

**OFFICIAL MEMO of COORDINATION (MOC) FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE**

COORDINATION TITLE- 17 LGS 19 MOC Doble, 500 KV line, and T01 Testing

COORDINATION DATE- October 26, 2017

PROJECT- Little Goose Lock and Dam

RESPONSE DATE- November 08, 2017

1. Description of problem: Annual T1 Doble Testing was scheduled for 6-10 Aug but could not be completed due to impacts from station service testing. Critical maintenance is still required on T1 to maintain the health of the system. Failure of T1 would result in units 1-4 out of service until T1 could be repaired, which could be for 30 days or more. To reduce risk to the system, we will conduct the minimal critical tri-annual maintenance on T1 13-15 Nov. The remaining Doble testing requirements will be scheduled during the normal outage period of August 2018.

To maximize this outage, we will combine the T1 maintenance with other work and required testing. The contractor for the Station Service Install project also requested a line outage in order to isolate systems for inspection and testing. Their request is critical to maintaining schedule for the TO1 and TO2 install.

2. Type of outage required: Powerhouse Line - Units 1-4 will be OOS for duration of outage, Unit 5 remains OOS for repairs, Unit 6 will provide station service and will be connected to T02.

3. Dates of impacts/repairs: November 13 through November 15.

4. Length of time for repairs: From approximately 06:00 on November 13 through 19:00 on November 15.

5. Impact on fish facility operation: The change in unit priority could impact adult fish passage. The JFF will be closed for the season.

6. Impact on project operations: Unit priority will be impacted during the duration of the outage, with units 1 through 4 out of service. Unit 6 will be the priority unit (FPP Table LGS-5).

7. Analysis of potential impacts to fish: Adult fish passage could potentially be delayed. Unit 1, which is the primary unit for fish attraction will be out of service for the duration of the outage, along with units 2 through 5. However, fish passage during this time of year will be low as peak passage for fall Chinook salmon and steelhead occur during the months of September and October (Figure 1). The average adult passage for November 13 through November 15 is an estimated 151 steelhead and 9 adult Chinook salmon per day (Table 1). Juvenile passage should not be impacted as the majority of juveniles have passed Little Goose Dam by November. Peak passage for juvenile subyearling Chinook, the predominant species during the fall, occurs during summer months (Figure 2).

The current year's run is for both fall Chinook salmon and steelhead is lower than average. The fall Chinook salmon passage as of October 4 was only 60% and 67% of the 10-year average at Bonneville and Little Goose dams, respectively. Similarly, adult steelhead was 35% and 33% of the 10-year average (Figure 3 and Figure 4).

8. Final judgement on scale of expected impacts: Impacts to adult and juvenile fish passage should be minimal. Juvenile fish passage will be mostly ceased and adult passage will consist mainly of adult steelhead, with average daily passage of less than 200 fish per day. Additionally, there were no lamprey counted during these dates for the years 2003, 2004 and 2016.

9. Comments from agencies.

10. Final coordination results.

11. After Action update: Units 1-4 were OOS from November 13 at 08:21 through November 15 at 13:27 to perform testing and maintenance. During that time, unit 6 was operated to provide station service and unit 5 remained OOS. Additional testing was also conducted on November 16, outside of the scope of this MOC. Testing was originally scheduled for November 13, but was postponed and could not be performed while the plant was being brought back to service on November 15. Therefore, unit priority was impacted from 11:21 until 11:26 on November 16 while BPA conducted relay testing on unit 1.

Table 1: Daily adult passage at Little Goose Dam; 2003, 2004 and 2016.

Date	Chinook			Steelhead		
	2016	2004	2003	2016	2004	2003
13-Nov	11	10	15	219	82	187
14-Nov	5	6	10	119	108	157
15-Nov	17	0	7	134	163	187

Figure 1: Adult salmon and steelhead passage, Little Goose Dam 10-year average.

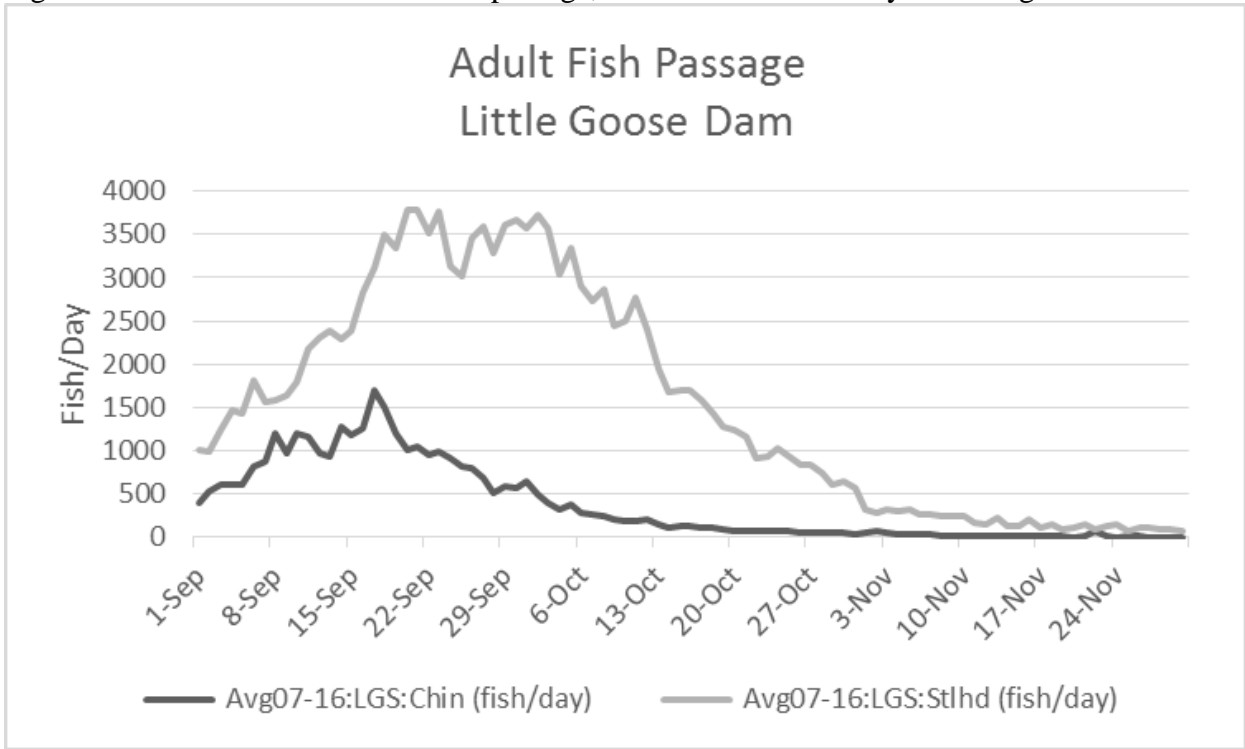


Figure 2: Subyearling Chinook smolt index, Little Goose Dam 2017 and 10-year average.

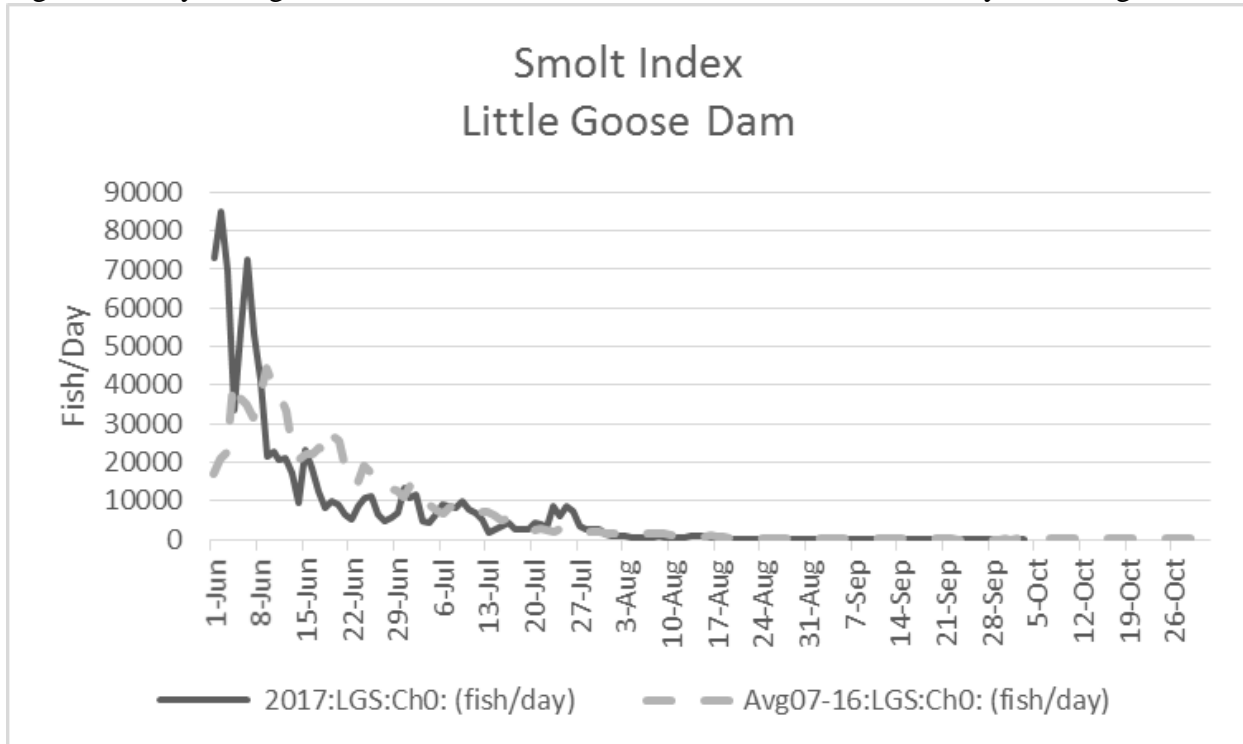


Figure 3: Little Goose YTD adult fall Chinook and steelhead passage through October 3; 10-year average, 2016 and 2017.

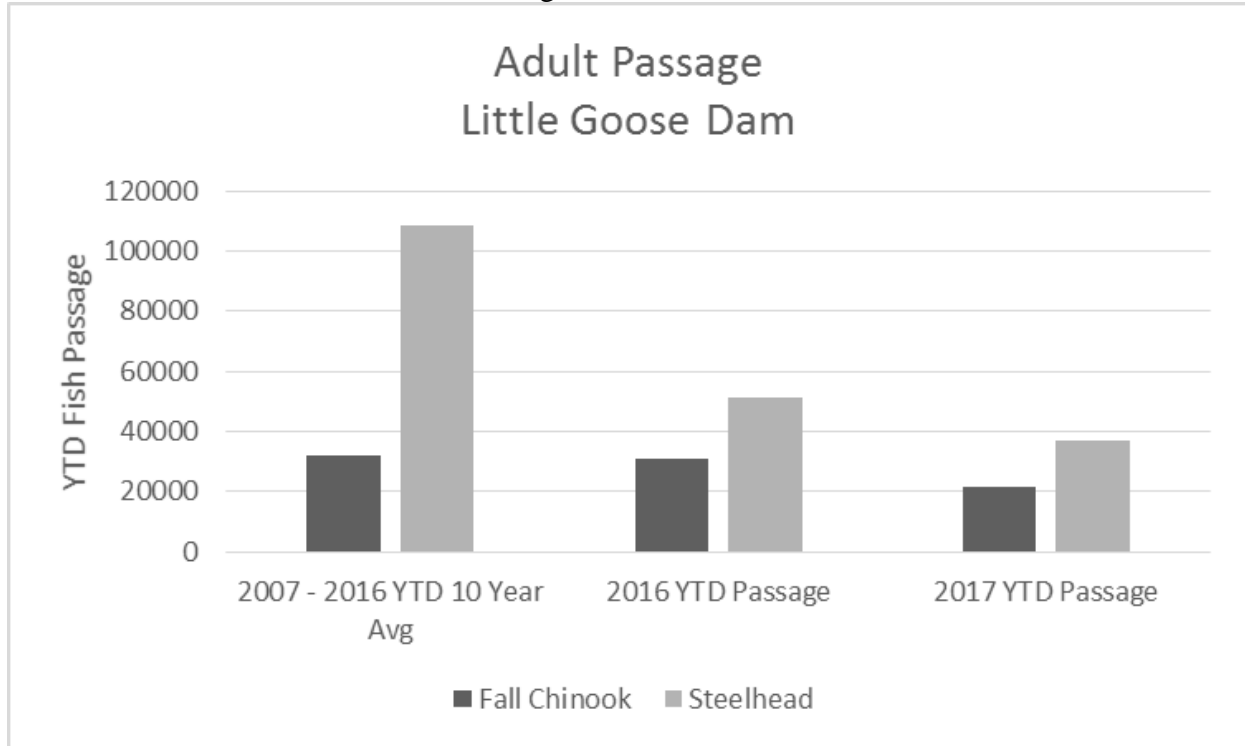
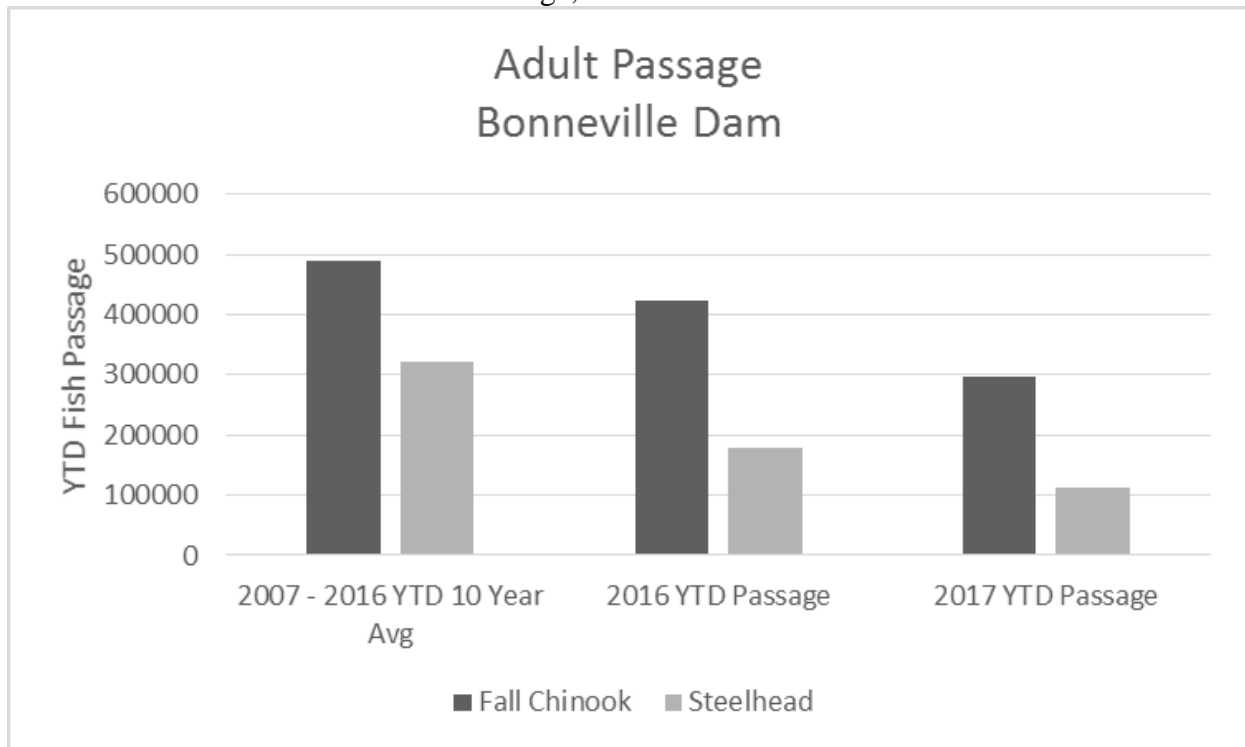


Figure 4: Bonneville YTD adult fall Chinook and steelhead passage through October 3; 10-year average, 2016 and 2017.



Please email or call with questions or concerns.
Thank you,

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