BUREAU OF RECLAMATION
NAVAJO RESERVOIR COORDINATION MEETING
January 18th, 2022
SUMMARY

Dear Interested Party:

Enclosed is a summary of our January 18th, 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 due to rains but drought still persists and is still at a D3 level in many places. Despite the rain, soil moisture conditions are largely the same or worse than they were starting last year, due to the lack of above-average precipitation needed to fill the soil moisture deficit.
- The release of an extra 20,000 acre-feet from Navajo to Powell that was scheduled at the end of December was cancelled due to poor hydrology forecasts at the time. This release was to occur under the Drought Response Operations plan.
- Runoff projections range from 375 kaf (60% avg) – 995 kaf (158% avg) with a median projection of 550 kaf (88% avg).
- There is currently a less than 10% chance for either shortage or an SJRIP-prescribed spring peak release. Most likely operations for WY2022 are the minimum releases required to maintain the target baseflow.
- The currently projected end of water year (Sept 30th, 2022) storage range is 820 kaf (6015 ft, 50% full) – 1,326 kaf (6063 ft, 80% full) with a median projection of 1,034 kaf (6038 ft, 63%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. The next meeting will be held on **Tuesday, April 19th at 1:00 PM. This meeting is currently set to be in a virtual format. A meeting notice with conferencing information will be sent out prior to the meeting date.**

NAVAJO UNIT OPERATIONS MEETING
January 18th, 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.

Drought Response Operations

Robert Henrie, Upper Colorado Basin Region, Reclamation, Salt Lake City

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).

In the meantime, the Upper Basin States and Reclamation are committed to completing our planning efforts and are striving to have a plan in place by April of 2022. Enhanced modeling continues to take place and will assist in planning any additional DROA releases in the future.

For more information on DROA, please see the links below.

Drought Contingency Plans
https://www.usbr.gov/dcp/finaldocs.html

Attachment A1- Agreement for Drought Response Operations at the Initial Units of the Colorado River Storage Project Act
https://www.usbr.gov/dcp/docs/final/Attachment-A1-Drought-Response%20Operations-Agreement-Final.pdf

News Release regarding DROA
https://www.usbr.gov/newsroom/#/news-release/3917

Q: How much released water made it to Powell? A: Navajo did not make any releases to Powell as scheduled, but Blue Mesa and Flaming Gorge did. There was no formal tracking mechanism for the emergency release. The framework document addresses accounting, so formal efforts will be made to track future releases.

Weather Summary and Outlook
Aldis Strautins, National Weather Service, Grand Junction – presented by Susan Behery

Water Year 2021 was overall below average for precipitation and above average for temperatures in the Four Corners and San Juan Mountains. That continued into the beginning of WY 2022 with above average temperatures and near average precipitation due to an average monsoon season and a large snowfall event at the end of December. The December snowfall event increased snowpack in the San Juans from 5 inches to over 11 inches in under a week.

Currently snowpack is 124% of normal. January has been mostly dry and warm, with well below average precipitation.

The drought monitor is showing an improvement over this time last year. In January 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 likelihood of moving towards a Neutral condition by late spring or early summer.

CPC is showing likelihoods of below average precipitation and above average temperatures throughout the rest of the winter and early spring.

Runoff Outlook

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

The 2021 Monsoon Season was much wetter than in recent years, especially across southern Arizona and central Utah. In the San Juan Basin, the 2021 monsoon season was near to slightly below normal.

Precipitation for WY 2021 has been variable by month. October monsoon events were close to normal, but November was one of the driest on record. Late December snowfall brought the month's precip totals to as high as 200% of average in some places.

The San Juan Basin has experienced two consecutive years of below normal spring runoff. While we see some improvements to conditions from the precipitation this fall, streamflow conditions are still much below normal. An average monsoon season (2021) cannot make up for multiple years of near/record dry conditions. Soil moisture remains poor and is actually even slightly worse in the San Juan Basin than it was this time last year. Dry soils are likely to impact spring runoff efficiency.

The CBRFC Model Snow Water Equivalent is showing below normal conditions above 11k feet. Eastern headwaters have near normal conditions above 11k feet. SWE conditions below 11k feet are normal to above normal. It's still early in the snow accumulation season.

The statical averages throughout federal agencies have been updated to conform to World Meteorological Organization Standards and is now at 1991 – 2020, which replaces the timeframe previously used, 1981 – 2010. The especially wet period in the 1980s is now excluded from the statistical set, and focus is placed on the more recent drier trends. Water supply forecasted and observed volumes will be higher as a percent of average compared to the same volume last year. Averages in the San Juan River basin decreased by 10-20%.

The latest most probable January official forecast is for 550 kaf for April- July. Daily model guidance indicates a likelihood of a decreasing forecast if this dry trend we've seen in January continues.

Review of Water Year 2022 Operations to date

At the beginning of WY 2022, the reservoir elevation was at 6024 ft (903 kaf of live storage). As of January 16th, the reservoir is at 6020 ft (865 kaf live storage). This is a difference of -38 kaf since the beginning of the water year. Inflows into the reservoir were lower than the release throughout much of the winter, causing a steady decrease in storage until runoff season began.

The release has varied so far through the fall and winter from a high of 700 cfs in early October to a low of 300 cfs throughout December in order to maintain the target baseflow range of 500 – 1000 cfs. We typically target the minimum of that range to save water throughout the year. The release will decrease as irrigation demand decreases.

At the start of the water year, the reservoir was in the lowest 70th -90th percentile range of historical levels.

Current storage levels across the basin are below average. Navajo is 51% full, Vallecito is 29% full, Lemon is 33% full, McPhee is 43% full, and Jackson is 41% full. Lake Nighthorse pumped to fill this season and is currently 98% full.

Proposed Operations for WY 2022

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

As of January 2022:
Navajo: 550 kaf (87%* avg)
Vallecito: 155 kaf (88% avg)
Lemon: 42 kaf (88% avg)
Animas: 360 kaf (94% avg)
McPhee: 235 kaf (92% avg)
Powell: 6,300 kaf (99% avg)
**1991 –2020*

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. 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 820 kaf (6015 ft, 50% full) to 1,326 kaf (6063 ft, 80% full) with a median projection of 1,034 kaf (6038 ft, 63% full). No shortages are currently projected.

Q: At what elevation level at Navajo would you be comfortable considering emergency DROA releases? A: There isn't a specific elevation that dictates that for us or where there is a trigger. The model is run monthly to assess risks to contracts and identify potential flexibilities in

operations. The goal is to protect contracts and that no water released to Powell for drought efforts will impact those contracts.

Summary

- The release to Powell that was scheduled for December was cancelled due to poor forecasts.
- Dry soils persist throughout the San Juan River Basin, which will likely impact runoff efficiency.
- While early snowpack is above average, the forecast is dry and for above average temperatures.
- The current most probable forecast is for 550 kaf (88% of average) for April-July runoff.
- Currently there is no SJRIP-recommended spring peak release scheduled.
- The release through the spring is expected to be the minimum required to maintain the target baseflow, and will likely range from 300 cfs to 600 cfs.
- The most probable end of water year (Sept 30th) reservoir elevation, under normal operations, is projected to be 6038 feet (63% full).

Next Coordination Meeting - The next meeting will be held on **Tuesday, April 19th, 2022 at 1:00 PM. The meeting will be in a virtual format. A meeting notice with conferencing details will be sent out prior to the meeting date.**

Attendance List – January 18th, 2022 Navajo Operations Meeting

Aaron Chavez	San Juan Water Commission
Adrienne Soder	APS
Ali Effati	NMISC
Amee Andreason	Reclamation
Ashley Nielson	Colorado Basin River Forecast Center (CBRFC)
Billy Weaver	n/a
Brandt Hart	BLM River Ranger, Lower San Juan, Bluff, Utah
Carrie Padgett	Southwestern Water Conservation District
Chad Niehaus	BLM San Juan River Ranger
Christina Noftsker	NMISC
Clay Cady	Arizona Public Service (APS)
Colleen Cunninghamm	New Mexico Interstate Stream Commission (NMISC)
Dominique Work	NMISC
Duane Joe	Navajo Agricultural Products Inc (NAPI) O&M
Erik Knight	Reclamation
Evelyn Archuleta	n/a
Frederic L. Shean	ABCWUA
Gordon Miller	San Juan Water Commission
Henry Day	APS
Jeanette Joe	NAPI O&M
Jeff Derry	Center for Snow and Avalanche Studies (CSAS)
Jeff Morris	BLM Monticello
Jeff Smaka	City of Farmington
Jennifer Erickson	Reclamation
Kathi Smith	Hammond Conservancy District
Linda Corwin	Bloomfield, NM
Liz Serrano	Bloomfield Irrigation District (BID)
Marc Miller	Reclamation
Miles Juett	NMOSE
Nabil Shafike	US Army Corps of Engineers (USACE)
Noah Derrick	USGS UTWSC Moab
Pamela Norris	APS
Patrick Page	Reclamation
Philip Johnson	Jacobs Engineering
Renae Pablo	NAPI
Reynalden Delgarito	USACE
Robert Henrie	Reclamation
Robert Kirk	Navajo Nation DWR - WMB
Ryan Christianson	Reclamation
Ryan Seamus Royer	Reclamation FCCO
Sam Prda	Navajo Lake Marina

Scott Branham	Reclamation
Scott Durst	SJRIP (FWS)
Scott Miller	APS
Shannon Hatch	Reclamation
Shawn Williams	NMOSE
Stacy Dodd	Bloomfield Irrigation District (BID)
Steve Wolff	SWCD
Susan Behery	Reclamation
Tami Sheldon	Reclamation
Ted Dunn	Reclamation
Tom Chart	Grand River Consulting