

Colorado River Storage Project

Fontenelle Working Group

Meeting Minutes

April 22, 2021

Participation

This meeting was held Thursday, April 22, 2021, at 10:00 am. Due to the current COVID-19 (Coronavirus) pandemic, the meeting was held via WebEx 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 began the meeting at 10:00 am, discussed virtual meeting logistics, and introduced the meeting agenda and presenters: Ashley Nielson and Mark Delorey. To avoid audio feedback, attendees introduced themselves via the chat function in the virtual meeting (attendees who identified themselves or were identified by their meeting attendee name are included in the list of attendees below).

Fontenelle Reservoir: Current Conditions and Forecasts – Ashley Nielson

Ashley Nielson, Senior Hydrologist, National Weather Service, Colorado Basin River Forecast Center

Ashley presented information on past weather, current snow conditions, current runoff forecasts, and upcoming weather.

Water year 2021 (October-March) precipitation above Fontenelle has been 80% of average overall but only 75% of average in the Wind River range. February is the only month that had above average precipitation. Average monthly maximum temperatures in the Upper Green were generally above normal in November through January, below normal in February, and near to slightly above normal in March. So far, April has had much below normal precipitation and near normal temperatures.

SNOTEL snow conditions above Fontenelle are below normal, did not reach the normal peak snow water equivalent, and some melt has occurred. It is important to note that snow-to-runoff is not a one-to-one relationship, spring weather will impact runoff. The Colorado Basin River Forecast Center model accounts for snow in areas above and below SNOTEL sites and indicates that snow is at ~95% of median in the north and west parts of the drainage that typically provide ~15% of the Fontenelle inflow, but only ~68-72% of median in the eastern (Wind River) portion of the drainage that typically provides 40-50% of the Fontenelle inflow.

Modeled soil moisture is low. Precipitation has been near record low since last year in the central Wind Rivers and a dry summer and fall resulted in dry conditions and low stream flows entering the winter. Modeled soil moisture conditions entering the winter were below normal and in the bottom 5 of the 1981-2020 historical 40-year period in the Upper Green. A portion of the snowmelt could be absorbed into the dry soils. Forecasts are accounting for the dry soil conditions.

The official April–July runoff volume forecast for Fontenelle inflow is 400,000 acre-feet (55% of average) as of April 15. Future forecasts have the potential to increase to ~71% of average with wet future conditions or decrease to ~33% of average with dry future conditions. On average, Fontenelle April 1 runoff volume forecasts contain +/-21% 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.

Upcoming weather is anticipated to bring below normal temperatures through the end of the week, before a slight warming to near normal for the weekend; no significant melt is expected. Unsettled weather conditions and additional precipitation is expected through at least early next week. The 8-14-day outlook is changing frequently but is currently indicating equal chances for above or below normal precipitation and temperatures.

The Colorado Basin River Forecast Center provides monthly water supply briefings this time of year. See the ‘News’ banner at the top of the CBRFC website (<https://www.cbrfc.noaa.gov/>) for more information or to join the CBRFC email list.

In response to a question about whether the May 1 runoff forecast is likely to be higher than the April 15 forecast, Ashley stated that even though we’re experiencing some active weather now, the May 1 forecast likely won’t increase due to the very dry start to the month.

Fontenelle Reservoir Hydrology and Forecasted Operations – Mark Delorey

Mark Delorey, Hydraulic Engineer, U. S. Bureau of Reclamation

Mark Delorey presented information on 2020 operations and 2021 runoff forecasts and forecasted operations.

In 2020, inflow into Fontenelle peaked in early June with a second peak in late-June/early-July that helped keep Fontenelle Reservoir full through early August. Observed runoff and forecasts started to drop off sharply after early August resulting in a winter release of 825 cfs.

Snowpack above Fontenelle appears to have peaked on April 2, 2021 at 88% of median. Over the next three months, precipitation is forecasted to be below normal, and temperature is forecasted to be above normal. The unregulated April thru July runoff volume into Fontenelle is currently forecasted to be 400,000 acre-feet (55% of average, 62% of median) which is in the moderately dry hydrologic classification. Last year at this time, the forecast was at 94% of average.

Fontenelle is currently at elevation 6473.3 feet, 126,000 acre-feet of storage (38% full), with inflows averaging 850 cfs, and releases averaging 825 cfs since last November. Operations over the next year will be highly dependent on observed and forecasted inflows, releases are currently anticipated to be: 825 cfs through mid-July, 1,200 cfs for two weeks from mid-July through early-August, and 1,000 cfs through the fall/winter baseflow period. It is not anticipated that the bypass will be used for a spring peak release.

A bathymetric survey was completed in 2019. Since 1964, the reservoir is estimated to have lost about 12,500 acre-feet of storage (2.7 percent) due to sedimentation. This represents a sediment yield rate of 0.06 acre-feet per square mile per year, which is considered very low.

In response to a question asked to the group about the potential for moss and algal blooms in low flow, high temperature years such as this one, it was generally agreed that there does appear to be higher levels of moss and algae in low water years and that fertilizer use upstream contributes.

In response to a question about whether cloudseeding was performed in the Wind River range this year, it was replied yes. A cloudseeding report was released by the Wyoming Water Development Office, that pending approval, will be shared with the working group.

General Discussion, Comments, Questions

Following the two presentations, Dale opened the meeting for discussion, comments, or questions. No additional items were mentioned. If questions or comments arise, send them to Dale Hamilton (dthamilton@usbr.gov) and/or Mark Delorey (mdelorey@usbr.gov).

Next Meeting

- Thursday, August 26, 2021 at 10:00 am via WebEx (tentative)

Attendees

Rhett Bain	Reel Deal Anglers
Rick Lee	Rock Springs Chamber of Commerce
Mark Westenskow	City of Green River
Ryan Rust	City of Green River
Mark Kot	Sweetwater County
Robert Keith	Wyoming Game & Fish Department
Jessica Dugan	Wyoming Game & Fish Department
Ben Bracken	Alternate Upper Colorado River Commissioner
Sadie Valdez	Trout Unlimited, Seedskaadee
Cody Allred	PacifiCorp
Ron Wild	Rocky Mountain Power
Bryan Seppie	Joint Powers Water Board
Dave Latorre	Joint Powers Water Board
Michael Tardoni	Joint Powers Water Board
Hilary Huckfeldt	Ciner and Joint Powers Water Board
Tyler Schiltz	Ciner
Tara Nelson	Ciner
Ashley Nielson	NWS, Colorado Basin River Forecast Center
Dale Hamilton	Reclamation
Mark Delorey	Reclamation
Nathaniel Todea	Reclamation
Kent Kofford	Reclamation
Paul Christensen	Reclamation
Kirk Jensen	Reclamation
Tom Davidowicz	Reclamation
Jenny Erickson	Reclamation
Gary Henrie	Reclamation