

Section 2.1: Priorities

Third paragraph after item 4, last sentence: Consider revising to “There may be years when *power drafts may have to be limited and* chum and Hanford Reach flows may need to be reduced in order to be at the early April flood control levels.”

To provide the best opportunity to meet April 10th flood control elevations, excessive power drafts should be closely monitored. The closer projects are operated to flood control elevations throughout the entire winter, the higher the likelihood of meeting the April 10th elevations. If modifying measures during some years to increase the likelihood of reservoir refill are being discussed in a sentence or paragraph, then reservoir power drafts ought to also be included.

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Fourth paragraph after item 4: The last sentence makes reference to reservoir refill by June 30th has priority over spring flow objectives. A sentence should follow that explains that if projects are maintained through the winter and spring near their flood control elevations (within the constraints of Vernita Bar and Chum flows), there is an increased likelihood of refilling projects by June 30th with a *minimal* impact on Spring flows.

Section 2.1: Priorities

Fifth paragraph after item 4: Consider revising the second sentence to “the storage reservoirs will be drafted to their specified August 31st draft limits to augment summer flows *and/or moderate river temperatures, unless other operations are agreed upon at the TMT level.*”

Section 2.2.3: Chum tailwater Elevations Versus Refill/ Spring Flows

This section does not include or mention the fact that the area below Bonneville Dam is also utilized by fall chinook and coho spawning which require water on the spawning grounds before November. The Water Management Plan should include a discussion of fall chinook and coho and consider potential opportunities to provide natural mainstem spawning areas for these stocks in addition to chum salmon.

Second to last sentence: Consider modifying second to last sentence to “Choosing to refill runs the risk of reducing the tailwater elevation that can be supported through the spawning season and dewatering chum redds.”

Section 2.2.5: Fish Operations Versus Other Project Uses

This paragraph describes fish operations versus other project uses including irrigation, flood control, recreation and power production. The development of the Biological Opinion for the FCRPS included consultation with the federal operating agencies on the operations of the Hydrosystem, and the impact on listed stocks. These negotiations included consideration of the multiple uses of the Hydrosystem. This paragraph should recognize those negotiations and describe the fact that these negotiations and the multiple uses of the Hydrosystem are part of the

foundation of the Biological Opinion.

Section 2.3: Emergencies

This paragraph should include the requirement that emergencies must be declared and documented as to their nature, cause and proposed resolution. Emergencies should include measures to mitigate for the impact on fish protection measures.

Section 2.4: Research

This section should include reference to the Salmon Managers Planning and Operation Flow Chart developed by the agencies and tribes.

Section 5.2: All Storage Projects

Describe clearly what is meant by “high probability” for meeting April 10 rule curve. Do you mean greater than 50%, 80 %, 90% probability?

The third paragraph, last sentence states: “Because research results indicate that increased flows have more direct survival benefits for summer migrants than for spring migrants, modest reductions in spring flows to facilitate reservoir refill would generally be preferable to refill failure.” This sentence is misleading and does not actually reflect the available data and analysis.

This statement is only partially accurate and is dependent on the actual base spring flow being provided. If spring base flows, before augmentation is very low, the additional increment of flow to spring migrants is extremely important. If flows are at the BiOp targets for the spring, the additional increments of flow to a higher base flow may not result in the same benefits of flow augmentation added to a lower flow.

Apparently, this statement is trying to say that survival benefits are larger per unit of flow increase during the summer, as opposed to the spring season. If true, this effect would be due to the sheer difference in average flows between the spring and summer seasons, and should not take away from the importance of spring flows. It should also be pointed out, again, that to achieve the highest probability of refill by June 30th, reservoirs should be kept as close to flood control elevations as possible.

Section 5.11: Bonneville Dam Chum Flows

It may be of value here to attempt to define the “best hydrologic data” that would be used to make early decisions for chum spawning. Are these predictions or reports for the fall and winter by state or federal climatologists?

Section 7.3.2: Total Dissolved Gas Monitoring

Most of the language needs to be updated to reflect the end of the 2003 spill season and the beginning of the 2004 spill season.

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Seventh paragraph, second to last sentence: The language in the variance for total dissolved gas calls for gas levels to “not exceed” 120% in the tailrace (12 highest hourly readings in a 24-hour period) and 115% in the forebays (12 highest hourly readings in a 24-hour period). Consequently, the COE can eliminate the words “are as close to, but”.

Section 7.9: Dworshak Draft to 1500 Feet Adult Evaluation

First paragraph, second sentence: change 2003 to 2004 if accurate, or change the sentence to reflect the study was done (past tense) in 2003.

Second paragraph: Consider revising to: “Water conditions at the end of 2002 *and a TMT decision in 2003* allowed *approximately* 200 Kaf of storage from Dworshak to be released in September for the purpose of this study. The data from *these* tests will be evaluated in 2004.

Section 10.1.1: Ramp Rates

Table 7, Ramp up rates: 9,000-17,000 cfs ramp up should read “Limit ramp up to two units per day (approx. 10,000 cfs per day).