

August 3, 2017

Memorandum -- delivered via email

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

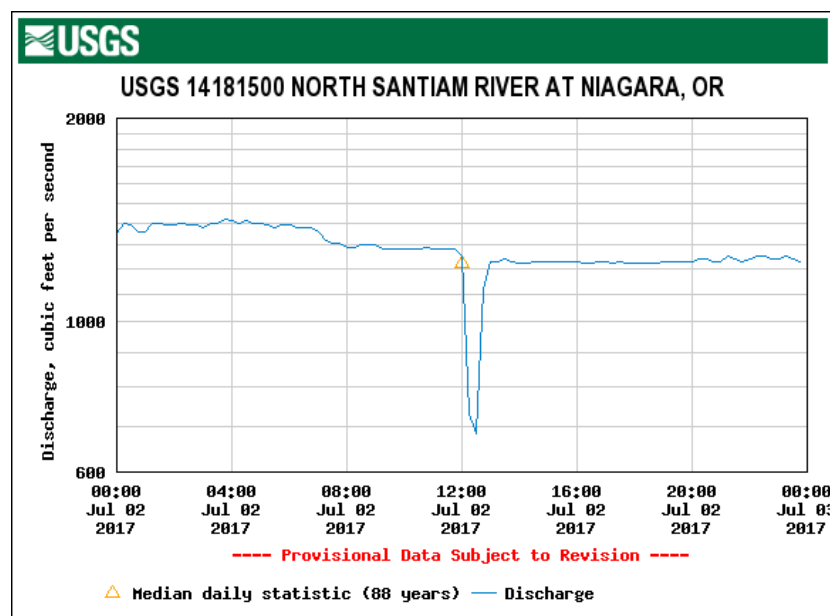
From: **AM**
Anne Mullan, Endangered Species Biologist, Willamette Branch
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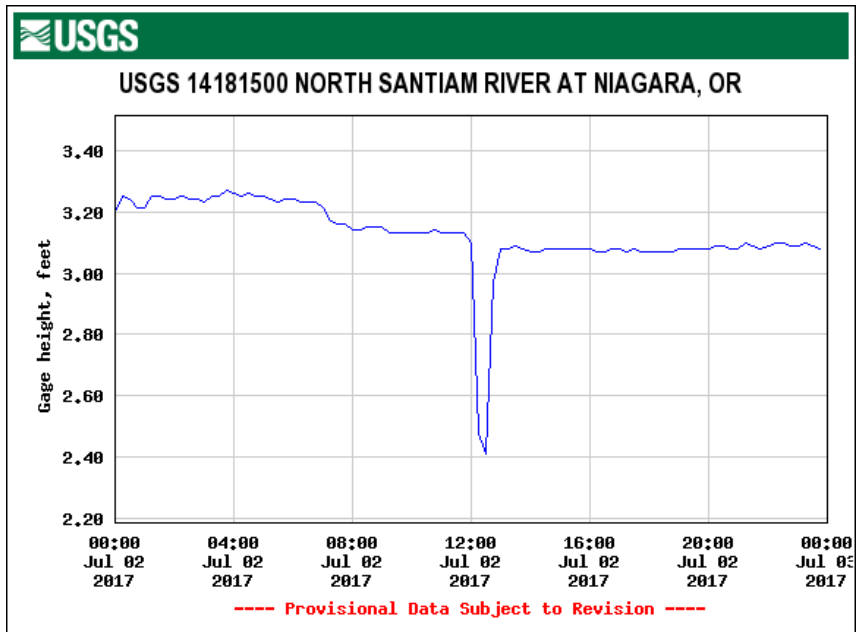
Subject: NMFS' comments on MFR "17BCL06 minimum flow ramp rate"

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

General Comments

This MFR describes a violation of minimum instream flow targets and a coincident ramp rate deviation observed on July 2nd 2017 at around noon due to equipment malfunction. The minimum flow target specified by the Willamette Biological Opinion (BiOp) for July is 1,200 cfs below Big Cliff dam, however flows dropped to almost half of that (682 cfs) for less than an hour during this event. Gage height in the N. Santiam dropped and then increased by almost 0.7 feet in each direction within that hour (approximately 12pm to 1pm). This led to a maximum ramping rate of -0.6 feet/hour when the limit established by the Willamette Biological Opinion, RPA 2.6, is -0.2 feet/hour during daytime hours. Further, the auto-gate function used to maintain outflow in the event of a malfunction also failed.





This rapid change in river level set off alarms at the Minto Fish Facility several miles downstream according to ODFW staff (G. Grenbemer, pers. communication via email 7/3/17), indicating a risk that their pump system could run dry at those low levels.

NMFS agrees that it is likely some fish were impacted by this flow rate and ramp rate deviation, as incubating steelhead eggs in redds may have been dewatered and steelhead fry and Chinook salmon juveniles expected to be present may have been stranded by this sudden change in river elevation. However, it is impossible to know how many fish may have been stranded because the short duration of the event precluded any opportunity to survey the area, and the number of redds potentially dewatered is unknown. Therefore, it is not possible to estimate the full impacts to listed Chinook salmon and steelhead as a result of this flow and ramp rate deviation. However, we anticipate any impacts of redd dewatering were minimized by the brief duration of this event.

NMFS would like more information about the cause of the equipment failure and why the back-up system failure occurred. We understand that unforeseen failures and outages will occur, which is why back-up systems have been put in place. If these safeguard systems are not adequate to prevent negative impacts due to equipment failures then these shortcomings need to be addressed. NMFS would like the Corps to provide a detailed explanation of the steps that are being taken to update equipment and/or procedures to ensure this kind of equipment failure will not result in minimum flow or ramp rate deviations in the future.

In addition, NMFS requests closer coordination between the Corps and the WFPOM fish agencies, specifically Minto Fish Facility staff and ODFW regional biologists. In this instance, there was no immediate notification of the fish facility staff, who were unaware of what caused the flow change or how long it was anticipated to last. Per Appendix I of the WFOP, the Corps must notify the WATER members of reportable incidents within 24 hours. However, to our

knowledge no such notification occurred until this MFR was issued weeks later. At the time of the event there were adults being held at Minto Fish Facility for both hatchery broodstock and outplanting above Minto which were put at risk by having river levels drop so low that the pump equipment could have been compromised. For fish managers to decide what appropriate actions to take in these instances it is critical for the Corps to communicate with them as quickly as possible, even if the cause of the flow deviation has been corrected by the time of notification. More timely communication from the Corps when flow and ramp rate deviations occur will help to avoid damage to critical facilities and equipment, and potentially reduce negative impacts to ESA-listed salmonids.

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

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