

**August 24-Month Study**  
**Date: August 15, 2024**

**From:** River Operations Group, Salt Lake City  
**To:** All Colorado River Annual Operating Plan (AOP) Recipients

**Current Reservoir Status**

	July Inflow (unregulated) (acre-feet)	Percent of Average (percent)	August 14 Midnight Elevation (feet)	August 14, Midnight Reservoir Storage (acre-feet)
Fontenelle	73,200	43%	6,498.44	276,833
Flaming Gorge	79,100	39%	6,028.73	3,216,546
Blue Mesa	93,600	87%	7492.71	599,038
Navajo	35,000	73%	6,047.16	1,138,653
Powell	646,700	67%	3,582.42	9,488,946

**Expected Operations**

The operation of Lake Powell and Lake Mead in the August 2024 24-Month Study is pursuant to the December 2007 Record of Decision on Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead (Interim Guidelines), the Supplemental Environmental Impact Statement for Near-term Colorado River Operations Record of Decision (2024 Interim Guidelines SEIS ROD),<sup>1</sup> and reflects the draft 2024 Annual Operating Plan (AOP). Pursuant to the Interim Guidelines, the August 2023 24-Month Study projections of the January 1, 2024, system storage and reservoir water surface elevations set the operational tier for the coordinated operation of Lake Powell and Lake Mead during 2024.

On May 6, 2024, Reclamation published the 2024 Interim Guidelines SEIS ROD, which included modifications to Sections 2, 6, and 7 of the 2007 Interim Guidelines. Subsequent 24-Month Studies reflect the 2024 Interim Guidelines SEIS ROD in modeled operations.

The August 2023 24-Month Study projected the January 1, 2024, Lake Powell elevation to be less than 3,575 feet and at or above 3,525 feet and the Lake Mead elevation to be at or above 1,025 feet. Consistent with Section 6.C.1 of the Interim Guidelines the operational tier for Lake Powell in water year (WY) 2024 will be the Mid-Elevation Release Tier and the water year release volume from Lake Powell will be 7.48 million acre-feet (maf).

The August 2023 24-Month Study projected the January 1, 2024 Lake Mead elevation to be below 1,075 feet and above 1,050 feet. Consistent with Section 2.D.1 of the Interim Guidelines, a Shortage Condition consistent with Section 2.D.1.a will govern the operation of Lake Mead for calendar year (CY) 2024. In

---

<sup>1</sup> 2024 Interim Guidelines SEIS ROD is available online at:  
[https://www.usbr.gov/ColoradoRiverBasin/documents/NearTermColoradoRiverOperations/20240507-Near-termColoradoRiverOperations-SEIS-RecordofDecision-signed\\_508.pdf](https://www.usbr.gov/ColoradoRiverBasin/documents/NearTermColoradoRiverOperations/20240507-Near-termColoradoRiverOperations-SEIS-RecordofDecision-signed_508.pdf).

addition, Section III.B of Exhibit 1 to the Lower Basin Drought Contingency Plan (DCP) Agreement will also govern the operation of Lake Mead for CY 2024. Lower Basin projections for Lake Mead take into consideration additional conservation efforts under the LC Conservation Program.

The August 2024 24-Month Study projects the January 1, 2025, Lake Powell elevation to be less than 3,575 feet and at or above 3,525 feet and the Lake Mead elevation to be at or above 1,025 feet. Consistent with Section 6.C.1 of the Interim Guidelines, as amended by the 2024 Interim Guidelines SEIS ROD, the operational tier for Lake Powell in WY 2025 will be the Mid-Elevation Release Tier and the water year release volume from Lake Powell is projected to be 7.48 maf.

The August 2024 24-Month Study projects the January 1, 2025 Lake Mead elevation to be below 1,075 feet and above 1,050 feet. Consistent with Section 2.D.1 of the Interim Guidelines, a Shortage Condition consistent with Section 2.D.1.a will govern the operation of Lake Mead for CY 2025. In addition, Section III.B of Exhibit 1 to the Lower Basin DCP Agreement will also govern the operation of Lake Mead for CY 2025. Lower Basin projections for Lake Mead take into consideration additional conservation efforts under the LC Conservation Program.

The 2025 operational tier determinations for Lake Powell and Lake Mead will be documented in the 2025 AOP, which is currently in development.

Current runoff projections into Lake Powell are provided by the National Weather Service's Colorado Basin River Forecast Center. The observed unregulated inflow into Lake Powell for the month of July was 0.647 maf or 67% of the 30-year average from 1991 to 2020. The August 2024 unregulated inflow forecast for Lake Powell is 0.210 maf or 56% of the 30-year average. The preliminary observed 2024 April through July unregulated inflow for Lake Powell is 5.33 maf or 83% of average. The WY 2024 unregulated inflow forecast for Lake Powell is 7.94 maf or 83% of average.

The draft 2024 AOP is available online at:

[https://www.usbr.gov/lc/region/g4000/AOP2024/AOP24\\_draft.pdf](https://www.usbr.gov/lc/region/g4000/AOP2024/AOP24_draft.pdf).

The Interim Guidelines are available online at:

<https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf>.

The Colorado River DCPs are available online at:

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

The Upper Basin Hydrology Summary is available online at:

[https://www.usbr.gov/uc/water/crsp/studies/24Month\\_08\\_ucb.pdf](https://www.usbr.gov/uc/water/crsp/studies/24Month_08_ucb.pdf).

Information on the LC Conservation Program is available online at:

<https://www.usbr.gov/lc/LCBConservation.html>.

Information on the 2024 Interim Guidelines SEIS is available online at:

<https://www.usbr.gov/ColoradoRiverBasin/interimguidelines/seis/index.html>.

### **Fontenelle Reservoir**

As of August 04, 2023, the Fontenelle Reservoir pool elevation is 6499.31 feet, which amounts to 85 percent of live storage capacity. Inflows for the month of July totaled approximately 73,190 acre-feet (af) or 43 percent of average.

Release rates are currently at 1,100 cfs, with an expected decrease to 1,000 cfs around mid-month, pending hydrology. Release rates may need to further decrease if dry conditions continue.

The August final forecast for unregulated inflows into Fontenelle for the next three months projects below to much below average conditions. August, September, and October Most Probable inflow volumes amount to 40,000 af (62 percent of average), 35,000 af (87 percent of average), and 38,000 af (84 percent of average), respectively.

The next Fontenelle Working Group meeting is scheduled for August 29, 2024 at 10:00 a.m at Seedskaadee National Wildlife Refuge, WY. Details on the meeting will be provided as we get closer to the meeting date. Prior Fontenelle Working Group meeting minutes are available online on USBR's website at <https://www.usbr.gov/uc/water/crsp/wg/ft/ftcurrnt.html>. The Fontenelle Working Group is an open public forum for information exchange between Reclamation and other parties associated with the operation of Fontenelle Reservoir.

### **Flaming Gorge Reservoir**

As of August 4, 2024 (end of day), Flaming Gorge Reservoir pool elevation is 6029.03 feet, which amounts to 88 percent of live storage capacity. Unregulated inflow volume for the month of July is approximately 79,100 acre-feet (af), which is 39 percent of the average unregulated inflow volume.

Summer Baseflow- Flaming Gorge is currently implementing Colorado Pikeminnow (CPM) Experimental base flows until the end of September. As the Yampa River flows decrease, the releases from Flaming Gorge will increase to sustain targets in Reach 2 of the Green River (Jensen stream gage).

The August unregulated inflow forecast into Flaming Gorge for the next three months projects below average conditions. August, September, and October forecasted unregulated inflow volumes are 42,000 af (60 percent of average), 38,000 af (83 percent of average), and 43,000 af (81 percent of average), respectively.

The observed water supply forecast of the April through July unregulated inflow volume into Flaming Gorge Reservoir is approximately 713,000 acre-feet (74 percent of average).

Reclamation is planning to hold a Flaming Gorge Working Group meeting in August 28, 2024, in Vernal, UT (and Teams virtual meeting). The Flaming Gorge Working Group is an open public forum for information exchange between Reclamation and the stakeholders of Flaming Gorge Dam. The public is encouraged to attend and comment on the operations and plans presented by Reclamation at these meetings. Meeting notes from past Working Group meetings are posted on the Working Group webpage. For more information on this group and these meetings please contact Alex Pivarnik at (385) 475 – 8329.

### **Aspinall Unit Reservoirs**

As of August 4, 2024 (end of day), releases from Crystal Dam are approximately 1,900 cfs. Flows of the Gunnison River in the Black Canyon are being maintained at about 850 cfs while the Gunnison Tunnel is diverting 1,050 cfs. Flows in the Whitewater Reach of the Gunnison River are about 1,400 cfs. The baseflow target in the lower Gunnison River, as measured at the Whitewater gage, is 1050 cfs for August through December.

The unregulated inflow volume in July to Blue Mesa was 94,000 af (59 percent of average). Unregulated inflow volumes forecasted for Blue Mesa for the next three months (August, September, and October) are projected to be: 46,000 af (80 percent of average), 31,000 af (89 percent of average), and 31,000 af (85 percent of average), respectively.

The forecasted 2024 water year unregulated inflow volume to Blue Mesa is projected to be 893,000 af (99 percent of average). The water supply period (April-July) for 2024 had an unregulated inflow volume of about 653,000 af (100 percent of average).

On July 9, 2024 the elevation of Blue Mesa reached its peak for the water year at 7499.75 feet above sea level and Blue Mesa storage reached 79% full. By the end of water year 2024 (September 30, 2024) Blue Mesa elevation is projected to be approximately 7,484.80 feet above sea level with about 537,690 acre-feet of storage which will be 65 percent of capacity.

The Aspinall Unit Operations Group is an open public forum for information exchange between Reclamation and the stakeholders of the Aspinall Unit. The public is encouraged to attend and comments on the operations and plans presented by Reclamation at these meetings. Meeting notes from past working Group meetings are posted on the Operations Group webpage. For more information on this group and these meetings please contact Erik Knight in the Grand Junction Area Office at (970) 248-0629.

The next Operations Group meeting will be held August 15, 2024 at 1:00 p.m., in person in Grand Junction Colorado and also broadcast virtually. The in-person meeting will be at Reclamation's Western Colorado Area Office located at 445 West Gunnison Avenue in Grand Junction, Colorado. Contact Erik Knight in the Grand Junction Area Office at (970) 248-0629 to get more information regarding this Operation Group meeting.

### **Navajo Reservoir**

On August 4<sup>th</sup>, the daily average release rate from Navajo Dam was 950 cfs while reservoir inflow was averaging 522 cfs. The water surface elevation was 6049.00 feet above sea level. At this elevation the live storage is 1.16 maf (70 percent of live storage capacity) and the active storage is 0.534 maf (52 percent of active storage capacity). Diversions to Cutter Reservoir for the Navajo Indian Irrigation Project (NIIP) and the Navajo Gallup Water Supply Project (NGWSP) were 670 cfs. The San Juan-Chama project was diverting 4 cfs from the basin above Navajo Reservoir.

Reclamation is currently fulfilling a request to release the first block of the Jicarilla Apache Nation (JAN) subcontracted water that has been leased to the New Mexico Interstate Stream Commission (NMISC) and

The Nature Conservancy (TNC) for calendar year 2024. The total volume of JAN subcontracted water for this release is 10,000 acre-feet. An additional 10,000 acre-feet will be released later this calendar year with the same augmentation pattern.

Releases from Navajo Dam are made for authorized purposes of the Navajo Unit and are pursuant to the Record of Decision for the Navajo Reservoir Operations. Releases target the San Juan River Recovery Implementation Program's (SJRIIP) recommended downstream baseflow range of 500 cfs to 1,000 cfs through the critical habitat reach of the San Juan River (Farmington, NM to Lake Powell).

Navajo was at 6049.9 ft of pool elevation and 1.17 maf of live storage (0.544 maf of active storage) by the end of July, which was 86 percent of average for the end of the month. The release averaged 590 cfs and totaled 36.1 kaf, which was 76 percent of average for the month. Preliminary modified unregulated inflow (MUI) into Navajo was 35.4 kaf, which was 74 percent of average for the month. Calculated evaporation for the month was 4.1 kaf. NIIP diverted a total of 39.0 kaf. Navajo had a net storage change of +33.0 kaf in July.

Preliminary calculation of Modified Unregulated Inflow into Navajo Reservoir for the April – July period is 447 kaf.

The most probable MUI forecast for August, September, and October is 0 kaf (0 percent of average), 18 kaf (52 percent of average), and 28 kaf (73 percent of average), respectively.

Reclamation conducts Public Operations Meetings three times per year to gather input for determining upcoming operations for Navajo Reservoir. 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. The next meeting will be held in August 20th at 1:00 PM. This meeting is open to the public, and will be held at the Farmington Civic Center, 200 West Arrington, in Farmington, New Mexico. The meeting will also have a virtual option.

### **Glen Canyon Dam / Lake Powell**

#### **Current Status**

The unregulated inflow volume to Lake Powell during July was 647 thousand acre-feet (kaf) (67 percent of average). The release volume from Glen Canyon Dam in July was 713 kaf. The end of July elevation and storage of Lake Powell were 3,584.61 feet (115 feet from full pool) and 9.67 maf (41 percent of live capacity), respectively

#### **Current Operations**

The operation of Lake Powell and Lake Mead in the August 2024 24-Month Study is pursuant to the December 2007 Record of Decision on Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead (Interim Guidelines), the Supplemental

Environmental Impact Statement for Near-term Colorado River Operations Record of Decision (2024 Interim Guidelines SEIS ROD),<sup>2</sup> and reflects the draft 2025 Annual Operating Plan (AOP).

Pursuant to the Interim Guidelines, the August 2023 24-Month study projects the January 1, 2024, Lake Powell elevation to be less than 3,575 feet and at or above 3,525 feet and the Lake Mead elevation to be at or above 1,025 feet. Consistent with Section 6.C.1 of the Interim Guidelines the operational tier for Lake Powell in water year 2024 is the Mid-Elevation Release Tier and the water year release volume from Lake Powell is 7.48 maf.

On May 9, 2024, Reclamation published the 2024 Interim Guidelines SEIS ROD, which included modifications to Sections 2, 6, and 7 of the 2007 Interim Guidelines. The current 24-Month Study reflects these modifications in modeled operations.

The August 2024 24-Month study projects the January 1, 2025, Lake Powell elevation to be less than 3,575 feet and at or above 3,525 feet and the Lake Mead elevation to be at or above 1,025 feet. Consistent with Section 6.C.1 of the Interim Guidelines, as amended by the 2024 Interim Guidelines SEIS ROD), the operational tier for Lake Powell in water year 2025 is the Mid-Elevation Release Tier and the water year release volume from Lake Powell is 7.48 maf.

On July 3, 2024, Reclamation signed the Glen Canyon Dam Long-Term Experimental and Management Plan Supplemental Environmental Impact Statement Record of Decision (2024 LTEMP SEIS ROD<sup>3</sup>). The 2024 LTEMP SEIS ROD analyzed flow options to disrupt smallmouth bass and other warm water invasive non-native fish from establishing below Glen Canyon Dam by interrupting spawning and species expansion.

The trigger to begin releasing cooler water from the river outlet works or bypass tubes at Glen Canyon Dam is three days of observed river temperatures above the threshold at River Mile 61 (Little Colorado River tributary). This temperature target has been met and Reclamation began releasing water from the river outlets on July 9, 2024, to cool water. Additional bypass releases will continue until the temperature threshold is no longer exceeded without additional outlet release. Reclamation is coordinating release patterns on a weekly basis in order to comply with the 2024 LTEMP SEIS ROD.

August release volume is 759,000 acre-feet and hourly releases will comply with the 2024 LTEMP SEIS ROD as described above. The volume for September will be confirmed at the end of July and is anticipated to vary from the current estimated pattern.

In addition to daily scheduled fluctuations for power generation, the instantaneous releases from Glen Canyon Dam may also fluctuate to provide 40 megawatts (MW) of system regulation. These

---

<sup>2</sup> 2024 Interim Guidelines SEIS ROD is available online at:

[https://www.usbr.gov/ColoradoRiverBasin/documents/NearTermColoradoRiverOperations/20240507-Near-termColoradoRiverOperations-SEIS-RecordofDecision-signed\\_508.pdf](https://www.usbr.gov/ColoradoRiverBasin/documents/NearTermColoradoRiverOperations/20240507-Near-termColoradoRiverOperations-SEIS-RecordofDecision-signed_508.pdf).

<sup>3</sup> 2024 LTEMP SEIS ROD is available online at:

<https://www.usbr.gov/uc/DocLibrary/EnvironmentalImpactStatements/GlenCanyonDamLong-TermExperimentalManagementPlan/20240703-GCDLTEMP-FinalSEIS-RecordofDecision-508-AMWD.pdf>

instantaneous release adjustments stabilize the electrical generation and transmission system and translate to a range of about 1,300 cfs above or below the hourly scheduled release rate. Under normal system conditions, fluctuations for regulation are typically short lived and generally balance out over the hour with minimal or no noticeable impacts on downstream river flow conditions.

Releases from Glen Canyon Dam can also fluctuate beyond scheduled releases when called upon to respond to unscheduled power outages or power system emergencies. Depending on the severity of the system emergency, the response from Glen Canyon Dam can be significant, within the full range of the operating capacity of the power plant for as long as is necessary to maintain balance in the transmission system. Glen Canyon Dam currently maintains 30 MW (approximately 1,300 cfs) of generation capacity in reserve in order to respond to a system emergency even when generation rates are already high. System emergencies occur infrequently and typically require small responses from Glen Canyon Dam. However, these responses can have a noticeable impact on the river downstream of Glen Canyon Dam.

### **Inflow Forecasts and Model Projections**

The forecast for water year 2024 unregulated inflow to Lake Powell, issued on August 1, 2024, by the Colorado Basin River Forecast Center, projects that the most probable (median) unregulated inflow volume in water year 2024 will be 7.94 maf (83 percent of average).

In addition to the August 2024 24-Month Study based on the Most Probable inflow scenario, Reclamation has conducted runs in August to determine a possible range of reservoir elevations. The August 2024 24-Month Study probable most, maximum and minimum probable scenarios were used to determine the range of probable outcomes. The probable minimum and probable maximum model runs are conducted simultaneously in January, April, August, and October, or when necessary to incorporate changing conditions. The probable minimum inflow scenario reflects a dry hydrologic condition which statistically would be exceeded 90 percent of the time. The most probable inflow scenario reflects a median hydrologic condition which statistically would be exceeded 50 percent of the time. The probable maximum inflow scenario reflects a wet hydrologic condition which statistically would be exceeded 10 percent of the time. There is approximately an 80 percent probability that a future elevation will fall inside the range of the minimum and maximum inflow scenarios. Additionally, there are possible inflow scenarios that would result in reservoir elevations falling outside the ranges indicated in these reports.

The August forecast for water year 2025 ranges from a minimum probable of 5.25 maf (55 percent of average) to a maximum probable of 16.60 maf (173 percent of average) with the most probable forecast for water year 2025 of 8.97 maf (93 percent of average). There is a 10 percent chance that inflows could be higher than the current maximum probable forecast and a 10 percent chance that inflows could be lower than the minimum probable forecast.

Based on the current forecast for the remainder of water year 2024 of 7.94 maf unregulated inflow for water year 2024, the August 24-Month Study projects Lake Powell elevation will end water year 2024 near 3578.37 feet with approximately 9.16 maf in storage (38 percent of capacity). Projections of end of water year 2024 elevation using the August minimum maximum inflow forecast results from the 24-Month Study 2024 model run are 3,578.64 feet and 3,579.81 feet, respectively. The annual release volume from Lake Powell during water year 2024 is 7.48 maf under the Mid-Elevation Release Tier as determined under Section 6.C.1 of the Interim Guidelines as determined by the Department of the Interior as described above.

### **Upper Colorado River Basin Hydrology**

Upper Colorado River Basin regularly experiences significant year to year hydrologic variability. The 30-year average was updated in October 2022 from 1981 through 2010 to 1991 through 2020. Shifting the period of record decreased the average unregulated inflow 1.20 maf. The period 2000-2022 is the lowest 23-year period since the closure of Glen Canyon Dam in 1963, with an average unregulated inflow of 8.29 maf, or 93 percent of the 30-year average (1991-2020). (For comparison, the 1991-2020 total water year average is 9.60 maf.) The unregulated inflow during the 2000-2022 period has ranged from a low of 2.64 maf (28 percent of average) in water year 2002 to a high of 15.97 maf (166 percent of average) in water year 2011. In water year 2021 unregulated inflow volume to Lake Powell was 3.50 maf (36 percent of average), the second driest year on record above 2002. Under the current most probable forecast, the total water year 2024 unregulated inflow to Lake Powell is projected to be 7.94 maf (83 percent of average).

At the beginning of water year 2024, total system storage in the Colorado River Basin was 25.27 maf (43 percent of 58.48 maf total system capacity). This is an increase of 5.72 maf over the total storage at the beginning of water year 2023 when total system storage was 19.55 maf (33 percent of capacity). Since the beginning of water year 2000, total Colorado Basin storage has experienced year to year increases and decreases in response to wet and dry hydrology, ranging from a high of 94 percent of capacity at the beginning of 2000 to the beginning of water year 2023 with 19.55 maf (33 percent of capacity). Based on current inflow forecasts, the current projected end of water year 2024 total Colorado Basin reservoir storage is approximately 25.10 maf (42.9 percent of total system capacity). The actual end of water year 2024 system storage may vary from this projection, primarily due to uncertainty regarding this season's runoff and reservoir inflow.