

Flaming Gorge Working Group Meeting

Held at 10 am on Monday, August 27, 2018, at the Uintah Conference Center in Vernal, UT

Notes:

Dale Hamilton opened the meeting. He gave an overview of the Flaming Gorge Working Group meeting purpose - to get input into the process. He mentioned that some people have been concerned about input not being heard, so a meeting was held in July. A new, third meeting was added to the typical two, April and August Working Group meetings. This new meeting will be held in the spring, with a roundtable discussion, where requests for reservoir operations can be submitted. Then in the April meeting, there will be discussion of the requests and whether or not the requests were incorporated into planned operations, and how. Dale stated that Ashley Nielson, Jed Parker, and Tom Chart would give presentations. All present introduced themselves.

Ashley Nielson presented information on the hydrology and runoff in 2018. Water year 2018 was near average above Flaming Gorge and below to well below average everywhere else. The Upper Green above Fontenelle was really the big source of runoff for the Green River this year. It was a pretty normal year for the Upper Green. Above Flaming Gorge the snowpack was normal. On the Yampa, the snowpack was below normal and there was an early melt. The water supply for Flaming Gorge was 1.12 million acre-feet. Forecasts were slightly below average from Jan to mid-March, storms in mid-March to mid-May increased the forecasts. There was a significant precipitation event in mid-May. The forecast error this year was less than the average error (the forecasts were more accurate than average). The error is very dependent on the year and most of that depends on what kind of spring we have. The last couple years, the forecasts were pretty accurate. The two prior years weren't as accurate, due to significant spring precipitation. The Yampa forecasts began below average, came up somewhat with a storm, but remained and ended below average. This year's forecast error was better than normal, except in May (due to an April precipitation event that didn't increase the snowpack/runoff as expected). The Yampa runoff came earlier than the seasonal model anticipated. The 10-day streamflow forecast were pretty good at getting the timing of the Yampa peak correct, but not the magnitude--the peak was higher than the forecasts indicated. Ashley presented information about the challenges in forecasting Flaming Gorge inflow: 1: Knowledge of the future weather, 2: Inadequate modeled streamflow resolution, 3: Irrigation issues, 4: Density of SNOTEL (add a SNOTEL to fill spatial gap), 5: Lack of precipitation gages. Work is being done to address the challenges. Flaming Gorge 114% of average runoff, Yampa River 56% of average. Jed Parker asked if in addition to improving the Flaming Gorge forecast if any work was going to be done to improve the Yampa River forecasts. Ashley mentioned that the focus will be on Flaming Gorge for the time being. T Wright Dickinson expressed support for the work to improve the forecasts and offered to provide support as needed.

Jed Parker presented information the typical Flaming Gorge operations decision process, the hydrology and Flaming Gorge operations this year, and plans for the future. What is a typical year release scenario under the larval trigger study? The 2005 Environmental Impact Statement outlined operations of Flaming Gorge Dam. The 2006 Record of Decision adopted the recommendations of the 2005 EIS. In October the experimental base flow period comes to an end. In the winter there are a couple flow decisions made. The May 1 elevation target is driven by a table provided in the EIS and ROD based on

the water supply. In early spring, March and April, flows are adjusted to meet the May 1 target elevation. The larval trigger study essentially indicates that in wet years, peak releases should be higher. The April working group meeting is the opportunity to present our best guess of how operations are going to go. The technical working group makes a flow recommendation, Reclamation reviews and evaluates the request and makes a decision on releases. After the spring peak, Reclamation makes decisions to hit the May 1st target. In 2018, the forecast increased throughout the year. Compared to historical inflows, 2018 at Flaming Gorge was average, but the Yampa was very dry. Jed showed a plot of Flaming Gorge operations. Baseflows were ~2800 into February, decreased to ~1700 cfs to meet the May 1 target, then increased for the peak to ~6600 cfs, and dropped back down. The peak flows in Reach 2 at Jensen were ~12000 cfs,... Looking at 1-year outlooks (most probable, max probable, and min probable), we'll most likely end next July ~5 feet lower than we are currently. The minimum probable, we'll end up ~12 feet lower. Max probable, 8600 cfs for ~18 days, and end up similar to where we were at the end of July. UDWR will be electrofishing 9/5-9/6 - periodic 1600cfs releases, dive team inspection 10/1. T Wright mentioned it would be nice to have the graphic showing typical year operations.

Tom Chart presented information on the fish recovery program, focusing on the spring release requests. Recovery program basics -- the program has been around for 30 years now, made up of a number of partners, aiming for recovery of 4 endangered fish. We're trying to balance the law of the river and the endangered species act. The fish are found in only the Colorado River system and can live to be 50 years old. The recovery elements are Flow Management, Habitat Development, Stocking Endangered Fish, Managing Nonnative Fish, and Research and Monitoring. Flow management is being done not only here on the Green, but throughout the Colorado basin, in an attempt to mimic natural conditions. The first appearance of larval razorback suckers is a key trigger to operations. The first capture dates are 88.5% of the time between May 15-June 15, and 77% of the time between May 15 and June 5. Reclamation is timing dam releases to peak and connect the river to floodplain nursery areas. Tom presented information on timing of larval emergence and peak flows for the past few years. A lot of data is collected at Stewart Lake. Large bodied fish are excluded from Stewart Lake, small-bodied are not. The larval trigger study flows have led to a significant increase in razorback presence and survival in Stewart Lake. Electrofishing is being done in the river to remove invasive species on 600 miles of river. In addition to physical removal of invasive species, for Flaming Gorge, it will be recommended to hit small mouth bass with a flow spike to disadvantage them, spikeflow of 4600 cfs for about 3 days in the June 20-June 30 window. A question was asked about changes to fish populations. Tom responded that Razorback Suckers were essentially extinct 30 years ago, now we have ~30,000. The fish from the hatcheries are doing really well. Bonytail. Colorado Pikeminnow numbers are down since the program began. Humpback Chub de-listing is being discussed - from endangered to threatened. A question about hitting the target of having peak flows for half of the years above 18600 cfs at Jensen was asked. Tom replied that we've been above 18600 cfs in 2 of the 7 years, and got close in 2017. The longer you have the connection to the floodplains, the better it seems to be for the fish. 2016 appeared to be a pretty ideal condition for Stewart Lake.

Dale Hamilton gave an update on Reclamation's plan for reviewing the proposal provided in the July meeting. The plan is to analyze and provide feedback on the 9 points of the proposal, develop a team of engineers, biologists, and others to analyze the proposal. Certain items will require significant effort, but the hope is to have a response by December. T Wright asked how the conversation on drought

contingency planning going to come to this group. Wayne Pullan responded that drought contingency planning is intended to plan for where we may be after a series of dry years and dealing with the shortage that could come. Discussions are preliminary and will come to the group. Adding to what Ashley said about addressing the challenges in forecasting Flaming Gorge inflow, Wayne mentioned that Reclamation has invested \$564,000 in improved monitoring equipment in the Green River Basin and is planning to spend another \$200,000.

Next meeting will be held March 14, at 11 am in Price Utah, likely at the High School as in the past

The April meeting was also scheduled for April 18, at 10 am in Vernal at the Uintah Conference Center.