

April 5, 2019

Memorandum -- delivered via email

To: Chris Walker, NWP Operations Division Fishery Section
US Army Corps of Engineers (Corps)

From: Anne Mullan, ^{AM}Endangered Species Biologist, Willamette Branch
West Coast Region, National Marine Fisheries Service (NMFS)

Subject: NMFS' comments on MFRs "19BCL01 Spawning Flows in North Santiam River" and
"19FOS04 Spawning Flows in South Santiam River"

Thank you for this opportunity to review these Memorandums for the Record (MFRs). This memo summarizes comments prepared by NMFS' West Coast Region technical staff.

North Santiam Comments

We appreciate the Corps sharing helpful documents at Flow Management and Water Quality Team meetings regarding reservoir refill and releases from Big Cliff on March 19 and April 2, 2019. In addition, we find the Corps willingness to return to RPA spawning minimum flow objectives on April 9 helpful under current conditions. The Upper Willamette River (UWR) winter steelhead run appears to be peaking later than usual, with much higher numbers counted at Willamette Falls in March than February. Data from counts at the Bennett Dams helped track the progress of the spawners from Willamette Falls into the lower North Santiam. These data are extremely helpful for managing flows to benefit fish, and we would recommend the Corps coordinate with ODFW for continued abilities to maintain this long term data set, both for steelhead and Chinook salmon in the North Santiam. The benefits extend to estimates of hatchery fish as well as the timing of migration from the lower river to Minto.

As seen in gage data from USGS 14182500 (Figure 1 below), increases in Little North Santiam kept flows below Mehama high for the weeks in which minimum flow objectives were not met. There are several miles above Mehama where spawners would normally be, up to Minto Adult Fish Facility and beyond, to Big Cliff Dam. Data from USGS 14181500 show the lower flows in these reaches, due to limited releases. Following the meeting on April 2, based on our recommendation, and due to anticipated rainfall and snowmelt, leading to the Corps reduced level of concern regarding reservoir refill, the flows were brought up to the minimum objectives for steelhead spawning.

We appreciate the full communication around the decisions following delay in the releases, and in particular the documents provided to demonstrate potential scenarios. However, at the beginning of the spawning flow period on March 16, we would prefer that some discussion of alternative paths would have preceded the decision to not release the minimum objectives. This would provide consideration of steelhead migration timing and alternative flow sources,

such as the Little North Santiam, which helped with understanding the effects once the Flow Management and Water Quality Team was able to meet.

South Santiam Comments

The Flow Management and Water Quality Team meetings also discussed Green Peter reservoir refill and releases from Foster Dam on March 19 and April 2, 2019. Again, we appreciate the documents shared at these meetings, with scenarios based on precipitation and river level forecasts. In contrast to the North Santiam, the inflows to Green Peter led the Corps to raise outflows at Foster to RPA minimum objectives within a week of the March 16 normal start date. Few steelhead were counted returning to Foster facility before now, but the spawning tributaries below Foster had unknown numbers of spawners as well. In the future some effort to establish counting records at Lebanon Dam, several miles downstream from Foster, would benefit decision-making around releases for spawning and incubation, both for UWR steelhead and for UWR Chinook salmon. We recommend this be considered both for flow management and for information on hatchery numbers relative to natural origin Chinook spawners.

Current flows in the South Santiam are much higher than expected at the earlier meetings, and well above the 3000 cfs maximum for close to 3 days as of today (Figure 2 below). Is it possible there are plans to use the deviation plan mentioned in email from Salina Hart on March 11, for reservoir elevations to be maintained slightly above the rule curve, in Green Peter reservoir? This could lower outflows and prevent steelhead that enter the South Santiam from spawning in areas that may subsequently be dewatered during incubation.

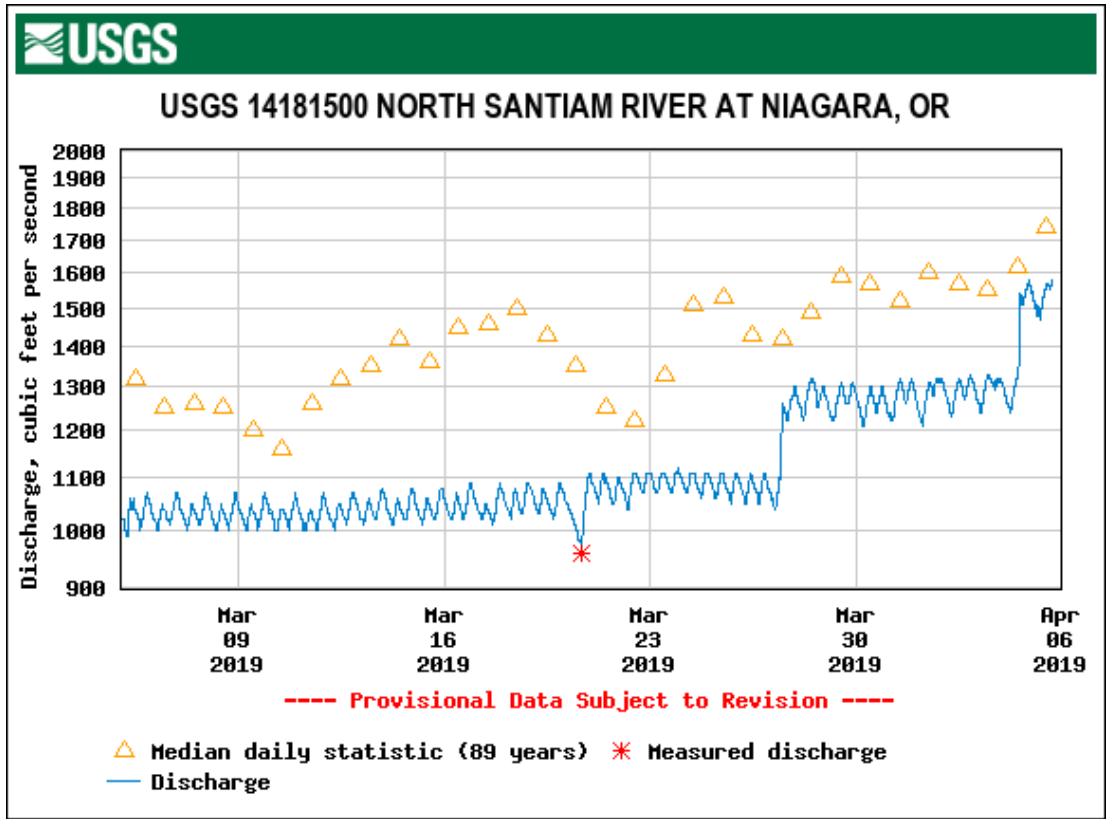
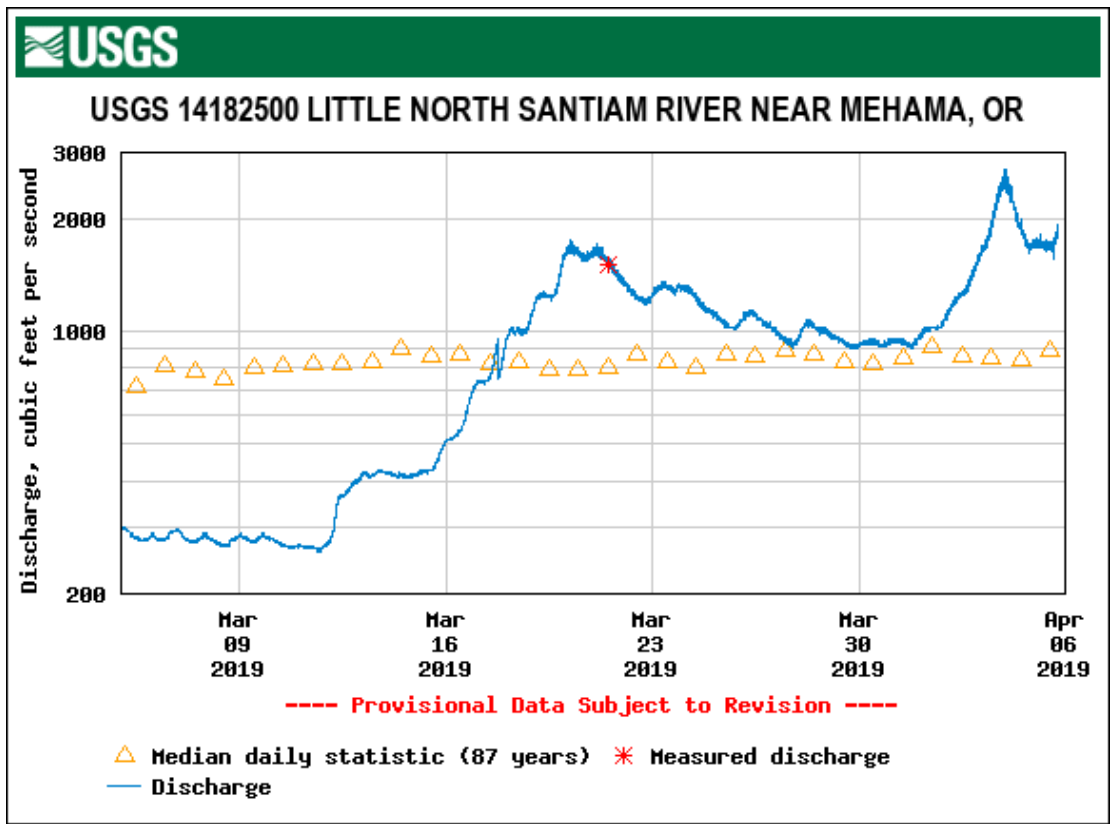


Figure 1. USGS data for the Little North Santiam and North Santiam Rivers March 5-April 5, 2019.

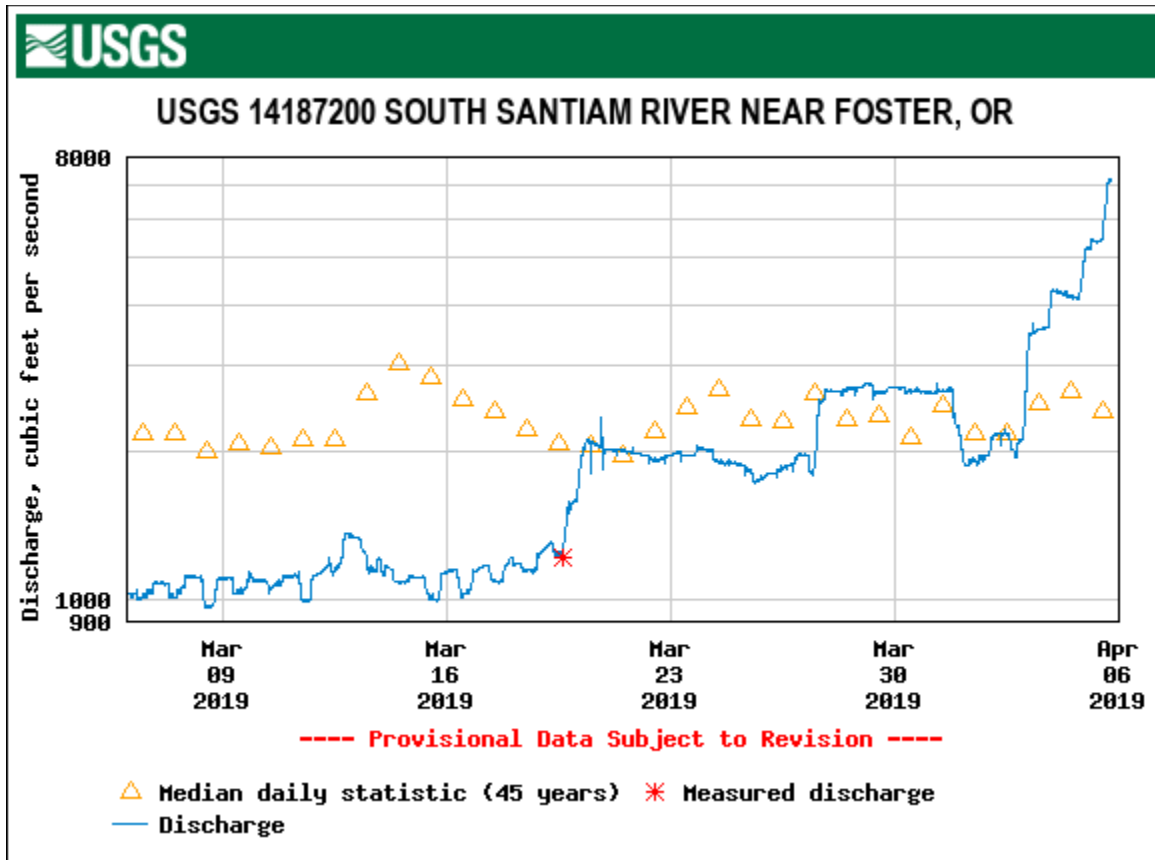


Figure 2. USGS data for the South Santiam River near Foster Dam.

Please direct questions or concerns about these comments to Anne Mullan at anne.mullan@noaa.gov or Diana Dishman at diana.dishman@noaa.gov.

cc:

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