

**Colorado River Storage Project  
Flaming Gorge Working Group  
Meeting Minutes  
April 20, 2005**

**Participation:**

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This meeting was held at the Western Park Convention Center in Vernal, Utah. Attendees are listed below.

**Purpose of Meeting:**

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The purpose of operation 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. 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**

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The meeting started at 10:13 a.m. with 26 present. Ed Vidmar invited all present to introduce themselves, and then gave a summary of the agenda: First, a presentation by Greg Smith of NOAA/NWS Colorado Basin River Forecast Center; second, Rick Clayton's presentation on the Flaming Gorge forecast and planned spring peak operations; third, a presentation by Pat Nelson of the Recovery Program regarding their request for specific flows for research purposes during the spring peak runoff..

**Flaming Gorge Hydrology**

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Greg Smith gave a presentation on the Colorado Basin River Forecast Center's mission, what they do and how they do it. He uses historic data from 1976-2002 to make forecasts, and first extracts a 50% number for the forecast, then gives high/low (75%/25%) extremes. 72% of Flaming Gorge inflow comes from area above Fontenelle. There are only 9 Snotel sites in that 4300 square mile area, none of which are above 10,000 feet, so available Snotel data is supplemented with simulation and modeling. The hydrograph given to Rick Clayton for Reclamation is the most frequently occurring flows. There are a number of uncertainties. Operations are unknown for the four private reservoirs above Fontenelle; if they are empty and then fill there is less flow going to Fontenelle. There are also a number of diversions in Wyoming that affect runoff. Greg is now using future temperature forecasts instead of historic information, this should help the monthly forecasts even though the duration of these forecasts is limited to 10 days. Greg handed out information and referred those interested to the web site, <http://www.cbrfc.noaa.gov> for more information.

Dennis Breer asked about the possibility of additional Snotel sites above Fontenelle, and if there were some, would they help. Greg replied that this is up to NRCS. Additional sites would help, but not immediately- it would take at least 10 years for enough data to be acquired from new sites to be useful in forecasting. Dennis also asked whether it was possible to get information on the operations of the four private reservoirs. Greg replied that they have had no luck so far but intend to try again. Roger Schneidervin asked whether the Upper Green Snotel coverage is similar to coverage in other areas. Greg replied that it's the only area that doesn't have sites

above 10,000 feet. He added that they are working on getting better information on aerial extent of snowpack.

Dee Holladay asked about the timing of the Green River peak versus the Yampa. The Green normally peaks later than the Yampa. Rick Clayton explained the reasoning behind taking advantage of the Yampa flows to achieve desired flows at and below the Jensen Gauge.

Rick Clayton presented the Flaming Gorge/Green River/Yampa River forecast. The elevation of Flaming Gorge Reservoir has been rising for over a year and more dramatically over the past several months. At present, the average inflow is about twice what we are releasing from the dam. The volume inflow over the past 5 years is less than 50% of normal. The low point for the reservoir was 6010 one year ago, now it is 6017 and rising. The base flows are reset. Reclamation will hold releases steady until the ice breaks up. Currently, power plant capacity (1550 cfs) is being released at Fontenelle. Overall, the Colorado River Basin appears to be in a recovery mode relative to the drought- not a complete recovery, but conditions are better. The lower Colorado River Basin is well over 100% of normal though that number gets lower as one moves north to the upper basin. The upper basin is a mixture of above and below average conditions. The Wasatch Front is >100% but Green River and Yampa basins are lower, though better than last year. The Tower snotel site is recording 39.1 inches of water, which is the 6th lowest measurement on record. Based on the most probable forecast, Reclamation plans to operate Flaming Gorge Dam at power plant capacity for 24 days, beginning approximately May 23. After the peak, Flaming Gorge will ramp down to a base flow of 1200 cfs. Dennis Breer asked to discuss the base flows, this is deferred to later in the meeting.

Pat Green of the Recovery Program distributed copies of the RIP's letter containing their research proposal and the related request for specific spring peak releases. Rather than the 24 days at power plant capacity that Rick Clayton just described, the Recovery Program would like to take that same volume of water and compress it to shorter and higher flows, possibly exceeding power plant capacity, to combine with Yampa flows to achieve 18,000 cfs at the Jensen gauge. Ideally, they would like three flows- 14,000, 16,000 and 18,000 cfs, the request is for research on entrainment of razorback sucker larvae entrainment into floodplain habitat. The 18,000 cfs flow would not cause flooding. Pat explained that the Recovery Program's research efforts in the Green are behind schedule because of the prolonged drought. June suckers spawn a few miles upstream of Jensen, and the quarter-inch-long larvae drift downstream. There has been no documented survival for many years, and it is believed that the larvae would survive if they can get into the floodplain habitat. Notches have been made in levees along the Green such that habitat can be flooded at 13,000 cfs, which is a flow that historically has occurred in two out of every three years since the dam was built. Ideally, they would want flows stepped at two to three days each, holding at 14, 16, 18, 14, and then ramping down to base flows, with these higher flows lasting for 8 to 12 days total. The Recovery Program wants to study the relationship between these flows and larval drift. They would put both beads and larvae at the spawning bar upstream of Jensen on the Green, hoping to find out how far downstream they drift (do they go as far as the Ouray habitat?). They also want to conduct physical evaluation of the habitats at these flows, and collect aerial photography of these flows.

Dee Holladay asked a number of questions on the habitat and spawning areas- where is the spawning area referred to in Pat's presentation, is it at Split Mountain? Pat said no, it is below Split Mountain, 6 miles above Jensen. Pat added that they would hope to identify or establish additional spawning areas. Dennis Breer asked whether the notched levees are new? Pat said that the levee notching effort began in 1995-96, the most recent efforts at Thunder Ranch were a year ago and so these have never been tested. Dennis asked if this was a new concept, and Pat replied that yes, one of the things the Recovery Program wants to learn more about is the feasibility of increasing habitat by lowering access to the floodplains if higher flows aren't available. A gentleman (with Steve Romney/mosquito abatement district, sitting 2 down from Romney) asked how critical are these precise flow levels (14, 16, 18). He questioned how much precision can be achieved given the unpredictability of the Yampa, and if you can't get the exact flows, what are the tolerances for being able to get the desired information? Can you live with plus or minus 2000 cfs? Pat replied that the requested flows are the ideal scenario, the Recovery Program would like whatever flows can be achieved, and would gather as much data as possible. Melissa Trammell from the Park Service added that any flows at or over 14,000 cfs will yield good information. Boyd (Flaming Gorge Lodge) asked, what is the most probable flow at Jensen? Rick replied that the 50% flow is 14,600, assuming power plant capacity (4600) at Flaming Gorge. Boyd asked, what is the maximum release capability at Flaming Gorge? Warren Blanchard replied that the maximum is 45,000 cfs. The flow using powerplant capacity and the two bypass tubes (but not the spillway) would be 8500 cfs. Ed Vidmar gave a reminder that whatever the spring peak release pattern is, whether 24 days at powerplant capacity or something shorter and higher, the set volume of water to be released is fixed and will not be exceeded.

Dr. Romney of the Uintah Mosquito Abatement District expressed concern over mosquitoes, the difference in potential habitat between 14,000 and 18,000 cfs is staggering and would result in thousands of acres of habitat. Pat replied that he can't speak for the entire floodplain, but where the levees are notched, there is connectivity to the river and therefore some flow that would discourage mosquitoes, and any fish or fish larvae entrained would also eat mosquito larvae. He believes that the greater concerns for mosquito habitat would be isolated depressions that hold water after flows are reduced.

Melissa Trammell asked, what is the most probably release volume? (Didn't note response in my notes). Dennis Breer questioned the timing of the Recovery Program's request, if they have been waiting all these years because of the drought, they must have known what kind of research they wanted to do, and could have communicated sooner. It was suggested that the Recovery Program could post its research proposals on their web site, each fall before the spring runoff, or Dave Speas could get them to Rick Clayton for posting on the FG Working Group web site. Dave Speas agreed that there is a need to make the Recovery Program's desires and plans available sooner. Boyd asked whether it is true that at Glen Canyon, the recent high flows have resulted in a significant setback to the endangered fish recovery efforts. It was reported after those flows that the juvenile counts were way down. Dave Speas stated that there has been no formal evaluation yet, there is lots of speculation but nothing to support it. Melissa seconded that thought, they do not believe the higher flows have adversely affected recovery. Dr. Romney questioned the reports of the lower counts of small fish, Melissa noted that the young of year counts are always lower after high flows, Heather Patno of WAPA noted that this is due in part to the fact that the base flows remain higher for a while and that makes it more difficult to locate

the fish, the first count is done at much lower flows. In response to a follow up question from Boyd, Melissa stated that there is always a lower yoy count after high flows, and as yet it is unknown whether or how much that decrease is attributable to the flows.

Roger Schneidervin of UDWR then shared details about trout studies and in particular New Zealand mud snail studies below the dam. Mark Vinson has done some mud snail sampling, and a USU graduate student did some sampling during the week of April 11. Her research will attempt to better quantify mud snail populations, present estimates based on photos are 100,000 per square mile. This graduate student wants to study the effects of spring flow on the mud snails, and has been anticipating power plant capacity flows. She will probably like greater than power plant capacity flows for this research effort. Roger stated that he is neutral on higher flows; based on sampling there are some bad effects and some good effects, on balance the effects are probably good, particularly the gains in invertebrates. The effects of higher flows on NZ mud snails are unknown, but based on available literature, it is believed that flood events do cause mortality. The graduate student would expect to do a second sample before the spring peak flows, and then sample after flows return to base levels. Roger added that bypass flows would be good to flush out the fire sediment still remaining from the Mustang fire.

Dr. Romney reiterated his concerns that for West Nile Virus, we are headed for 'serious trouble in 2005.' He stated that in his personal opinion, intentional flooding (artificially raised as compared with naturally occurring high flows) constitutes a gross disregard for human health needs in the Uintah Basin.

Ed Vidmar noted that based on the hydrologic forecast Rick Clayton presented earlier, in this type of average year, the best guess is that the Yampa would give us 8,000 cfs, maybe 10,000. His guess at this time is that it would be extremely difficult to reach or exceed 16,000 cfs at Jensen. We would have to get 10,000 cfs from the Yampa for 3 days or more to try for higher flows, though it was again stated that anything over 14,000 cfs would yield good information. Pat Green noted that 2 data points would be preferable to just 1, and 3 data points would be even better. Warren Blanchard asked whether these requests will keep coming annually until 18,000 is achieved. Ed Vidmar reminded the group that constraints do apply, the volume to be released is fixed although the shape of the hydrograph can vary based on that volume. Warren stated that for the Basin Fund, it is essential that 100,000 acre feet pass through the turbines.

Ed Vidmar noted that we have not yet heard whether CREDA supports this higher flow request. Heather Patno from WAPA stated that CREDA and UAMPS won't oppose the request. Rick Clayton asked Heather if CREDA was okay with foregoing power generation (and the related Basin Fund revenues) given a one in three chance of achieving 18,000 cfs at Jensen. Heather replied that this was new information that had not been presented to CREDA and so she will have to consult further with them.

Ed summarized by stating that Rick Clayton will need some time to model the possibilities and implications of the various flows, and then a decision will be made as to what is a reasonable goal for the spring peak flows. Reclamation staff plans to meet with the Regional Director on April 29 (late note, this has been rescheduled to May 3), so if anyone in the Working Group has more input, they should get it to Ed by Wednesday, April 27.

Wayne Prokopetz from the Park Service (Dinosaur National Monument) asked about the timing of the peak flows. Rick Clayton responded that on average, May 23 plus or minus 10 days is the beginning of the runoff season. Ed noted that the Regional Director will make the final call on whether to accommodate the Recovery Program's request. Ed noted that Reclamation probably does not support daily metering (fluctuation of flows) at Flaming Gorge Dam in order to chase the Yampa flows. We did that in 1992 and didn't like the results, so we would want to avoid doing it again.

A question was asked about base flows, Rick Clayton responded that they will remain at 1000 cfs or greater for the foreseeable future. Dennis Breer stated that he wanted to talk more about that, as he mentioned earlier in the meeting. Rick described last year's runoff, shorter peak with higher base flows. He clarified that this year, the higher base flows are not part of the 300,000 acre foot volume- that is the spring peak volume.

Dennis Breer wanted to give his input, with his 'business hat' on, about the health of the trout fishery. He concurs with Roger Schneidervin's support of the higher spring flows even though he loses money when flows from Flaming Gorge are higher than power plant capacity. The area below Dripping Springs does need flushing. The higher flows do have benefits for the trout fishery and so he balances short term economic losses against an investment in the future. He is 'reluctantly' ok with Flaming Gorge flows as high as 8500 cfs. As for base flows, Dennis referenced the Flaming Gorge EIS and notes that recreational and economic values should receive higher consideration when planning Flaming Gorge operations. He doesn't think the EIS provided as much detail on economic impacts as it could have. Last summer, there were a lot of complaints from fishermen about ramping twice within the daylight hours. They are okay with ramping up around midmorning, but ramping down during the afternoon greatly disrupts the fishing. Apparently this happened a lot last summer. If the ramping down occurs later in the afternoon, or early evening, that's fine, because the flow change doesn't reach the downstream fishing areas before the end of the fishing day. But, what happened last summer, which was different than any previous years, was bad for fishing. Rick Clayton replied that he was unaware this had been occurring and will discuss it with WAPA. In summary, Dennis replied that they don't have a problem with power generation in general, but there is probably a way to do it better for fishing without any adverse effect on power.

Boyd asked whether flows above 8500 cfs affect Little Hole National Recreation Trail. Warren replied that it does affect parts of the trails, but boat ramps are still usable. A representative from the Forest Service stated that flows at 8500 cfs go above the deck; Ed Vidmar disagreed, stating that they are still under the deck until flows reach 10,500 cfs.

Dr. Romney stated that mosquitoes affect recreation all along the river. Ed stated that in the past, Dr. Romney has indicated a preference for quicker ramping up and down as compared with high steady flows. Dr. Romney stated his concern for 5 to 7 days of high flows, adding that larvae can survive dessication. "Not wanting to be an alarmist, just good biology." Kevin Christopherson asked whether the higher flows couldn't also be studied using aerial photography to get better information on mosquito habitat. He also noted that in the inundated floodplains, fish would eat mosquito larvae. Dr. Romney dismissed the research notion stating that much of the habitat is

under canopy and wouldn't be picked up by photography. Pat Green stated that he understands Dr. Romney's concern, but there is going to be water in much of the potential habitat anyway.

David Speas stated that it is hoped that a Record of Decision for the Flaming Gorge EIS will be in place in a few months, and that through adaptive management we will be able to monitor resource impacts and benefits at differing flows. He seconded Kevin Christopherson's comments and stated that over time, we need to test and evaluate to get the information we need for better management and operations.

Jerry reported that happily, reservoir levels are not an issue this year for marina operations. He has already removed equipment from the reservoir in anticipation of rising water. There are not marina issues generally when the reservoir is between 6015 and 6040. Dennis reiterated that we need to balance and think about consequences associated with dam operations, everyone is paying prices.

A representative from the Forest Service explained that a large tree has fallen into the river about three quarters of a mile below the spillway and that it is a potential safety hazard, especially during higher spring flows. She asked about the possibility of lower flows from the dam briefly to facilitate removal of the tree. They need to either cut it up or anchor it so that it won't go downstream with higher flows. Dennis Breer offered the use of his winch if necessary. Forest Service plans to deal with it before the higher flows, probably the first week in May, and if we can lower flows briefly, to as low as 500 cfs, that would be very helpful. Rick Clayton responded that we will look at it and try to accommodate the Forest Service's request.

### **Hydrology Presentation:**

#### [Flaming Gorge Working Group Meeting](#)

[http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/FlamingGorgeWorkGroup\\_VID.pdf](http://www.usbr.gov/uc/water/crsp/wg/fg/pdfs/FlamingGorgeWorkGroup_VID.pdf)

### **Previous Meeting Minutes:**

Flaming Gorge Working Group Meeting Minutes:

August 19, 2004

April 15, 2004

### **Next Meeting:**

The next meeting of the Flaming Gorge Working Group will be held in mid-August 2005.

**Attendees:**

<b>Name</b>	<b>Organization</b>	<b>Telephone Number</b>
Jerry Taylor	Lucerne Valley marina	
Wayne Prokopetz	NPS	
Steven Romney	Uintah Mosquito	
Kevin Clegg	USFS	435-781-5245
Peter Crookston	Reclamation	801-379-1152
Heather Patno	WAPA	801-524-5490
Melissa Trammel	NPS	801-539-4255
Kirk Robbins	Uintah Mosquito	
Roger Schneidervin	DWR	435-885-3164
Warren Blanchard	Reclamation	435-885-9453
Boyd Kitchen	USU	
Rick Clayton	Reclamation	801-524-3710
Deloy Adams	Flaming Gorge Lodge	
Dee Holladay	Holliday Expeditions	
Pat Nelson	USFWS	
Dennis Breer	GROGA	435-885-3355
Clayton Palmer	WAPA	801-524-3522
Dave Irving	USFWS	
Jeff Schramm	USFS	
John Campbell	USFS	
Nanette Gale	USFS	
Greg Smith	NWS	
Kevin Christopherson	UDWR	
Dave Speas	Reclamation	
Beverley Heffernan	Reclamation	
Russ Findlay	Reclamation	
Ed Vidmar	Reclamation	