

**Colorado River Storage Project
Flaming Gorge Working Group
Meeting Minutes
April 24, 2014**

Participation

This meeting was held Thursday, April 24, 2014, at the Utah Department of Natural Resources building in Vernal, Utah. Attendees are listed below.

Purpose of Meeting

The purpose of these 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 Flaming Gorge 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

Edward Vidmar (USBR) called the meeting to order at 11:00 a.m. with 28 present in person and several participating via the online conference Webinar (see signup sheet for attendance). Presentations were given in the following order: Ashley Nielson of the National Weather Service Colorado River Forecast Center (CBRFC); Heather Patno, Bureau of Reclamation and Dave Speas, Bureau of Reclamation. Before starting, all present introduced themselves and their affiliations.

Forecast Presentation - Heather Patno for Ashley Nielson

Ashley Nielson (CBRFC) provided a review of fall and winter weather patterns in addition to characterizing spring snow pack conditions. She then described the April-July water supply forecast for the Upper Green and Yampa Rivers, and briefly discussed long term weather forecasts.

Weather Review (Fall + Winter)

The Upper Green River Basin received above average precipitation in most fall and winter months, including September (220% of average), October (145% of average), December (130% of average), February (220% of average), and March (120% of average). Similarly, the Yampa River Basin received above average precipitation in September (200% of average), October (153% of average), December (108% of average), January (125% of average), and March (110% of average).

During February, very moist and mild air was transported into the Western United States. This "atmospheric river" produced significant precipitation in the Green River Basin of Wyoming and in the northern Bear River Basin. This resulted in above or much above average precipitation in the Yampa, Colorado Headwaters, and Upper Gunnison. Several sites in the Upper Green reported 300-400% of average monthly precipitation. In many cases, this amounted to the 2nd highest February precipitation for the period of record. In the Yampa Basin, several high elevation sites reported ~150% of average monthly precipitation.

Snow Conditions

Snow conditions were consistent with the 30-year average through the end of January. However, above average precipitation in February resulted in much above average snow water equivalent (SWE) for the season. The Snotel group representing the Upper Green River Basin peaked at 21.1 inches, or 149% of the 30-year (1981-2010) median seasonal peak (14.2 inches), during the first week of April (04/07/14). The Snotel group representing the Yampa River Basin above Deerlodge peaked at 28.9 inches, or 130% of the 30-year (1981-2010) median seasonal peak (22.3 inches), in early April (04/09/14).

Water Supply Volume Forecasts

As of February 1st, the CBRFC's official forecast of seasonal water supply volume for the Green River at Flaming Gorge was consistent with the 30-year median. However, the forecast increased substantially in March, due to abundant precipitation received in February. The April 1st most probable (50% exceedance probability) water supply volume forecast for the Green River at Flaming Gorge (GRNU1) amounts to 1,400 KAF, or 143% of average.

Due to the limited impact of the wet February weather pattern in the Yampa River Basin, the water supply forecast changed relatively little throughout the season. The April 1st most probable (50% exceedance probability) water supply volume forecast for the Yampa River near Deerlodge (YDLC2) amounts to 1,550 KAF, or 125% of average. The most probable (50% exceedance probability) peak flow forecast for the Yampa River near Deerlodge anticipates a peak flow of 16,500 cfs to occur in late May.

Long Term Weather

While current weather patterns reflect neutral ENSO conditions, several models point to the potential development of El Nino conditions in fall 2014. El Nino conditions generally produce cooler and wetter conditions in the southern U.S., and dryer and warmer conditions in the northern U.S. However, because the Upper Green River and Yampa Basins are located between these distinct areas, there is no strong correlation between weather patterns in the region and El Nino conditions.

The 90-day outlook for May, June and July indicates a chance for above average temperatures and above average precipitation in the western Colorado portion of the basin, and equal chances for above and below average temperatures and precipitation in southwest Wyoming.

Hydrology and Operations - Heather Patno

Heather Patno presented the current conditions at Flaming Gorge Reservoir and described anticipated WY 2014 operations. As of April 22, 2014, Flaming Gorge Reservoir was 79% full, which amounts to 2.95 million acre-feet (MAF) and correlates to an elevation of 6019.15 ft, or 111.15 ft above minimum power pool elevation (5908 ft). The current release is 830 cfs, and the average inflow is 1,980 cfs.

Projected operations are currently based on the April forecast of 1,400 KAF (143% average; 26% exceedance, moderately wet) in the Green River at Flaming Gorge and 1,550 KAF (122% average; 29% exceedance, moderately wet) in the Yampa River at Maybell plus Lilly. As a result of these forecasts, WY 2014 is tentatively classified as "moderately wet." With this

classification, the FGTWG 2014 flow proposal requires a flow in the Green River at Jensen of at least 18,600 cfs for at least 2 weeks. In general, current releases of 830 cfs will be maintained until the larval trigger, at which point releases will be increased to power plant capacity (4,600 cfs) plus the specified bypass ($\leq 4,000$ cfs). Given current runoff forecasts and anticipated operations, storage in Flaming Gorge is expected to peak in August, near elevation 6,032 ft.

Given the most probable (50% exceedance) April runoff forecasts, summer base flows may range from a minimum of 1,155 cfs to a maximum of 2,695 cfs, while winter base flows may range from 1,444 cfs to a maximum of 2,406 cfs. However, these numbers may vary with observed hydrology by up to $\pm 40\%$ in the summer and up to $\pm 25\%$ in the winter. Given the uncertainty in the April 2014 forecast, summer base flows may range from 800 cfs under the minimum runoff forecast (10% exceedance forecast) to 3,640 cfs under the maximum runoff forecast (90% exceedance forecast), while winter base flows may range from 800 cfs (minimum forecast) to 3,250 cfs (maximum forecast).

The final Flaming Gorge operational plan will be based on the hydrologic classification resulting from the May 1st official forecast.

Larval Trigger Study Plan- Dave Speas

Dave Speas (USBR) discussed anticipated activities related to the 2014 Larval Trigger Study Plan (LTSP). The LTSP was implemented as part of the Upper Colorado River Endangered Fish Recovery Program Spring Flow Request. The goal of the Recovery Program is to recover endangered fishes while water development proceeds in compliance with applicable Federal and State laws. It balances the Endangered Species Act with the Law of the River.

2014 Flow Proposal Process

The Recovery Program submitted its request to implement the Larval Trigger Study Plan in WY 2014 on March 21st. The Flaming Gorge Technical Working Group (FGTWG) met on March 20th and April 22nd to consider factors such as hydrology, the Recovery Program request, endangered fish status, Record of Decision (ROD) flow recommendations, and current science in order to develop a range of flow alternatives. Public input on the FGTWG flow proposal is collected during the Flaming Gorge Working Group (FGWG) meeting (i.e. this meeting). In May, Reclamation will make a final decision on spring flows after considering the FGTWG proposal, public input, and resource status.

2014 FGTWG Flow Proposal

The goal of the program is the entrainment of larval Razorback Sucker (RZB) in designated wetlands. In previous years (prior to 2012), program emphasis has been on levee elevation and timing of peak flows with the Yampa River, rather than on the timing of larval drift. In 2012, most wetlands dried up before juvenile fish could be returned to the river. In WY 2013, 700 RZB were salvaged from Stewart Lake.

The 2014 FGTWG recommendation is to “pursue moderately wet year flow objectives which would provide connection of river to moderately wet wetlands for 1-14 days or more during the period of larval drift as described in the Larval Trigger Study Plan.” This amounts to a peak flow (as measured at Jensen) in Reach 2 of at least 20,300 cfs for at least one day, and a prolonged

flow of at least 18,600 cfs for at least 2 weeks. Following the peak, flows would downramp at 350 cfs/day.

Moderately Wet Inundation Sites

Moderately wet study sites and their minimum inundation thresholds are as follows: Escalante Ranch – 11,000 cfs, Stewart Lake – 4,000-8,000 cfs, Bonanza Bridge – 13,000 cfs, Stirrup – 11,000 cfs, Above Brennan – 10,000 cfs, Ouray NWR Federal Lands – 14,000 cfs.

2014 Base Flow Request

The 2014 base flow request is forthcoming. It is typically prepared by the USFWS field office in Salt Lake City in cooperation with the Recovery Program. While Reclamation selects the Reach 1 flow target according to the ROD base flow range, the target can be augmented by as much as 40% through September 30th. The FGTWG recommends providing “adequate” base flows in order to maintain quality Colorado pikeminnow habitat and to disadvantage smallmouth bass.

2014 Temperature Targets

Temperature targets were established by the 2006 ROD. Temperature targets for 2014 should be managed to be at least 18 degrees Celsius for 2-5 weeks in the Upper Lodore Canyon during the beginning of the base flow period. Water temperatures in the Green River should be managed to be no more than 5 degrees Celsius colder than those of the Yampa River at the confluence of the Green and Yampa Rivers from June through August 2014. Dam releases are typically 13-16 degrees Celsius from June 15th to September 30th.

Discussion and Next Meeting

There were several questions for Dave Speas following his presentation on the Larval Trigger Study Plan. Answers were as follows: 1500 cfs is the minimum flow required by Pike Minnow in the Jensen reach of the Colorado River. The 700 razorback sucker entrained and released in 2013 was considered a success, despite seemingly small numbers, given their increased probability of survival to adulthood and the general lack of mature fish observed in the wild. High flows are a disadvantage to non-native small mouth bass.

Flaming Gorge operators were asked how operations would change if 2014 turns out to be drier than anticipated. In general, current releases of 830 cfs will be maintained until the larval trigger, at which point releases will be increased to power plant capacity plus the specified bypass. According to the April forecast, 2014 is a “moderately wet” year. However, the May official forecast sets the hydrologic classification for operations. If the hydrologic classification becomes drier, there would be no bypass release, and peak releases would amount to power plant capacity only. The peak estimated reservoir elevation is 6032 ft by August 1st.

UDWR requested a pulse flow to clear out debris and improve safety for electrofishing activities. An overnight release of ~2000 cfs (e.g. Sunday), followed by reduction to normal flows in the morning, was suggested. The pulse flow would not be needed every year, but following several months of low (~800 cfs) base flow, it would be helpful. In the future, DWR is encouraged to include the pulse flow request in writing, in conjunction with existing environmental flow requests.

T. Wright Dickinson was not able to attend, but his email, which included questions regarding proposed timing of releases and requested compensation due to damages resulting from flows above 4500 and 6500 cfs, was received. USBR will respond directly regarding his questions and concerns.

Stakeholders in the Colorado River Basin are discussing “out of the box” plans to improve conditions in the Lower Basin. It has been noted that water has more value in the Lower Basin, and particularly in Lake Powell, than in the Upper Basin (Flaming Gorge), despite increased losses due to evaporation. Western Area Power manages power production at both Flaming Gorge and Lake Powell. Discussions have included strategies to move water in order to maintain minimum power pool at Powell. Can this be done within existing contracts? It’s unclear, as the discussion has allowed all preliminary ideas to be put on the table. Water rights holders do have a voice in these decisions. Current discussions are being held between states and state organizations (e.g. the Colorado Water Congress). Upper Basin water rights holders would consider these strategies given favorable storage costs, holdover options, and other incentives and elements of compensation.

A pipeline from Flaming Gorge to the Colorado Front Range has been proposed by the Colorado/Wyoming coalition and is being analyzed for feasibility. USBR’s Flaming Gorge operators have presented preliminary modeling results, including potential impacts of the proposed pipeline at Jensen, to CO, UT, NM and WY for review. Initial results indicate that there is not enough water available, especially when existing undeveloped water rights are considered, for the proposed project to be feasible. Preliminary reports are not yet publically available, as they are still under review by the states.

The State Engineer will be attending the Green River Basin Advisory Group’s public meeting at 6pm on Tuesday, May 20th at the Joint Powers Board Meeting Room in Green River, WY to discuss these issues.

Next Meeting

The next meeting of the Flaming Gorge Working Group was set for 11:00 am on Thursday, August 21, 2014, at the new Utah Department of Natural Resources building in Vernal, Utah, located at 318 North Vernal Avenue.

Presentations

[Colorado Basin River Forecast Center - Forecast Presentation](#)

<http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/fg.wgmt.0424.2014.pdf>

[Recovery Program - Larval Trigger Study Plan](#)

[http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/LTSP Speas Presentation 0424.pdf](http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/LTSP%20Speas%20Presentation%200424.pdf)

[Reclamation - Hydrology and Operations](#)

http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/FlamingGorgeWorkGroup_Apr14v1.pdf

Attendees

Name	Representing
Heather Patno	Reclamation
Edward Vidmar	Reclamation
John Morton	Reclamation
Dave Speas	Reclamation
Bill Schwartz	Reclamation
Lee Traynham	Reclamation
Jerry Wilhite	Western Area Power Administration
Jeffrey Ackerman	Western Area Power Administration
Bob Leake	Utah Division of Water Resources
Trina Hedrick	Utah Division Wildlife Resources
Robert Schelly	Utah Division Wildlife Resources
Matt Breen	Utah Division Wildlife Resources
Jack Lytle	Utah Division Wildlife Resources
Ryan Mosley	Utah Division Wildlife Resources
Scott Wilson	DCWCD
Warren Blanchard	Daggett County
Melissa Trammell	NPS, Salt Lake City
Wayne Prokopetz	NPS - Dinosaur
Mark Foust	NPS - Dinosaur
Chris Dach	NPS - Dinosaur
Kirk Robbins	Uintah MAD
Tildon Jones	U.S. Fish & Wildlife Service
Jerry Taylor	Lucerne Marina
Charles Card	Trout Unlimited
Ed Morrison	River Runners Transport
Bruce Lavoie	OARS/Don Hatch
Webinar Attendees	
Rob Billerbeck	NPS
Jenny Hower	NPS
Kevin McAbee	U.S. Fish & Wildlife Service
Tom Chart	U.S. Fish & Wildlife Service
Jana Mohrman	U.S. Fish & Wildlife Service
Dan Schaad	Ouray National Wildlife Refuge

Name	Representing
Brian Raymond	Daggett County

Additional Links

[Flaming Gorge Technical Working Group Meeting Summaries](http://www.usbr.gov/uc/water/crsp/wg/fg/twg/twgSummaries.html)

<http://www.usbr.gov/uc/water/crsp/wg/fg/twg/twgSummaries.html>

Previous Meeting Minutes

Flaming Gorge Working Group Meeting Minutes:

- August 21, 2013
- April 24, 2013
- August 22, 2012
- April 18, 2012
- August 23, 2011
- April 26, 2011
- August 26, 2010
- April 27, 2010
- August 26, 2009
- April 15, 2009
- August 20, 2008
- April 16, 2008
- August 23, 2007
- April 19, 2007
- August 22, 2006
- April 13, 2006
- November 2, 2005
- October 28, 2005
- August 25, 2005
- April 20, 2005
- August 19, 2004
- April 15, 2004