FISH PASSAGE CENTER

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MEMORANDUM

To: Fish Passage Advisory Committee (FPAC)

From: FPC Staff

Date: June 2, 2017

Subject: Action Notes from June 2, 2017, FPAC meeting

On June 2, 2017, FPAC met via conference call for a special meeting. The following people participated in the meeting:

Paul Wagner (FPAC Co-Chair NOAA)
Tom Lorz (FPAC Co-Chair CRITFC)
Bill Hevlin (NOAA)
Charlie Morrill (WDFW)
Dave Benner (FPC)
Dave Swank (USFWS)
Dave Statler (Nez Perce Tribe)
Erick Van Dyke (ODFW)
Erin Cooper (FPC)
Jay Hesse (Nez Perce Tribe)
Margaret Filardo (FPC)
Michele DeHart (FPC)
Russ Kiefer (IDFG)
Tom Iverson (Yakima Nation)
Trevor Conder (NOAA)

LITTLE GOOSE OPERATIONS

Paul Wagner (NOAA) provided a summary of the current proposal for a special operation at Little Goose. There is a difference in adult counts of approximately 7,000 fish between Lower Monumental and Little Goose Dams. PIT-tag detections show a similar pattern. Therefore, the proposed operation would be to reduce spill for part of each day at Little Goose to facilitate adult passage through the project. This will require some storage in the Little Goose pool that will be released after the reduced spill, which means the project would be above MOP for part of each day. Paul provided some estimates of the amount of water to be stored and the impact on spill levels during periods when spill is not restricted for adult passage (see attached). Also provided

was a graph showing average hourly passage proportions of PIT-tagged adult spring Chinook detected at the LGS adult detection system (2013 to 2017 combined).

The proposal will be carried out as a test of operations to see if there is an increase in adult passage at LGS.

Erick Van Dyke (ODFW) pointed out that the hydrosystem is still largely uncontrolled with high flows and turbine outages.

Dave Statler (Nez Perce Tribe) asked if reducing spill to 40% is supported by the study that was completed on adult passage at Little Goose. Russ Kiefer (IDFG) replied that they had settled on the 40% based on recent observations of operations and passage.

Brandon Chockley (FPC) pointed out that PIT-tag detection at Little Goose is near the counting window. This implies that adults are entering the ladder some time before detection. Therefore, if the goal is to decrease spill while fish are attempting to enter the ladder, the operation start time should be earlier than the passage indicated on the graph.

Jay Hesse (Nez Perce Tribe) asked what the metric would be to measure success. While yearling Chinook conversion rates are lower between Lower Monumental and Little Goose Dams this year than past years, running these operations at Little Goose Dam for one weekend may not have sufficient impact to observe a difference. Russ Kiefer (IDFG) replied that there is no "slam-dunk" methodology to evaluate the operation, but that there will be problems with adult passage if no alternate operations are tried as flows come up over the next 10 days.

Margaret Filardo (FPC) pointed out that daily variation over the years of data summarized is not included in the hourly graph of passage timing, so it is difficult to accurately predict what passage would be expected from a successful operation, as distinct from random variation. Erick Van Dyke (ODFW) asked how the data will be managed to obtain results. The lumping of data over many years does not get to the details necessary for the management operation proposed.

Margaret proposed that the agencies write an after-action report to clarify how success is measured. Russ Kiefer agreed that there should be an after-action report. It will be written by Russ Kiefer and Paul Wagner (NOAA).

Margaret Filardo inquired if powerhouse flows will be constant throughout the operation, which may make it easier to separate the effects of powerhouse flow from spill. Russ Kiefer explained that screen cleaning will start on Monday, June 5, which affects turbine availability. FPAC members agreed to ask the COE to maintain powerhouse flows as much as possible, given the existing constraints of flow and screen cleaning.

Jay Hesse (Nez Perce Tribe) suggested extending the window of reduced spill for longer than four hours. He also expressed concern that changing powerhouse operations at Little Goose have obscured the effects of spill on adult passage observed in 2017. Dave Swank (USFWS) agreed that the time period of reduced spill should be increased, to increase the strength of observable relationship between operations and adult passage. Dave Statler (Nez Perce Tribe)

asked how much stored water could be released while spill is not reduced, and if that might affect the study period of reduced spill. Tom Lorz (CRITFC) pointed out that that prediction can only be made if the flow forecasts are accurate. If flows increase beyond the current forecast, operations will not be able to control spill.

Russ Kiefer reviewed that turbines one and two were closed for screen cleaning and repairs on the 6th of May, and back online by the 13th of May. Adult passage appeared to be delayed until spill was reduced to 40%.

Margaret Filardo explained that there are many factors that potentially influence adult passage, including spill volume, spill proportion, turbine operations, and screen cleaning. Margaret suggested that managers request that the COE attempt to keep the powerhouse operations constant to control for some of the variables. Russ Kiefer stated that he did not feel that managers should be telling the COE how to modify operations under conditions of high and often uncontrolled spill. Tom Lorz stated that it is alright to request constant powerhouse operations as long as it is not a safety concern.

Erick Van Dyke (ODFW) expressed concern that this year does not represent normal passage conditions, given the high flows and turbine outages. Any report regarding these operations and the outcomes will need to include a summary of these conditions, as it will be hard to identify the impact of reducing spill. Erick also expressed concern that limiting spill will set a precedent in future years with no adult passage issues.

It will likely not be possible to maintain the proposed operation through Monday, due to screen cleaning. It could be run over the weekend and be assessed on Tuesday. Brandon Chockley pointed out that there are many fish passing during daylight hours, even after the daily peak passage. If spill is increased too soon after the study period, those fish may be unnecessarily delayed. Tom Lorz countered that to avoid problems with TDG, it might be better to have the stored water released over as much time as possible.

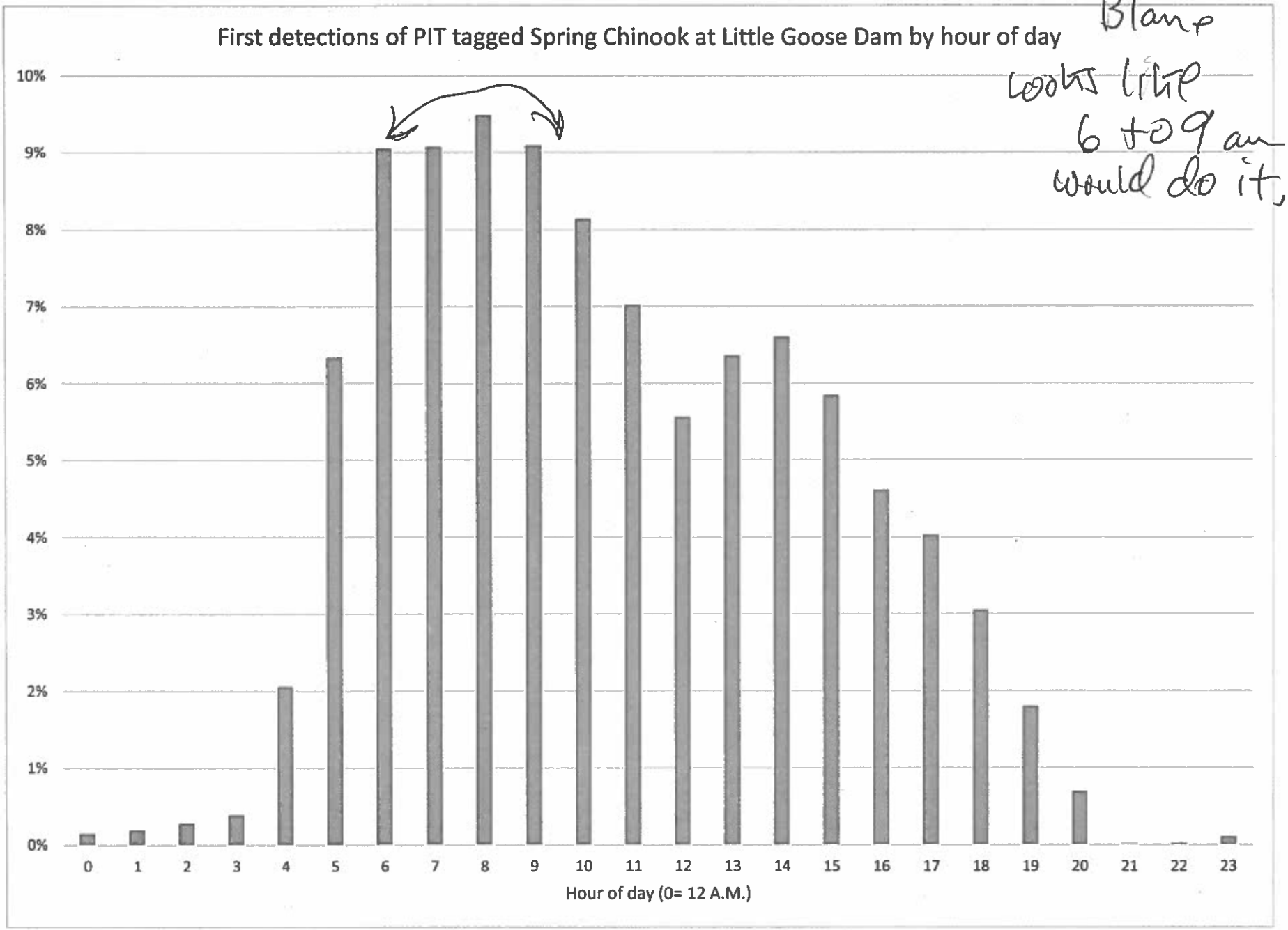
The FPAC proposal will be as follows:

- The proposed operation will run from June 3rd to June 8th
- From 4AM to 10AM, provide 40% spill. During this time, maintain constant turbine operations to the extent possible. This will cause the LGS pool to go above MOP.
- From 10AM to 4PM, pass inflow to the extent possible
- From 4PM to 4AM, increase project discharge to return to MOP

FPAC Agenda for Friday June 2, 2017
Meeting time: 9:00 AM

1. Discuss MOP deviation at Little Goose Dam to encourage adult passage. TMT meeting scheduled for 11:00 AM on June 2, to discuss this issue.

Paul – this is from Blamp looks like 6 to 9 am would do it,



Little Goose current flow is approximately 170 kcfs and spill has ranged from 80 to 105 over the past 24 hours. 80 kcfs spill is 47% spill and is produces abpout 125% tdg. 105 kcfs spill is producing approximately 128% TDG.

The objective is to reduce spill to a lower level to determine whether adult passage would increase. In order to reduce spill flow would have to be ponded in Little Goose reservoir. The storage capacity of Little Goose Reservoir is 5kcfs days per foot. This equates to 5 * 24 hours per day = 120 kcfs per hour.

In order to reduce spill to a 40% level water would have to be stored into Little Goose pool. Assuming the flow is 170 kcfs spill and 40% spill was tagreted, spill would be 68 kcfs. If spill was provided at the 40% level for 4 hours it would result in 48 kcfs of storage into the pool (80 – 68) * 4 hours = 48 kcfs. This would equate to about .5 foot of pool increase. That volume would have to be discharged over the remaining day time or evening hours.

If a 30% spill level was sought at a flow of 170 kcfs the opeation would need to store (80 – 51) * 4 = 116 kcfs, which would increase the pool by approximately 1 foot.