

July 31, 2017

Memorandum -- delivered via email

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

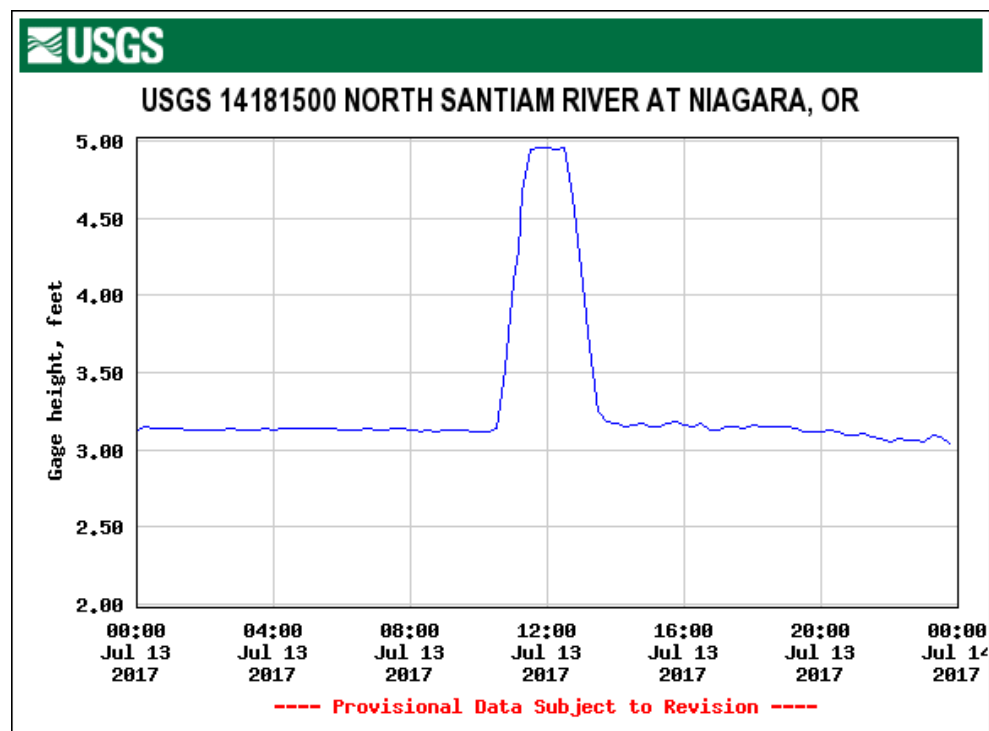
From: **AM**  
Anne Mullan, Endangered Species Biologist, Willamette Branch  
West Coast Region, National Marine Fisheries Service (NMFS)

Subject: NMFS' comments on MFR "17BCL05 Ramp Rate"

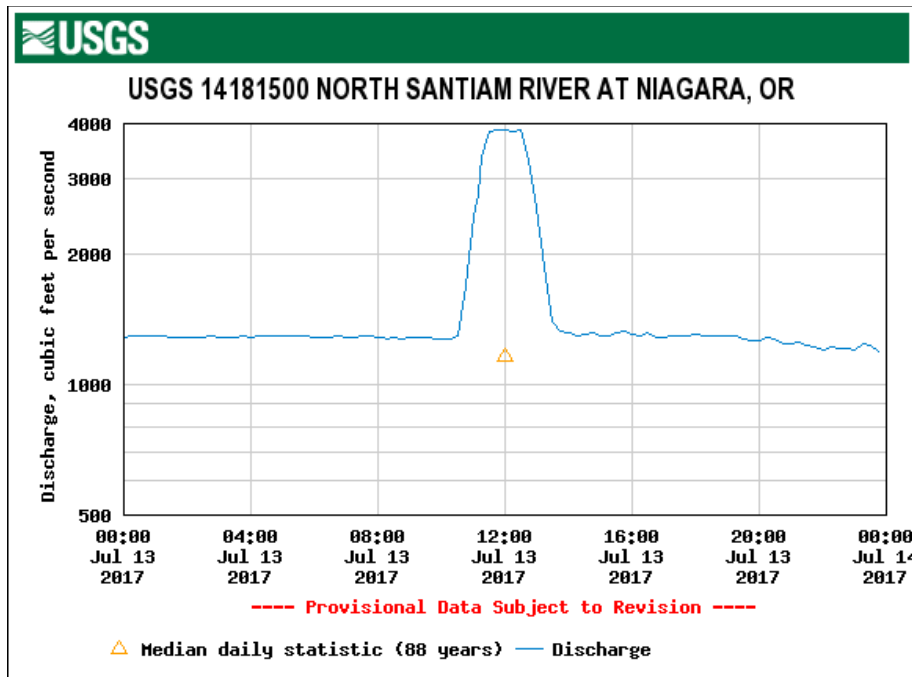
Thank you for this opportunity to review this Memorandum for the Record (MFR). This memo summarizes comments prepared by NMFS' West Coast Region technical staff.

### General Comments

This MFR describes a spike in flows and coincident ramp rate deviation observed on July 13<sup>th</sup> at around noon due to North American Electrical Reliability Corporation (NERC) validation testing. Gage height in the N. Santiam increased and then dropped by almost two feet in each direction within approximately two hours (11am to 1pm), resulting in a maximum ramping rate of -0.79 feet/hour when the limit established by the Willamette Biological Opinion is -0.2 feet/hour.



This rapid change in discharge also generated a bolus of high-flow water laden with sediment and debris that reached the Minto Fish Facility shortly after the test was initiated, as reported by ODFW staff (G. Genbemer, pers. communication via email 7/13/17).



According to dam operations staff the test was supposed to cover the range of the turbine capacity over the course of the day, not just a few hours, and the Corps was not anticipating that the NERC would push the turbines as far to the extremes of their operating range. As such, Corps staff were not anticipating such a rapid change in flow and tailrace elevation. Corps dam operators have acknowledged that in the future any such testing should be scheduled during specified windows, and these windows should be established during the high-flow season to avoid violating ramping rates during the low-flow conservation season.

NMFS agrees that it is likely some fish were impacted by this ramp rate deviation, as steelhead fry and Chinook salmon juveniles are expected to be present and may have been stranded by this change in river elevation. However, it is impossible to know how many fish may have been stranded, and a lack of timely reporting of this incident to the WFPOM fish agencies precluded any opportunity to survey the area for stranded fish following this event (although NMFS acknowledges surveys in the reach below Big Cliff would be difficult or infeasible in many areas immediately below the dam). Therefore, it is not possible to estimate the impacts to listed Chinook salmon and steelhead as a result of this deviation.

In this case it appears this issue could have been avoided by scheduling this test during the high-flow season, when changes in discharge throughout the range of the capacity would not have generated such a large change in elevation below the dam. Within the primary target period for outages (Mar 1 – Jun 30) April would be an ideal month for testing with flows often above 4,000 cfs. If an outage or other spill event occurred as a result of testing, this timing is

likely to have the lowest impact on ESA-listed fish species in this reach. NMFS recommends updating the WFOP to include specific timing windows for such tests when refining maintenance outage windows in 2017. In addition, NMFS requests closer coordination between the operators and outside staff, including discussion of the operations to be conducted, prior to conducting similar tests. If any sudden changes in water quality or flow are anticipated from testing, WFOP fish agencies, specifically Minto Fish Facility Staff and ODFW regional biologists, must be notified prior to test initiation to avoid damage to critical facilities and equipment and potentially reduce avoidable negative impacts to ESA-listed salmonids.

Please direct questions or concerns about these comments to Anne Mullan at [anne.mullan@noaa.gov](mailto:anne.mullan@noaa.gov) or Diana Dishman at [diana.dishman@noaa.gov](mailto:diana.dishman@noaa.gov).

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