



FISH PASSAGE CENTER

1827 NE 44th Ave., Suite 240, Portland, OR 97213

Phone: (503) 230-4099 Fax: (503) 230-7559

<http://www.fpc.org/>

e-mail us at fpcestaff@fpc.org

MEMORANDUM

TO: FPAC

Michele DeHart

FROM: Michele DeHart

DATE: May 4, 2012

RE: Bonneville Dam Passage

This is a follow-up to the memo we provided on May 1st regarding the reduction of daytime spill to aid adult passage at Bonneville Dam. At that time we cautioned that it would be impossible to evaluate the proposed “operation” in any meaningful manner given the variability in operations and the variability in adult passage numbers. In addition, we cautioned that the “operation” necessitated a change in the powerhouse management that could have adverse effects on juvenile passage that would have to be assessed.

The following table summarized adult passage over the two daily eight hour counting shifts for the past four days. As you can see spill ranged from a low of 143.7 during the “operation” period to a high of 198 Kcfs. The daily adult Chinook counts varied over the four days, with no apparent pattern. The highest shift passage was during the 1pm to 8 pm shift on May 3rd during which time the spill was 198.1 Kcfs. As we cautioned, it appears impossible to detect any meaningful biological or statistical trends in the data.

	Bonneville Spill (Kcfs)		Bonneville Total Outflow (Kcfs)		Combined Chinook(Adult, Jack, clip, no-clip)-UnCorrected					
					Bradford Island			Washington Shore		
	<u>5am- Noon</u>	<u>1pm- 8pm</u>	<u>5am-Noon</u>	<u>1pm-8pm</u>	<u>5am- Noon</u>	<u>1pm- 8pm</u>	<u>Total</u>	<u>5am- Noon</u>	<u>1pm- 8pm</u>	<u>Total</u>
30-Apr	198.4	168.6	411.6	388.2	196	433	629	295	712	1007
1-May	168.9	169.8	415.1	411.4	256	422	678	571	638	1209
2-May	185.3	183.7	422.0	418.6	191	341	532	313	634	947
3-May	143.7	198.1	363.8	430.0	313	368	681	524	925	1449

On the other hand the “operation” necessitated higher flows through the powerhouse to pass the water that had been stored in the reservoir. This was accomplished by operating PH1 in open geometry prior to the “operation” and, then subsequent to the “operation”, PH2 was released from restrictions to the mid-range of the 1% efficiency to address the Spring Creek NFH passage, and operated as high as 129 Kcfs. We have no way of assessing the biological impact of the open-geometry at PH1. However, we do know that the mortality rate on juvenile subyearling Chinook increased to 8.7% with this operation of PH2. The passage index for subyearling fish did decrease to 3907 fish, indicating the passage of the Spring Creek hatchery release. However, this passage index is similar to the numbers observed before the Spring Creek release and likely represents wild fall Chinook.