

September 23, 2016

Memorandum -- delivered via email

To: Tammy Mackey and Chris Walker, Portland District
US Army Corps of Engineers

SB

From: Stephanie Burchfield, Fisheries Biologist, Willamette Branch
West Coast Region, National Marine Fisheries Service (NMFS)

Subject: NMFS Comments on the Corps' Official Coordination Request for Non-Routine Operations and Maintenance – 16FAL01, Regulating Outlet Repairs

Thank you for the opportunity to respond to the subject Memorandum of Coordination (MOC). We understand that the Corps is planning to draw Fall Creek reservoir down to 715 ft elevation for less than 1 week (estimated dates in 2017: Feb 20-24; in 2018: Feb 19-23) to install bulkheads in order to shut off one of the two regulating outlets (RO) for repair work. Only one RO will be available to operate during reconstruction work (May 1-Oct 31) both in 2017 and 2018. After bulkhead installation in late February, reservoir refill will begin.

We offer the following comments and recommendations.

Deeper and longer drawdown: NMFS recommends the Corps lower the reservoir to 685 ft rather than 715 ft during bulkhead installation, and hold it at this level through April and possibly into May, except to capture potential flood flows. This would provide improved opportunity for juvenile Chinook salmon, listed as threatened under the Endangered Species Act, to exit the reservoir soon after they move from their natal tributaries into the reservoir. While we appreciate the one week drawdown to 685 ft for fish passage at Fall Creek that the Corps is now implementing in December, there has been little investigation of methods to facilitate downstream fish passage during the spring outmigration period.

Research and evaluation opportunity: What is the Corps doing to obtain useful fish info from this special operation? We expect that Chinook fry will be entering the reservoir by late February. NMFS recommends that the Corps monitor what's going in and out of the reservoir during this special operation. Screw traps at the head-of-reservoir and in the tailrace could be used for this purpose. If the Corps goes ahead with funding the genetic pedigree study in Fall Creek and continues it through 2021 when adults would be expected back, these data could be used to compare returns from fish that left in years with this extended drawdown to those outmigrating in earlier years when only the December drawdown occurred. Other potential studies could focus on reservoir passage and survival.

Improving fish passage through the ROs: Please provide more detail regarding the rehabilitation of the ROs. Has the Corps incorporated changes into the design of the ROs that could reduce juvenile fish injury and mortality? Will the new design increase flexibility of gate control and

provide improved capability to achieve ramping rates? Please review NMFS' RPA Measure 8.1, Review of Design and Construction Reports. It calls for collaboration with the Services on the design, construction and operation of all potential structural modifications to the dams and associated facilities. NMFS intent with this measure is to ensure facilities will be designed and constructed to be as benign to fish as possible.

It appears that this repair effort may provide a unique opportunity to test "delayed refill" this year and next at Fall Creek Dam, and NMFS encourages the Corps to make the most of this opportunity. RME concepts that we have discussed previously, and that would be relatively easy to set up in short timeframe include the following: monitoring the timing and relative magnitude of fish entering and leaving the reservoir with screw traps, fish behavior in the reservoir using active-tagged juveniles; migration timing through the reservoir, RO, and to Willamette Falls using PIT-tagged subyearlings; monitoring Chinook fry and subyearling distribution throughout the reservoir; and predator abundance and distribution.

Please direct questions or concerns about these comments to me at
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