



FISH PASSAGE CENTER

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MEMORANDUM

TO: FPAC

FROM: FPC Staff

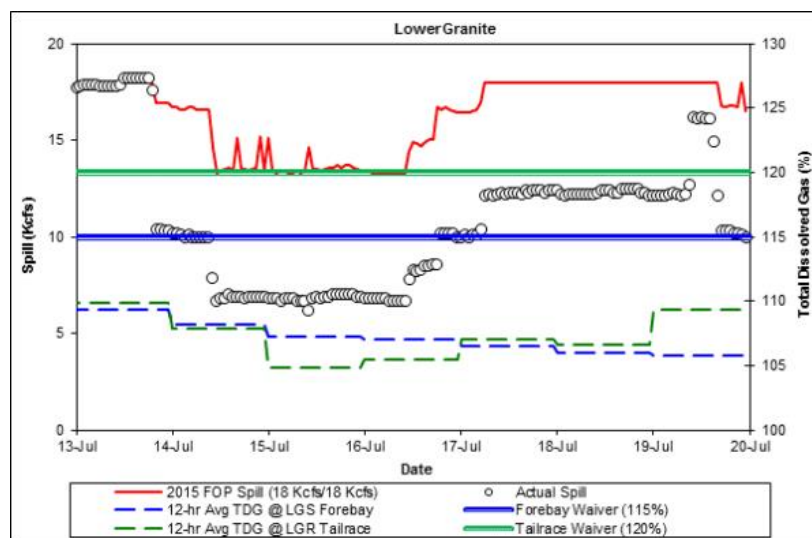
DATE: 7/20/15

SUBJECT: Update of Present Conditions at Lower Granite Dam

This memo provides you with some background information relative to today's scheduled FPOM call. Limited discussion of the magnitude of the tradeoffs of juvenile measures that are necessary for the present operation have occurred on the FPOM calls.

For almost the past week the operation (in addition to shutting the RSW) at Lower Granite Dam has been to prioritize the operation of Unit 1 in order to facilitate trapping and sockeye passage. This has resulted in a reduction of juvenile fish passage spill.

Juvenile Spill and Passage



During this time period the juvenile passage index for subyearling Chinook at Lower Granite has been:

07/13/2015	14,611
07/14/2015	8,029
07/15/2015	4,238
07/16/2015	2,198
07/17/2015	2,282
07/18/2015	5,797
07/19/2015	7,814
07/20/2015	6,907

In general, there has been approximately a 6 Kcfs reduction in spill, which represents about a 33% to 50% reduction in spill from the 18 Kcfs of spill in excess of flow through one turbine unit.

Temperature

The forecast is for air temperatures to remain warm. Dworshak outflow was increased to PH capacity on the 16th. The temperature at Lower Granite has remained below 68 degrees, but has been increasing over the past few days.

Date	Lower Granite Dam forebay (LWG)				Lower Granite tailwater - Snake R. below dam (LGNW)			
	Min	Avg	Max	>68.05	Min	Avg	Max	>68.05
Jul 14	64.6	65.6	66.6	0/24	64.8	66.6	67.2	0/24
Jul 15	63.8	64.8	66.1	0/24	64.4	64.9	65.4	0/24
Jul 16	63.2	64.5	66.2	0/24	64.4	64.5	64.7	0/24
Jul 17	64.1	65.2	66.1	0/24	64.6	65	65.4	0/24
Jul 18	65.1	66.5	67.5	0/24	65.4	66.1	66.8	0/24
Jul 19	65.7	66.5	67.4	0/24	66.4	66.8	67.4	0/24
Jul 20	65.8	66	66.2	0/7	66.3	66.4	66.4	0/7

Adult counts

The adult counts have been variable and ranged from 2 to a high of 25 sockeye. Although counts initially increased slightly, it is difficult to determine whether this was due to a reduction in water temperature as a result of cooling air temperatures, or due to the changes in operations. Counts have decreased over the past 3 days. This reduction in passage was observed at the other Snake River projects as well.

LOWER GRANITE DAM ³⁾																		
DATE	CHINOOK ADULT	CHINOOK JACK	SPRING CHINOOK ADULT	SPRING CHINOOK JACK	SUMMER CHINOOK ADULT	SUMMER CHINOOK JACK	FALL CHINOOK ADULT	FALL CHINOOK JACK	COHO ADULT	COHO JACK	STEELHEAD	WILD 5) STEELHEAD	SHAD 6)	SOCKEYE	LAMPREY	CHUM	PINK	SOURCE
7/13/2015	202	85	0	0	202	85	0	0	0	0	13	11	2837	13	0	0	0	USACE
7/14/2015	176	48	0	0	176	48	0	0	0	0	21	17	3973	17	1	0	0	USACE
7/15/2015	271	71	0	0	271	71	0	0	0	0	19	14	1920	19	1	0	0	USACE
7/16/2015	520	121	0	0	520	121	0	0	0	0	35	18	1133	25	2	0	0	USACE
7/17/2015	226	47	0	0	226	47	0	0	0	0	44	30	743	13	1	0	0	USACE
7/18/2015	73	18	0	0	73	18	0	0	0	0	19	11	752	2	0	0	0	USACE
7/19/2015	67	17	0	0	67	17	0	0	0	0	20	14	790	2	0	0	0	USACE
YTD	116558	11708	104873	11708	11685	3329	0	0	0	0	9547	4544	77007	295	14	0	0	

Snake River Sockeye conversion rates

To date, the estimated conversion rate of PIT-tagged adult sockeye from Ice Harbor Dam to Lower Granite Dam is approximately 38%. This estimated conversion rate accounts for an estimated median travel time of approximately 8 days by using only PIT-tagged adults that were detected at Ice Harbor Dam prior to July 11, 2015.

Conclusion

In reviewing the present information, consideration should be given to returning to Unit 2 operation with traditional spill. This operation would protect juvenile measures, as well as provide water to the tailrace that is drawn from a deeper and cooler level of the reservoir.