CENWP-OD 28 August 2019

MEMORANDUM FOR THE RECORD

TITLE - 19FOS05 MFR Spawning Flows in South Santiam River
DATE - 28 August 2019
PROJECT - Foster Dam

Description of the problem
The current elevation of Green Peter and Foster reservoirs is the same as observed this time last year. Storage remaining in Green Peter and Foster reservoirs is 100,000 acre-feet. At the current level of inflow, this is enough storage to maintain 930 cfs outflow without drafting below minimum conservation pool at either Green Peter or Foster.

In this MFR we are proposing to duplicate the spawning flow operation utilized in 2018. This consists of increasing Foster outflow to 1,200 cfs measured at the SSFO (South Santiam River below Foster) gage on September 1 and reduce flow to incubation level, 1,000 cfs, on September 30. Figures 1 and 2 show the proposed 2019 operation compared to that observed in 2018.

Type of change/outage required
Flows will be increased to 1,200 cfs, for spawning spring Chinook salmon below Foster Dam on the South Santiam River on September 1 to motivate fish to move into spawning areas and start actively spawning. Flows for spawning spring Chinook salmon are typically scheduled to increase to 1,500 cfs as listed in the Biological Opinion (BiOp) on September 1. The timing to transition from spawning to incubation will be based on the cessation of fish spawning in the river, or September 30 (whichever occurs first).

Graphical results of modeled flows
Figure 1 shows observed inflow, outflow, pool elevation, and rule curve from January 1 – August 28, 2019 at Green Peter Dam and modeled inflow, outflow, pool elevation, and rule curve from August 29 – December 31, 2019. The modeled outflow is that necessary to support 1,200 cfs spawning flow in September and 1,000 cfs incubation flow in October. Inflow is the median inflow from the period of record. Concurrence from BPA was obtained to draft into the power pool to support these BiOp required flows for ESA listed fish.

Figure 2 shows observed inflow, outflow, pool elevation, and rule curve from January 1 – August 28, 2019 at Foster Dam and modeled inflow, outflow, pool elevation, and rule curve from August 29 – December 31, 2019. The modeled outflow is that necessary to support 1,200 cfs spawning flow in September and 1,000 cfs incubation flow in October. Inflow is the median inflow from the period of record. Foster is shown drafting with rule curve as the fish weir will not be used this fall.

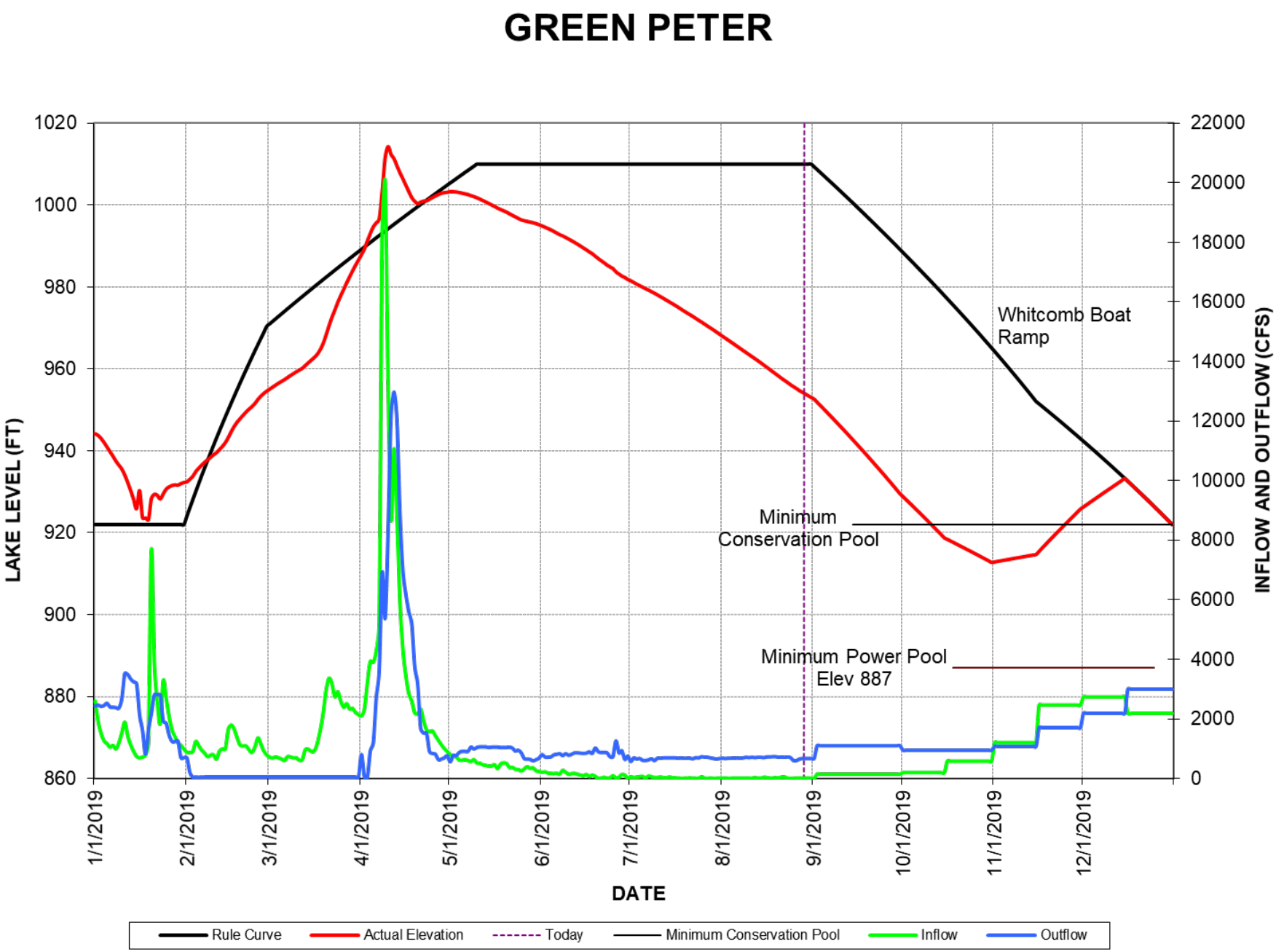

Figure 1. Modeled 2019 operation at Green Peter using median inflow for September thru December

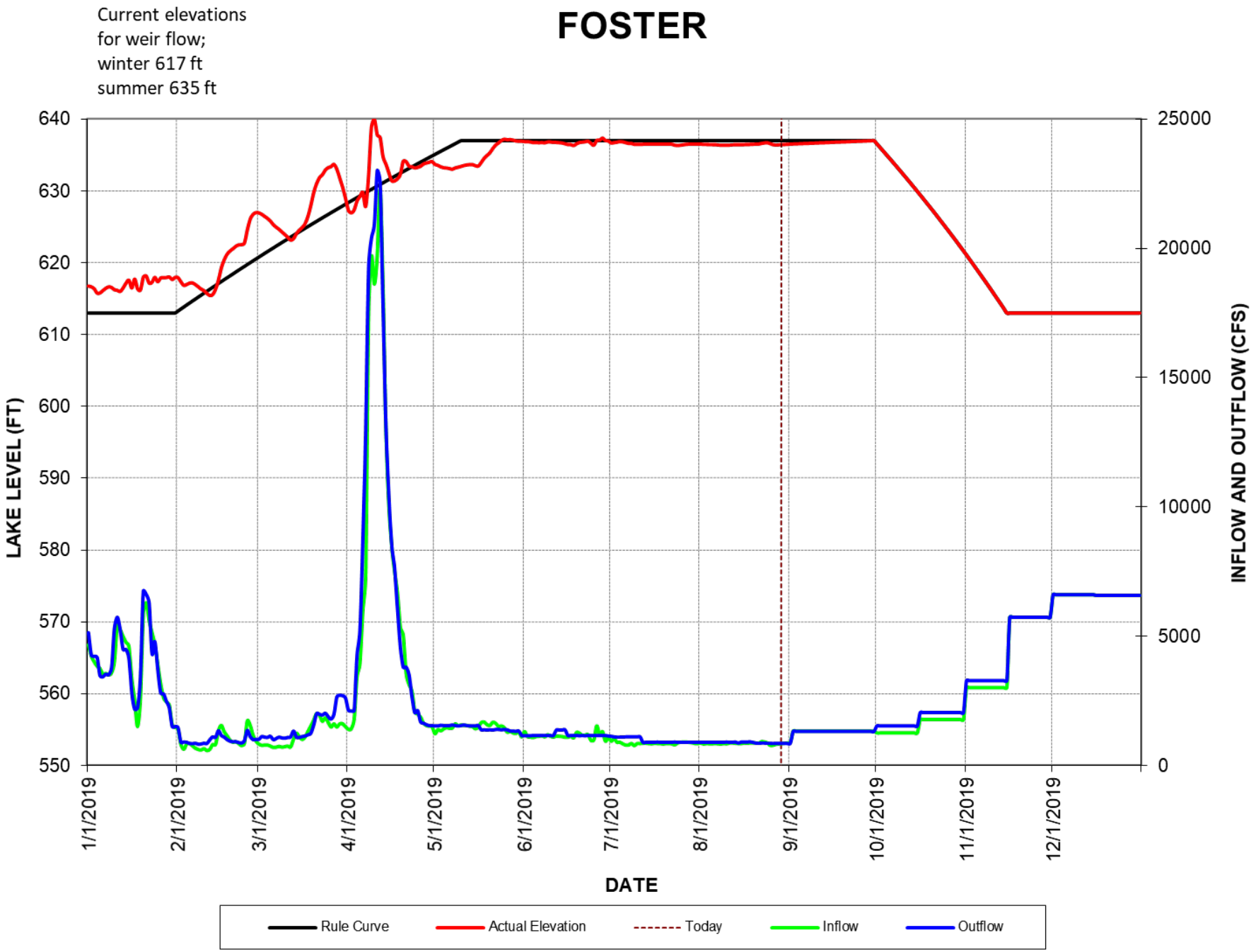

Figure 2. Modeled 2019 operation at Foster using median inflow for September thru December and normal rate of reservoir drawdown

Dates of impacts
If dry conditions continue the maximum range of flow impacts would be 01 September-15 October (spawning) and 16 October – 31 January (incubation). If fall rain resumes and inflow increases, outflow will return to BiOp specified minimum flow.

Expected impacts on fish
2018 spawning surveys indicated that sufficient water is available with 1,200 cfs measured at the SSFO (South Santiam River below Foster) gage. 2018 spawning surveys also identified an appropriate incubation flow of 1,000 cfs. 2019 spawning surveys will provide further insight as to the appropriateness of this operation.

Comments from agencies

ODFW comments:
ODFW would like it noted that the BiOp minimum flow target for September 1 – Oct 15th on the S. Santiam River is 1,500 cfs, and also noted that the number of spring Chinook captured at the Foster trap on the S. Santiam as of September 3rd is 505 fish. This number is the lowest count of Chinook at the Foster trap in more than 30 years. Providing sufficient flows for spawning and survival below Foster is important every year but perhaps particularly so this year. ODFW would appreciate it if USACE could provide information regarding the importance/usefulness of Green Peter power generation to regional power supplies during the fall months.

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

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