical to Reclamation's operations. Glen Canyon Dam generates enough energy to meet the needs of 363,000 households, including large power suppliers, large and small municipalities, and Tribes. Revenue from the generation of this hydropower is essential for continued operation of Reclamation facilities and for funding environmental compliance efforts. Maintaining an elevation above 3,490 feet is also for operational reasons, as falling below has the potential to lead to cavitation, debris entrapment, and severe damage to the power facility.

The States and Reclamation determined one of the purposes of DROA would be to start protection at an elevation of 3,525 feet, which is 35 feet above minimum power pool elevation of 3,490 feet. The agreement provides two tools to this end. One is to adjust timing of deliveries from Lake Powell to Lake Mead, and the second tool is to make supplemental deliveries from upper initial Colorado River Storage Project (CRSP) Units: Flaming Gorge, Blue Mesa, and Navajo.

As part of that effort, under that agreement, when Lake Powell hit certain elevation triggers, Reclamation began enhanced monitoring, modeling, and coordination with the States and began to develop a plan for protecting those elevations at Lake Powell.

In July 2021, rapidly declining hydrology and an imminent need to protect Lake Powell's elevation prompted an emergency action under DROA. Supplemental deliveries to Lake Powell within the Record of Decisions (ROD) of each upper initial unit were scheduled, and in some cases began. An additional 181,000 acre-feet of water were scheduled to be released to Lake Powell by the end of December. The 181,000 acre-feet is equivalent to approximately 3-feet at Lake Powell. The 181,000 acre-feet is divided as follows: Flaming Gorge: 125,000 af released from July to October, Blue Mesa: 36,000 af released from August – October, and Navajo: 20,000 af released from November to December. As you may already know, the Navajo release of 20,000 af was cancelled due to poor hydrologic forecasts. Therefore, a total of 161,000 af was released to Powell.

The provision that looks at changing release volume timing from Glen Canyon Dam has also been moving forward. A plan was put forward to adjust Glen Canyon release volumes in CY 2022. Those adjustments began in January of this year. 350kaf will be withheld in the first months of the year through April, and that same volume will be released later in the year. These operational adjustments are consistent with the Glen Canyon Dam Long-Term Experimental and Management Plan (LTEMP) Record of Decision (ROD).

The Plan Framework is a static guidance document that will be used for all DROA operations concerning authorities, hydrology, DROA applications, accounting, consultation, and monitoring. Attachments for each reservoir accompany the Framework and will be specific to the current year. Attachment E concerns Navajo Reservoir. Currently no DROA release is planned for Navajo Reservoir in WY 2022.

The framework documents for DROA are being finalized this week and will soon be available on the Reclamation website. The Upper Colorado River Commission (UCRC) will be holding a

special session on Thursday, April 21st, to consider the plan. The final plan will be sent to the Secretary of Interior by the end of April for final signature.

The Upper Basin States and Reclamation have worked diligently to have a plan in place by the end of April of 2022. Enhanced modeling continues to take place and will assist in planning any additional DROA releases in the future.

Drought Contingency Plans

<https://www.usbr.gov/dcp/finaldocs.html>

DROA Framework Documents

<https://www.usbr.gov/dcp/droa.html>

Attendance List – April 19th, 2022 Navajo Operations Meeting

Aaron Chavez	San Juan Water Commission
Aldis Strautins	NWS Grand Junction
Ali Effati	NMISC
Amee Andreason	Reclamation
Ashley Nielson	CBRFC
Barry Massey	Recreationalist
Carrie Padgett	SWWCD
Chico Quintana	FCCO
Christina Noftsker	NMISC
Clay Johnston	Turley Manzanares
Colleen Cunningham	NMISC
Crystal Tulley-Cordova	Navajo Nation Department of Water Resources
Dex Lewis	Reclamation
Diane Agnew	Albuquerque Bernalillo County Water Utility Authority (ABCWUA)
Dominique Work	NMISC
Ed Warner	Reclamation
Elizabeth Anderson	ABCWUA
Ernie Rheume	Reclamation
Evelyn Archuleta	No affiliation
Fletcher Brinkerhoff	USGS
George Gavrielides	Southern Ute Indian Tribe
Heather Patno	Reclamation
Helen Sobien	NMISC
Henry Day	APS
Jacob Mazzone	Jicarilla Apache Nation
James Miller	FWS
Jamie Shockey	City of Farmington
Jeanette Joe	NAPI
Joe Trungale	TNC
Kathi Smith	Hammond Conservancy District
Katie Kennedy	TNC
Kyle Harwood	No affiliation
Les Larson	Hillside Irrigation District
Letisha Yazzie	NMOSE
Linda Corwin	Bloomfield, NM
Lionel Haskie	NAPI
Lisa Yellow Eagle	SUIT
Marc Miller	Reclamation
Mike Greene	PNM
Miles Juett	NMOSE
Moncef Tihami	Reclamation
Nathan Franssen	FWS, SJRIP
Nathaniel Todea	Reclamation

	SJWG Steering Committee/Retired NMED Environmental Specialist
Norman Norvelle	Specialist
Pamela Norris	APS
Pat Page	Rocking Chair Enthusiast
Paul Montoia	City of Farmington
Peter Nylander	SUIT
Philip Johnson	Jacobs Engineering
Philip Richards	APS
Reynalden Delgarito	USACE
Robb Carter	Navajo State Park
Robert Jordan	Logos Resources LLC
Robert Kirk	Navajo Nation
Robert Wormuth	Turley Manzanares
Roselyn Yazzie	NAPI
Sam Prda	Navajo Lake Marina
Scott Branham	Reclamation
Scott Durst	FWS, SJRIP
Scott Miller	APS
Shawn Williams	NMOSE
Stacy Dodd	Bloomfield Irrigation District
Steve Austin	Navajo Nation EPA
Steve Wolf	SWWCD
Susan Behery	Reclamation
Ted Dunn	Reclamation
Trevor Birt	NMOSE

