

**BUREAU OF RECLAMATION
NAVAJO RESERVOIR
AUGUST 11, 2015 MEETING NOTES
SENT VIA FAX AND E-MAIL**

Dear Interested Party:

Enclosed is a summary of our August 11, 2015, meeting to coordinate Reclamation's operation of the Navajo Unit. The meeting was held at the Civic Center in Farmington, New Mexico.

- WY2015 had below average snowpack for most of the winter, but precipitation in May-June was well above-average.
- WY2015 April – July Inflow was 84% of average (620 Kaf)
- No Spring Peak Release was conducted for WY 2015.
- Minimum Summer Release = 350 cfs, Current Release = 650 cfs
- After rainy spring, the reservoir has effectively “recovered” according to new Interim Operations for Navajo. Some water has become “available” for the SJRIP’s biologic purposes beyond the minimum targets. Target base flows have been held slightly higher this summer and some water was available for mitigation for the mine spill event.
- Most Probable April – July hydrologic forecast for 2016 is 93% of average.
- A 3-week at 5,000 cfs spring peak release is forecast for spring 2016 under the Most Probable forecasted operations. The Min/Max are a wide range from no-release to a full-release plus nose.
- Typically the CBRFC hydrologic forecasting skill for the coming snow year is very low during the August forecasts.
- El Nino has been declared but the expected effects on the San Juan River Basin are uncertain.

Copies of these meeting notes and the material presented at the meeting are available online at <http://www.usbr.gov/uc/wcao/water/rsvrs/mtgs/nmcurrnt.html>.

If you have any suggestions for the operation meetings or the summaries of the meetings, please let us know. The next meeting will be held on **Tuesday, January 26, 2016 at 1:00 at the Farmington Civic Center, Farmington, New Mexico (200 West Arrington Street)**. If you have questions, please call Marc Miller at 970-385-6541 or email mbmiller@usbr.gov or Susan Novak Behery at 970-385-6560 or email sbehery@usbr.gov or Ruth Swickard at 970-385-6523 or email rswickard@usbr.gov.

NAVAJO UNIT OPERATIONS MEETING

August 11, 2015

Participation: This meeting was held in Farmington, New Mexico at the Civic Center. 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.

Guest Speakers

Aldis Strautins from the Grand Junction National Weather Service presented a slide presentation concerning how the weather forecasts are compiled. The May and June rainfall was the result of two tropical storms occurring in the Pacific Ocean.

Ashley Nielson from the Colorado River Basin Forecast Center in Salt Lake City, Utah explained how the reservoir inflow forecasts provided to Reclamation are developed. Official forecasts are created once per month.

Kristin Green from the New Mexico Interstate Stream Commission located in Santa Fe, New Mexico presented an introduction to the Colorado River Basin System Conservation Pilot Program (SCPP). The program addresses the extended drought, critically low levels at Lake Powell and Lake Mead putting water supplies, hydropower production, water quality, recreation and environmental resources at risk. The program presently has five funding partners including Reclamation to develop, test and gather data on short-term water saving pilot programs that will benefit reducing consumptive use of water needed to increase the water levels in Lake Powell and Lake Mead. Kristen would be happy to discuss this program or answer any questions; she can be contacted by phone at (505) 827-6145 or email at KristinN.Green@state.nm.us.

Review of Water Year 2015 Operations to date

Winter 2015 precipitation and soil moisture were below average, and temperatures were above average all winter and through the end of April. Snow began to melt very early, starting as early as February, under the warm temperatures. A false "peak" occurred in late March, and snowpack fell dramatically. At the time, it appeared that 2015 runoff would be the lowest of the last several years. In May, the forecasted inflow for Navajo was on 31% of average. Reclamation and the SJRIP agreed to forgo a spring peak release in 2015 in favor of recovering the reservoir and ensuring that user needs and target base flows were met in future years. The stage was set for a very dismal water year.

May of 2015 showed the opposite side of the coin, with below-average temperatures and several storms producing both rain and snow. During the month of May, the upper San Juan River Basin received 6 to 11 inches of observed precipitation. This pattern continued into June, when unseasonably large tropical storms produced large inflows into all San Juan River Basin reservoirs. Much of the April-July runoff is due to rainfall, rather than snowpack runoff. A second inflow “peak” from the May-June storms occurred in June. Vallecito reservoir went into flood-control mode in early June, contributing up to 6,000 af per day to the Pine River above Navajo during the peak of the event.

The wetter-than-average summer has allowed releases from Navajo to remain at 350 cfs while still meeting all user demands and environmental commitments. Reduced demands on the river and water supply due to the rain also contributed greatly to the speed of reservoir recovery. The releases in summer of 2015 have been on par or slightly lower than those typically released for a “wet” year. The reservoir reached a peak elevation of 6069.6 ft on July 20th. Interim 2015 operations* were employed at this point, increasing the release to 650 cfs with the goal of reaching September 30th storage target at or near 6063 ft.

**Under the Interim 2015 Operations the flow recommendations are still in place, but the decision tree is no longer being used to determine Spring Peak Releases. Available water for spring peak release is calculated by using an end of water year storage target (EWYST) of 6063 feet (with an option of going down to 6050 ft). These elevation targets were calculated to minimize the risks of both storage and a spill in the reservoir. Navajo releases will be operated to meet the EWYST (with all contracts and target base flow being met). Volume over the EWYST will then be available for spring peak releases or other SJRIP adaptive management purposes. In dry years, the reservoir may come short of the EWYST, and there will no Available Water for SJRIP purposes beyond maintaining the base flows. Hydrologic modeling shows the risk of shortage is minimized under this operational method.*

On Friday, August 7th, Reclamation increased the release from Navajo Reservoir from 650 cfs to 1300 cfs as requested by the SJRIP in response to the Gold King Mine spill. The release was held over the weekend and decreased back down to 650 cfs Monday, August 11th in the morning.

Water Year 2016 Outlook

Consensus among weather professionals is the emergence of a “strong” El Nino for the coming winter. However, there is uncertainty as to whether or not this will result in a wet winter for the San Juan River Basin, as our region tends to be in-between the zones of influence for ENSO. Current CBRFC inflow forecasts into the basin do not include El Nino signatures for this reason. However, the Climate Prediction Center (CPC) is forecasting above-average precipitation and below-average temperatures for the southwest, including most of the San Juan River Basin, through the winter of 2016.

Preliminary Water Year 2016 April-July modified unregulated inflow forecasts for Navajo Reservoir show a wide spread, as is typical for this time of year. The Minimum Probable forecast is for 287 kaf (44% of average), the Most Probable is for 682 kaf (93% of average), and the Maximum Probable forecast is for 1,137 kaf (154% of average).

Water Year 2016 Proposed Operations

The proposed Spring Peak release for 2016 ranges from no spring peak release under Minimum Probable, a 3-week spring peak release under Most Probable, and a full spring peak release under Maximum Probable. These were calculated under an EWYST of 6063 ft. Additional water may be made available using the EWYST 6050 ft option. Under all three current forecasts, the target base flows and user demands will be met.

Nearby Projects Update

San Juan River Basin area reservoirs are currently 80% full or better. All reservoirs are higher than they have been in recent years. Lemon and Vallecito reservoirs both filled, after experiencing a series of strong storms in early June, resulting in rapidly rising storage at both reservoirs. Both reservoirs went into flood control at this time, making higher releases to prevent any uncontrolled spill. Lemon released its outlet works max of 913 cfs. Vallecito released up to 3000 cfs, using the spillways in addition to the outlet works. Reclamation was part of an interagency team including irrigation districts, the USACE, and local emergency management during this event.

Pumping during May and June from the Animas River topped off Lake Nighthorse to its maximum elevation of 6882 ft (115,075 af live storage). Total volume pumped was 2,156 af. Heavy rains during the pumping window reduced the volume required to top off the reservoir.

Maintenance Activities

Earthwork and drainage ditch repair on the right side of the spillway at Navajo will begin in the fall of 2015 or over the winter of 2016. Appropriate agencies will be contacted before the work begins.

A flowmeter will be installed at the main outlet works at Navajo during FY2016.

Agency/Organization Activities and Discussion of Related Activities

APS – Retirement of 3 units is causing reduced consumption, down 4-5,000 af. They will continue to monitor.

CBRFC – Stakeholder workshop will be held October 20th in Salt Lake City

City of Farmington – Opened Farmington Lake- no motorized boats. Inspection station is open. Meetings this week to discuss water quality due to the mine spill are at the Civic Center. Congressman Lujan and the Navajo Nation will give presentations.

City of Farmington Utilities – One unit is operating. Their max possible release is currently 650 cfs with one unit.

Colorado State Parks and Wildlife – The marina and boat ramp are presently being used. A boat

inspection station and a decontamination building are on site for prevention of invasive species from entering reservoir.

Navajo State Park – Boat ramp and aquatic decontamination station is complete. Permanent inspection station and access improvement is under construction. A boat from Lake Powell was decontaminated after suspected zebra/quagga mussels were found.

New Mexico Game and Fish – Habitat work from Simon Canyon to lower boat ramp is in preliminary planning stages.

NMOSE – Looking at ditches and getting a feel for the conditions and material that may have been deposited during the mine spill.

Next Meeting - Scheduled for **1:00 p.m. on Tuesday, January 26, 2016** at the Civic Center in Farmington, New Mexico (200 West Arrington Street).

Attendance List – August 11, 2015 Navajo Operations Meeting

Ashcroft, Nick, West Hammond Domestic Water Assoc., Bloomfield NM
Behery, Susan, Bureau of Reclamation, Durango CO
Carlisle, Alexandra, Navajo Agricultural Products Industry, Farmington NM
Carter, Robb, CO State Parks and Wildlife, Navajo Lake Marina, Arboles, CO
Christianson, Ryan, Bureau of Reclamation, Grand Junction CO
Conbly, Vincent, Anderson Hay Company, Albuquerque NM
Day, Henry, Arizona Public Service, Phoenix AZ
Dodd, Stacy, Bloomfield Irrigation District, Bloomfield NM
Duncan, Martin, San Juan River Dineh Water Users Inc., Shiprock NM
Durst, Scott, US Fish and Wildlife Service. Albuquerque NM
Franssen. Nate, US Fish and Wildlife Service. Albuquerque NM
Garcia, Ryan, Navajo Agricultural Products Industry Farmington NM
Gould, Stacey, Navajo Agricultural Products Industry Farmington NM
Green, Kristin, NM Interstate Stream Commission, Santa Fe NM
Greene, Mike, Public Service of New Mexico, Bloomfield NM
Grimes, Richard, Arizona Public Service, Phoenix AZ
Harvey, Jason, BP Billiton, Farmington NM
Haskie, Lionel, Navajo Agricultural Products Industry, Farmington NM
Horner, Gary, Citizen, Farmington NM
Howe, Michael, BIA, Navajo Indian Irrigation Project, Farmington NM
Joe, Jeanette, Navajo Agricultural Products Industry O&M, Farmington NM
Lane, Teresa, Hammond Conservancy District, Bloomfield NM
Lile, Carrie, Southwest Conservation District, Durango CO
Miller, Gordon, San Juan Water Commission, Aztec NM
Miller, Richard, City of Farmington, Farmington NM
Miller, Scott, Arizona Public Service, Phoenix AZ
Montoia, Paul, City of Farmington, Farmington NM
Nez, Eric J., Navajo Agricultural Products Industry, Farmington NM
Nielson, Ashley, NOAA/Colorado Basin River Forecast Center, Salt Lake City, UT
Prda, Sam, West Hammond Domestic Water Assoc., Bloomfield NM
Secrist, Doug, CO State Parks and Wildlife, Navajo Lake, Arboles, CO
Steele, Karey, Bloomfield Irrigation District, Bloomfield NM
Strautins, Aldis, National Weather Service, Grand Junction CO
Swickard, Ruth, Bureau of Reclamation, Durango CO
Tanakan, Susan, Arizona Public Service, Phoenix AZ
Watson, Blaine, NM Office of the State Engineer, Aztec NM
Wethington, Marc, NM Department of Game and Fish, Navajo NM
Williams, Shawn, NM Office of the State Engineer, Aztec NM
Wimsatt, Marian, BHP Billiton, Farmington NM