

Colorado River Storage Project
Fontenelle Working Group
Meeting Minutes
April 27, 2023

Participation

This meeting was held Thursday, April 27, 2023, from 10:00 am to 11:40 am. The meeting was in Green River, Wyoming at the Joint Powers Water Board office and via Microsoft Teams virtual meeting. Attendees are listed below.

Purpose of Meeting

The purpose of these working group meetings is to inform the public and other interested parties of Reclamation’s current and future operational plans and to gather information from the public regarding specific resources associated with Fontenelle Reservoir and the river corridor below it. In addition, the meetings are used to coordinate activities and exchange information among agencies, water users, and other interested parties concerning the Green River.

General

Dale Hamilton (United States Bureau of Reclamation - Reclamation) began the meeting at 10:00 am, discussed meeting logistics, and introduced the meeting agenda and presenters: Brenda Alcorn, Mike Callahan, and himself. To avoid audio feedback, attendees were asked to introduce themselves via the sign in sheet for in-person attendees and the chat function for virtual attendees (attendees who identified themselves were included in the list of attendees below).

Fontenelle Reservoir: Current Conditions and Forecasts

Brenda Alcorn, Senior Hydrologist, National Weather Service (NWS), CBRFC

Brenda presented information on 2023 weather, current snow conditions, April 2023 runoff forecasts, and upcoming weather.

Water year 2023 (October-March) precipitation above Fontenelle has been 105% of average overall, with well above average March precipitation. Average monthly maximum temperatures in the Upper Green were much below normal in March, the low elevation snow is just beginning to melt now.

There is significant low-elevation snow above Fontenelle. Higher elevation snow as a whole is also much above median, however, snow in the Wind River Range (which typically contributes 75-90% of the Fontenelle inflow) is only slightly above normal.

In response to a question about how low-elevation SWE is estimated Brenda noted that the model builds snowpack at all elevations based on temperatures and precipitation. There was a comment that in high snow years there is generally a significantly higher sediment/turbidity load. Brenda noted that this has been a late year, with low-elevation snow just now beginning to melt.

The official April–July water supply forecast for Fontenelle inflow is 800,000 acre-feet (109% of average) as of April 15 but has increased to 940,000 acre-feet (or 870,000 acre-feet when considering the drier weather over the next week). Future forecasts have the potential to increase to 1120 KAF with wet future conditions or decrease to 640 KAF with dry future conditions. On average, Fontenelle April 1 runoff volume forecasts contain +/-17% error with error decreasing as the season progresses. Errors in

runoff forecast are primarily due to future weather (uncertainty, extreme events), model snow states (verified as possible by satellite images and SNOTEL sites), and demand/diversion assumptions.

Peak flow timing and magnitude are highly variable from year to year and dependent on weather, but the current peak is forecasted to be ~8178 cfs. 10-day streamflow forecasts are updated daily by about 10 am, and currently show inflows into Fontenelle increasing.

Upcoming 7-day weather is anticipated to bring 0.5 to 0.75 inches of precipitation today, then a strong ridge will settle in and bring drier and warmer conditions. The 8-14-day outlook indicates slightly above normal precipitation and slightly above normal temperatures.

Fontenelle Reservoir Hydrology and Forecasted Operations

Mike Callahan, Hydraulic Engineer, Reclamation

Mike presented information on 2022 operations and planned 2023 operations at Fontenelle Reservoir.

Operations in 2022 were based on dry conditions. Releases were quite low throughout the year, including the spring peak release. Fontenelle has a boat ramp at elevation 6468 feet so generally the reservoir elevation is kept above that level, however, due to the delayed start to the snow-melt runoff this year and lower than expected inflows the reservoir did get low, and releases did not increase until yesterday.

Operations in 2023 (5/2023-4/2024) will be based on most probable forecasts from the Colorado Basin River Forecast Center and are subject to the uncertainty in those forecasts and real-time hydrology.

Snowpack is currently at about 148% of median but is becoming slightly inflated due to this year's snow just beginning to melt while historically the melt is typically already going. The unregulated April thru July runoff volume into Fontenelle is currently forecasted to be 800,000 acre-feet which is likely to increase for the May 1st forecast.

Fontenelle operations over the next year will be highly dependent on observed and forecasted inflows—if the snowmelt inflow that is just starting now comes quicker than modeled, plans for releases will adjust. Currently, snow and runoff forecast conditions are above average but manageable; it is anticipated that the bypass will be used but flooding below Fontenelle is not expected at this point. After spring runoff, releases will decrease to power plant capacity through about early September, then decreasing to more closely mimicking a natural flow with flow rates dependent on inflows. Then baseflows will likely be raised to about 1000 cfs or slightly higher throughout the winter. Then the timing of release changes will be dependent on spring ice conditions in the river; the hope is that next year will allow for typical changes beginning in March. In early spring (March or April), there is expected annual maintenance where the powerplant will be offline; during that period releases are planned to be about 600 cfs.

Near-term operations are expecting inflows to increase to about 4000-5000 but it isn't clear if or how much inflows will recede over the following weeks.

There was a comment that flows decreasing while fish are spawning would impact the spawn. The comment will be taken into consideration. In response to a question about high flows through town in the 70s and 80s and if the snowpack is significantly different, Mike stated that due to rip rap added since the 70s, the reservoir can be drawn down more to help mitigate downstream flooding. In response to a question about how much glacial melt is contributing to runoff Brenda noted that they don't have adequate data to say; others in the room noted that compared to years ago, the glaciers are tiny.

Colorado River Storage Project – Drought Response Operations

Dale Hamilton, Division Manager, Reclamation

Dale began by noting that Fontenelle does not participate in Drought Response Operations—it is not an initial CRSP unit—then presented an overview of the Drought Response Operations Agreement (DROA) activities in the Colorado River Basin, Colorado River Storage Project (CRSP) reservoir status, and options for the 2023 Drought Response Plan.

On March 7th DROA parties agreed to halt the remaining planned DRO releases from Flaming Gorge. The actual water-year 2022 DRO release was 463,267 acre-feet (all from Flaming Gorge). Flaming Gorge has released a total of 588,267 acre-feet in 2021 and 2022 DRO releases. Adding in Blue Mesa, a total of 624,267 acre-feet of DRO releases has been made in 2021 and 2022. DRO releases were volumes released in addition to normal releases, specifically for Lake Powell.

As of April 17th, Flaming Gorge is 69% full and rising, Fontenelle is 31% full, Lake Powell is 23% full at elevation 3520.39 feet (below elevation 3525 feet) and is the lowest it has been since first fill but is projected to rise by 70 feet this spring, Blue Mesa is 39% full, and Navajo is 62% full.

The 2023 DRO Plan is in development and is scheduled to be finalized on May 26th. With the current runoff forecasts and planned 2023 operations scenario, it is anticipated that the 588,267 acre-feet of DRO water released over the past 2 years will be fully recovered by about mid-February of 2024.

There was a comment that the 800 cfs release from Flaming Gorge will cause a mess with moss this year, high flows to flush it out would be helpful.

Dale showed a slide of Flaming Gorge storage divided into 500,000 acre-feet increments with boat ramp elevations. Flaming Gorge has hit its lowest elevation (~6705.7) and is now rising as inflows are exceeding the current 800 cfs release. Lake Powell is forecasted to rise by 70 feet and is not forecasted to come back down to 2035 in the next 24 months. Lake Mead is currently in the level 2 shortage conditions and is forecasted to come up to level 1 shortage condition.

In response to a question, Dale reiterated that the DRO releases (~588,000 acre-feet in 2021 and 2022) were made specifically for Lake Powell and were releases made in addition normal operations.

There was a comment that the daily fluctuation in flows worked well for fishing guides last year.

General Discussion, Comments, Questions

Following Dale's presentation, attendee groups were provided the opportunity to ask questions or provide comments.

Joint Powers Water Board—Bryan Seppe expressed thanks for the help on releases and noted that it would be good to see higher flows in the hotter time in the summer; hearing about step release increases helps. Fontenelle Operations—Cory Anderson (Fontenelle) noted that the lake is still frozen, hopefully it'll melt soon.

Next Meeting

- Thursday, August 24, 2023, at 10:00 am the Seedskaadee Wildlife Refuge (tentative)

Attendees

Michael Boyer

Bennie Johnson	Flaming Gorge Resort
Marianne Shanor	Hathaway & Kunz, LLP, Project West
Rick Lee	Rock Springs Chamber of Commerce
Jason Palmer	City of Green River, Utilities
Mark Westenskow	City of Green River
Robert Keith	Wyoming Game & Fish Department
Jessica Lockwood	Wyoming Game & Fish Department
Chris Brown	State of Wyoming
Cody Allred	PacifiCorp
Terry Leigh	Joint Powers Water Board
Bryan Seppie	Joint Powers Water Board
Michael Tardoni	Joint Powers Water Board
Rob Young	Joint Powers Water Board, Simplot
Hilary Huckfeldt	Sisecam and Joint Powers Water Board
Kristina Barden	Sisecam Wyoming
Brenda Alcorn	NWS, Colorado Basin River Forecast Center
Nanette Hosenfeld	National Weather Service
Alex Pivarnik	Reclamation
Paul Davidson	Reclamation
Nathaniel Todea	Reclamation
Kent Kofford	Reclamation
Andrew Volkmer	Reclamation
Zachary Leady	Reclamation
Chris Cutler	Reclamation
Cory Anderson	Reclamation
Gary Henrie	Reclamation