

# Colorado River Storage Project

## Fontenelle Working Group

### Meeting Minutes

April 15, 2015

#### **PARTICIPATION**

This meeting was held at the Seedskaelee Wildlife Refuge in Green River, Wyoming. See below for a list of participants.

#### **PURPOSE OF MEETING**

The purpose of working group meetings (held in April, and August) 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. In addition, the meetings are used to coordinate activities and exchange information among agencies, water users, and other interested parties concerning the Green River.

#### **MEETING OVERVIEW**

After a delayed start due to weather, the meeting began shortly after 10:30 a.m. with 16 present (see below for attendance list). Presentations were given in the following order: Ashley Nielson, the National Weather Service Colorado River Forecast Center (CRFCC) followed by Lee Traynham, Bureau of Reclamation (Reclamation). Before starting, all present introduced themselves and their affiliations.

#### **FORECAST PRESENTATION – ASHLEY NIELSON**

Ashley Nielson with the Colorado River Basin Forecast Center (CRFCC) in Salt Lake City provided a review of fall and winter weather patterns in addition to characterizing spring snowpack conditions. She then described the April-July water supply forecast for the Green River Basin above Fontenelle, and briefly discussed long term weather forecasts.

##### **Weather Review (Fall + Winter)**

The Green River Basin above Fontenelle received above average precipitation in August and September. However, the basin was exceptionally dry in subsequent fall and winter months, with the exception of December. The dry trend has continued into spring, with seasonal precipitation (October 2014 - March 2015) ranging from 50 to 100% of average in the basin. In addition, winter and spring temperatures have been well above average, with several locations recording the warmest February/March period on record.

##### **Snow Conditions**

Snow conditions were above the 30-year average through mid-March. However, below average precipitation and very warm temperatures resulted in an early, below average peak snow accumulation. The Snotel group representing the Green River Basin above Fontenelle peaked at 14.8 inches, or 98% of the 30-year (1981-2010) median seasonal peak (15.1 inches), during the last week of March (03/27/15). Snowpack is now declining.

## Water Supply Volume Forecasts

As of March 1st, the CBRFC's official forecast of seasonal water supply volume was consistent with the 30-year median. However, the forecast decreased substantially in April, due to the continuation of warm and dry conditions. The April 1st most probable (50% exceedance probability) water supply volume forecast for the Green River at Fontenelle (GBRW4) amounts to 580 KAF, or 80% of average. However, it was noted that the CBRFC's April and May forecasts tend to overestimate seasonal flow volumes in "dry" years.

## Long Term Weather

El Nino weather pattern was officially declared in March 2015. There is currently a 60-70% change of the El Nino persisting through most of 2015. El Nino conditions generally produce cooler and wetter conditions in the southern U.S., and drier and warmer conditions in the northern U.S. However, because the Green River Basin above Fontenelle is located between these distinct areas, there is no strong correlation between weather patterns in the region and El Nino conditions.

The two-week outlook for late April is for the continuation of warm temperatures, as well as the potential for above average precipitation.

## OPERATIONS PRESENTATION – LEE TRAYNHAM

Lee Traynham presented the current conditions at Fontenelle Reservoir and described anticipated WY 2014 operations. As of April 13, 2015, Fontenelle Reservoir was 56% full, which correlates to 21.3 ft below maximum reservoir elevation (6506.0 ft). This is high for the time of year, and due to above average fall and winter inflows. The current release is ~1,700 cfs, and the 5-day average inflow is 1,230 cfs.

The operational plan, based on the April forecast of 580,000 AF (80% of average), is to maintain a release of 1,700 cfs through the end of May. Releases may be increased slightly in June and July, with the average release for July anticipated at 2,200 cfs. These flows are significantly lower than the 2014 peak release of 8,000 cfs. Releases would be reduced in early August, and will likely return to an estimated base flow of 1,000 cfs by mid-August, where they will remain through fall and winter. Given the April inflow forecast and anticipated operations, Fontenelle Reservoir is expected to peak at full capacity (pool elevation 6506.0 ft) in July 2015.

## GENERAL DISCUSSION

**Q:** Is there any potential for cutting back releases in a dry year in order to fill the reservoir for the following year?

**A:** Releases can be reduced in the current year to accommodate dry hydrologic conditions, and to ensure the reservoir does not fall below minimum pool elevation targets in the current year. Because exceptionally dry years can generally not be anticipated in advance, current year operations are not adjusted in anticipation of next year's hydrologic conditions.

**Q:** Why did Fontenelle spill in 2014?

**A:** The reservoir spilled in order to clean accumulated sediment from the spillway stilling basin. However, the effort was only partially successful, as very little sediment was actually removed.

**Q:** What are critical flow needs for fish habitat?

**A:** No flow changes would be made prior to April 1st—increased flows can flush young fry from their shallow, protected habitats. Water temperatures in August are key. Flows would be constant from September 1st through end of March, and not below 600 cfs. No adjustment of flow after ice cover. The worst year for trout in memory was 2004, flows reached 400 cfs.

**Q:** Explain the minimum and maximum probable forecast bounds?

**A:** The minimum probable forecast has a 90% exceedance probability, which means that there is still a 10% chance the actual runoff volume could be lower than the minimum probable forecast. The maximum probable forecast has a 10% exceedance probability, which means there is a 10% chance that actual runoff volume could be greater than the maximum probable forecast.

**Q:** What is the status of the proposed riprap project. Would it be possible to raise the dam rather than extend the riprap to extend reservoir storage?

**A:** In January 2015, staff for Senator John Barrasso (R-WY) informally shared draft legislation being refined by their office that would direct Reclamation to construct the Riprap Project by “enter[ing] into a contract with the State of Wyoming . . . to place riprap on the upstream face” of Fontenelle Dam. The bill has not been introduced as of early April. Lowering the elevation of the riprap will increase the operating capacity of the reservoir and its annual yield. Reclamation has provided comments on the draft. NEPA compliance documents are currently being prepared for the proposed riprap extension project. Reclamation will continue dialog with Senator Barrasso’s office regarding the draft legislation.

As an alternative, a dam raise at Fontenelle is not considered to be feasible or cost effective.

## NEXT MEETING

The next meeting date was set for 10:00am on Wednesday, August 26, 2015, at the Joint Powers Water Board in Green River, WY.

## ATTENDEES

Name	Organization
Ashley Nielson	Colorado Basin River Forecast Center
Steve Hulet	Bureau of Reclamation, Flaming Gorge Dam
Kirk Jensen	Bureau of Reclamation, Fontenelle Dam
Heather Patno	Bureau of Reclamation, Salt Lake City
Lee Traynham	Bureau of Reclamation, Salt Lake City
Rick Baxter	Bureau of Reclamation, Provo
Alan Christensen	Bureau of Reclamation, Provo
Scott Neil	Bureau of Reclamation, Provo
Ben Bracken	Upper Colorado River Commission (Wyom Rep)
Bryan Seppie	Joint Powers Water Board
John Walrath	Wyoming Game & Fish
Robert Keith	Wyoming Game & Fish
Tom Koerner	Seedskadee NWR
Howard Hart	Trout Unlimited
Nick Walrath	Trout Unlimited
Charles Card	Trout Unlimited