CENWP-OD-G **04/11/2019**

MEMORANDUM FOR THE RECORD 19 LGS 03 Debris Spill

SUBJECT: Little Goose Debris Spill

Background

Little Goose Lock and Dam recently experienced a rapid increase in total river outflow (Figure 1) and debris, causing numerous orifice partially plugged and/or plugged throughout the night of April 09. The decision was made to conduct a multifaceted effort to try and remove debris from the immediate forebay on April 10 in order to take advantage of high spill and favorable wind conditions. Little Goose staff utilized the trash rack crane, shut down Units 1 and 2 and also operated the adult ladder cooling pump in order to guide a large floating debris mass (Image 1) towards the adjustable spillway weir (ASW). Units 1 and 2 were out of service from 08:00 through 18:55 on April 10, increasing the amount of water spilled.

Path Forward

Juvenile fish facility staff worked throughout the night on April 09 to ensure safe fish passage through the orifices by increasing the frequency of orifice checks. Project staff are currently scheduled to cover additional orifice checks, day and night for the foreseeable future. Activities on April 10 decreased the amount of debris in the immediate forebay particularly small and medium sized debris. Some of the large debris were not removed, however, partially plugged and/or plugged orifices and debris within the juvenile fish facility have decreased dramatically since the efforts were made (Table 1).

Relevance to Adult Fish Passage

Unit 1 is the priority unit for adult fish attraction flow. Currently Little Goose adult fish passage is low with an average daily count of 43 adult steelhead from April 01-09. Peak spring Chinook passage typically occurs later in April (Fish Passage Plan, Chapter 7-Little Goose, Table LGS-4).

Relevance to Juvenile Fish Passage

Collection for juvenile fish transport begins on April 23, therefore all juvenile salmonids are currently being routed back to the river. The efforts made to conduct the debris spill were made to decrease the potential for debris related mortality events through the juvenile bypass system. Additionally, unit outages to facilitate the debris spill likely decreased the number of smolts passing via the powerhouse while the debris was being removed. Therefore, juvenile passage should not have been negatively impacted.

Estimated mortalities by species, and origin:

A. Species – N/A
B. Origin – N/A
C. Length – N/A
D. Marks and tags – N/A
E. Marks and Injuries found on carcass – N/A
F. Cause and Time of Death – N/A
G. Future and Preventative Measures – N/A

Figure 1: Daily average outflow for the month of April at Little Goose Dam.

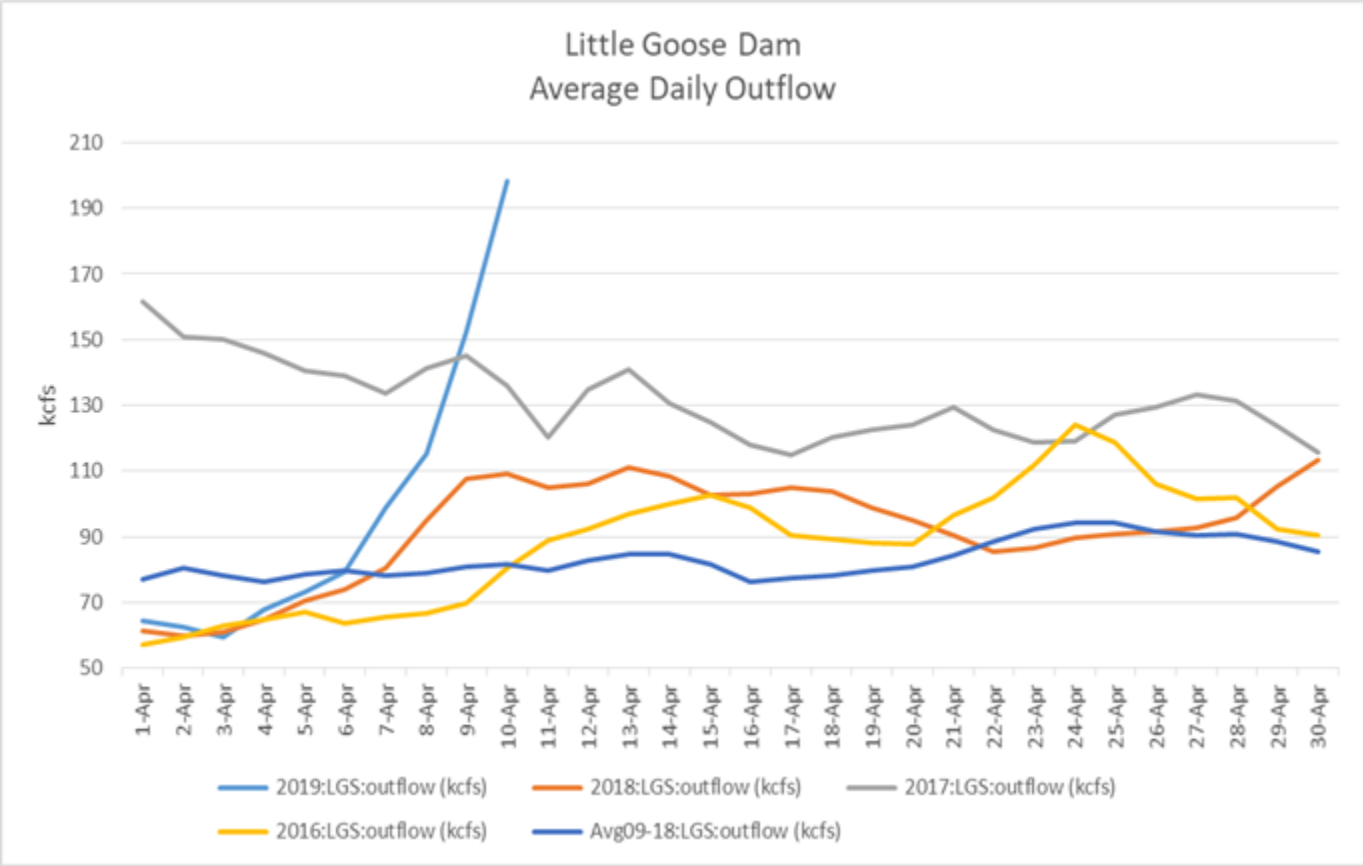

Image 1: Debris caught near Unit 6 and adjustable spillway weir on April 10, 2019.

Table 1: Frequency of orifice checks and partially plugged and/or plugged orifices during Little Goose juvenile bypass system inspections.

Date	Time	Orifice Plugs
8-Apr	7:55	0
8-Apr	15:45	0
8-Apr	22:15	0
9-Apr	2:45	0
9-Apr	7:10	0
9-Apr	12:10	0
9-Apr	15:00	1
9-Apr	15:10	2
9-Apr	15:30	2
9-Apr	15:55	2
9-Apr	16:30	0
9-Apr	17:10	1
9-Apr	19:00	2
9-Apr	20:20	2
9-Apr	22:20	3
9-Apr	23:40	2
10-Apr	1:30	2
10-Apr	2:00	1
10-Apr	2:30	1
10-Apr	3:00	0
10-Apr	4:00	1
10-Apr	5:05	0
10-Apr	6:00	2
10-Apr	6:10	1
10-Apr	7:00	0
10-Apr	9:30	0
10-Apr	13:20	0
10-Apr	16:00	0
10-Apr	19:30	0
10-Apr	21:30	0
10-Apr	23:30	0
11-Apr	1:40	0
11-Apr	4:00	0
11-Apr	7:00	0
11-Apr	10:10	0
11-Apr	13:15	0
11-Apr	16:05	0

Sincerely,

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