

Draft Fall/Winter Update to the 2009 Water Management Plan

November 20, 2008

Introduction

The Fall/Winter Update is an addendum to the annual Water Management Plan (WMP). This draft update is intended to supplement the WMP with more detailed information about fall and winter operations that have occurred or are scheduled to occur during the fall and winter of 2008-09.

Current Conditions

The most recent Corps of Engineers final water supply forecasts for Libby and Dworshak were issued in early November and are as follows. The National Weather Service and Bureau of Reclamation do not prepare fall forecasts. All parties will issue their January final forecasts early in January.

Project	Period	Volume (MAF)	% Normal
The Dalles *	Apr - Aug		
Lower Granite *	Apr - Jul		
Libby **	Apr - Aug	6.8	108
Dworshak **	Apr - Jul	3.4	127
Grand Coulee *	Jan - Jul		
Hungry Horse ***	Jan - Jul		

* Prepared by National Weather Service

** Prepared by Corps of Engineers

*** Prepared by Bureau of Reclamation

Seasonal (October through November 11) precipitation was: 102 percent of normal (1971-2000) at Columbia above Grand Coulee, 114 percent of normal at the Snake River above Ice Harbor, and 109 percent of normal at Columbia above The Dalles.

The highest November 13 Snow Water Equivalents (SWEs) are in southwest Montana and central Idaho, ranging from 150 – 175 percent of average. Most areas in the basin have November 13 SWE's in the 25 – 50 percent of average range.

Lake Pend Oreille Kokanee Operation

The state of Idaho (Idaho Department of Fish and Game (IDFG)) and the U.S. Fish and Wildlife Service (USFWS) submitted a System Operation Request (SOR) in October 2008 requesting that: “*the Action Agencies draw Lake Pend Oreille down to an elevation no lower than 2051 feet while minimizing or eliminating the need to spill at Albeni Falls Dam and not exceeding state maximum total dissolved gas standards (TDG) at Albeni Falls or downstream projects.*” The SOR further specified that: “*most of the drawdown*

to elevation 2051 feet be achieved by November 8 if possible, as kokanee spawning has commenced earlier the last two years than in previous years;” and, “That if kokanee spawning is in progress prior to November 15 and occurs in locations and depths that are deemed vulnerable to continued drawdown, then the Corps shall, within 5 days of notification, complete drawdown activities even if 2051 feet has not been reached.”

In response to this SOR the Corps implemented a drawdown plan on 22 October to meet the proposed target of 2051 feet. on 8 November. To avoid exceeding TDG standards at downstream projects the maximum outflow was restricted to 28 kcfs.

The Corps targeted a drawdown to 2052 feet on 31 October and 2051 feet on 8 November, with a plan to draw down more aggressively early and flatten out later to provide flexibility if needed in case of a rain event. Once there, the Corps planned to hold the pool at 2051-2051.5 feet through the end of spawning. To meet the target of approximately 2051 feet by November 8 required an aggressive draw down earlier than previously planned for in the draft 2009 Water Management Plan to allow flexibility for water conditions to unfold over the season and still meet the 2051 ft elevation target. The drawdown to 2051.5 feet was achieved by November 8. IDFG declared November 15 as the beginning of spawning. Lake Pend Oreille is being operated within the 0.5 feet elevation range until the end of spawning or December 31, whichever comes first. IDFG will be conducting daily spawning surveys to determine the end of spawning. Ongoing coordination with the Technical Management Team (TMT) will occur so that the SOR for post spawning operations can be discussed, and finalized in time for implementation.

Chum Spawning Flows and The Dalles Spillway Construction Operation

Bonneville Dam operations to accommodate chum spawning began on November 7 at 0600 hours. As recommended the 2008 BiOp, the target tailwater elevation below Bonneville Dam during chum spawning is 11.5 ft. TMT agreed to this target and a tailwater elevation range of 11.3 ft to 11.7 ft. In addition to providing adequate tailwater for chum spawning below Bonneville Dam, the Corps is currently holding the Bonneville pool elevation at 75.0-76.5 ft as a hard constraint to accommodate spillwall construction below The Dalles Dam. This pool elevation constraint limits the typical pool operating range available to operators during November and December and depending on flows, may compromise the Action Agencies’ ability to maintain the Bonneville Dam tailwater elevation criteria for chum spawning during daytime hours. This issue was raised and discussed at the TMT meeting on October 1. In response to the Action Agencies identification of this issue, the Fish Passage Advisory Committee (FPAC) submitted a Joint Technical Staff Memo (JTSM) to the Action Agencies on October 22 (<http://www.nwd-wc.usace.army.mil/tmt/agendas/2008/1022TDA.pdf>). In the JTSM, FPAC requested that the Action Agencies provide details of how they plan to meet the needs of both chum spawning operations and spillwall construction activities at The Dalles Dam. The memo acknowledges that both items are important. The JTSM posed the following questions: 1) What potential steps are the Action Agencies taking to provide assurance that the chum operation goes as smoothly as possible? 2) Is there any additional flexibility in reservoir operations to provide greater assurance that chum operational needs will be met? As a response to the JTSM, the Actions Agencies

prepared and presented a Draft Chum Operations Plan at the November 5 TMT meeting (http://www.nwd-wc.usace.army.mil/tmt/agendas/2008/1105_chum_operations.pdf). The FPAC will review the draft plan and respond with comments as necessary.

River flow increased significantly on November 14 due to heavy precipitation in days prior to November 14. The Action Agencies conferred with NOAA-Fisheries and determined that raising the tailwater below Bonneville was unavoidable due to the increased river flow. NOAA-Fisheries recommended that the excess flow be passed as quickly as possible in order to regain control of the tailwater elevation below Bonneville. Subsequently, the daytime tailwater elevation was raised to 16.5 ft to pass as much flow as quickly as possible so that operations to maintain the 11.3-11.7 ft target range could resume. The recommended action was successful and currently, daytime tailwater elevation below Bonneville Dam is being held within the 11.3-11.7 ft range (Figure 1). Nighttime tailwater elevation continues to fluctuate above the target range, however it is assumed that chum spawning activity is much reduced during nighttime hours and that the possibility of redds being established at higher elevations during nighttime hours is unlikely.

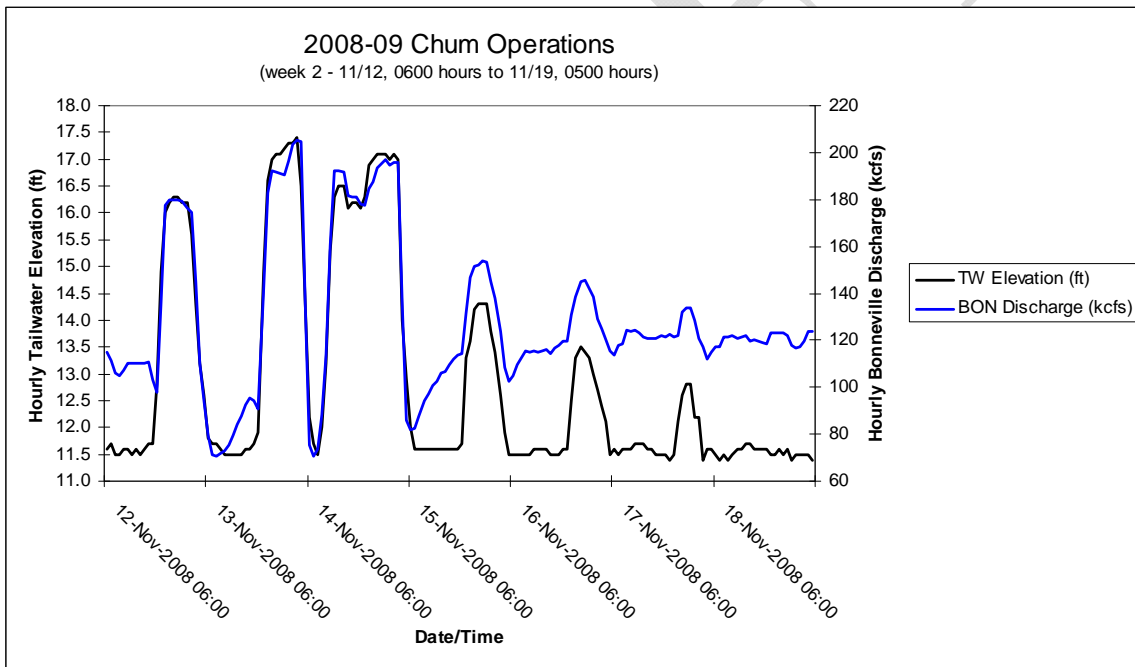


Figure 1. - Bonneville Dam tailwater elevation and outflow, November 12-19, 2008.

Burbot Spawning Flows (Non-BiOp Action)

The USFWS staff, in cooperation with the Kootenai Valley Resource Initiative (KVRI) submitted an October 2008 SOR requesting that the Corps use the selective withdrawal gate system at Libby Dam to release the coolest water possible in November and December, before temperature stratification limits the temperature control capability. The purpose of this operation is to provide cooler river temperatures downstream of Bonners Ferry. A study is also underway to determine how radio-tagged burbot in the Kootenai River respond to these temperature changes. This operation will likely result in

November and December temperatures being slightly cooler than the existing selective withdrawal temperature rule curve. This deviation from the temperature rule curve has been coordinated with Montana Fish, Wildlife & Parks (MFWP). Corps staff at Libby Dam will remove selective withdrawal gates incrementally during late October to assure that daily temperature change remains within 2° F per day; gates will be removed systematically to slowly lower river temperature to the minimum by early November (on average, a span of about 5° C, or 9° F). As of November 5, project operations to accommodate the specification of the SOR were underway.

Flood Control

Grand Coulee and all Canadian projects will be operated for standard flood control in 2008-09. Hungry Horse and Libby will be operated for Variable Q (VARQ) Flood Control. Beginning in January, the Corps calculates Upper Rule Curve elevations based on the monthly final forecasts. Projects are operated using these elevations as an upper limit, with the objective of reaching their spring refill elevations. For detailed flood control operations see: <http://www.nwd-wc.usace.army.mil/report/colsum/200802.pdf>. Based on the current 1 November Libby water supply forecast, an end of December variable draft is not likely to occur.

Spring Creek Hatchery Release (Non-BiOp Action)

This coming year's Spring Creek National Fish Hatchery (SCNFH) releases above Bonneville are planned to be later in April and May due to reprogramming of the March released group of fish from the SCNFH to Tanner Creek Hatchery (ODFW). The March group of approximately 7.2 million sub yearling Tule fall Chinook salmon will now be reared below Bonneville Dam at the Tanner Creek Hatchery facility. Release of these fish will occur downstream of Bonneville Dam sometime in March, but a specific date has not been identified since this is the first year these fish will be reared at this facility and growth rates are unknown. There will be no spill or special operations required at Bonneville Dam until the start of spring spill in April.

Vernita Bar spawning operation (Non-BiOp Action)

Initiation of spawning began on October 29. Fifty-two chinook redds have been observed in the 36-50 kcfs range and six redds in the 50-55 kcfs range. Few redds are expected to be above the 50-55 kcfs range due to fairly low flows. In addition, there will be ongoing feasibility studies through mid December to explore and evaluate methods for eggs per redd counts. An additional ground count survey is scheduled for November 23. Following the survey, the critical elevation will be determined and "normal operations" will resume. This item will be on the agenda for the December 3 TMT meeting.

Snake River Zero Flow (Non-BiOp Action)

According to the Lower Snake projects operating manuals, "From December to February, "zero" minimum project discharge is permitted on a limited basis. Under an agreement between the Corps of Engineers and the fishery agencies, zero river flow is allowed for

water storage during low power demand periods (at night and on weekends) when there are few, if any, actively migrating anadromous fish present in the Snake River. Water stored under zero river flow conditions may maximize power production from the Columbia River Basin system, but zero river flow operations are not recommended at Lower Snake projects when fish are actively migrating in the Snake River”. Nighttime zero flow will be discussed at the November 19 TMT meeting.

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