

**Gas Supersaturation Monitoring Report
for Spill Below Bonneville Dam
March 10-12, 2003**

U.S. Fish and Wildlife Service
Columbia River Fisheries Program Office
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In response to a request from the U.S. Fish and Wildlife Service (Service), and other salmon managers, the Bonneville Power administration (BPA) and U.S. Army Corps of Engineers (COE) provided limited spill to help maximize passage for 7.5 million juvenile fall chinook that were released from Spring Creek National Fish Hatchery on March 8th, 2003. This operation represented an option discussed among the federal fishery managers and Action Agencies, which reflected the low water volume and unique conditions in the Columbia Basin in March 2003.

Thirty-six consecutive hours of spill was targeted to begin on the evening of March 10th and end the morning of March 12th. At no time was spill to exceed the 110% total dissolved gas (TDG) standards of the states of Oregon and Washington, as measured at the downstream Warrendale monitor. The COE was to operate the Bonneville Project to maintain a minimum 13 foot tailwater elevation during the spill period. Based on estimates by the Service, a total flow of 140-150 Kcfs would be sufficient to allow approximately 50 Kcfs of spill, while maintaining a maximum level of 105 % TDG (factored for depth compensation) over the chum redds in the Ives Island complex, and the expected highest elevation (11.5 foot tailwater) chum salmon redds on the Oregon shore, if TDG reached 110% as measured at the Warrendale monitor. The weather conditions at that time provided a large rain event during the weekend of March 7-9. Coupled with existing hydro-system output, by releasing the fish from the hatchery on March 8, the Action Agencies would have more system flexibility to provide the flow and spill in this narrow window of opportunity.

During the spill period, the average spill rate was about 52 Kcfs (Figure 1). At no time during the spill period did the TDG at Warrendale exceed 105.6%, averaging 104.4% TDG (Figure 2). The tailwater elevation below the Bonneville Project averaged 14 feet.

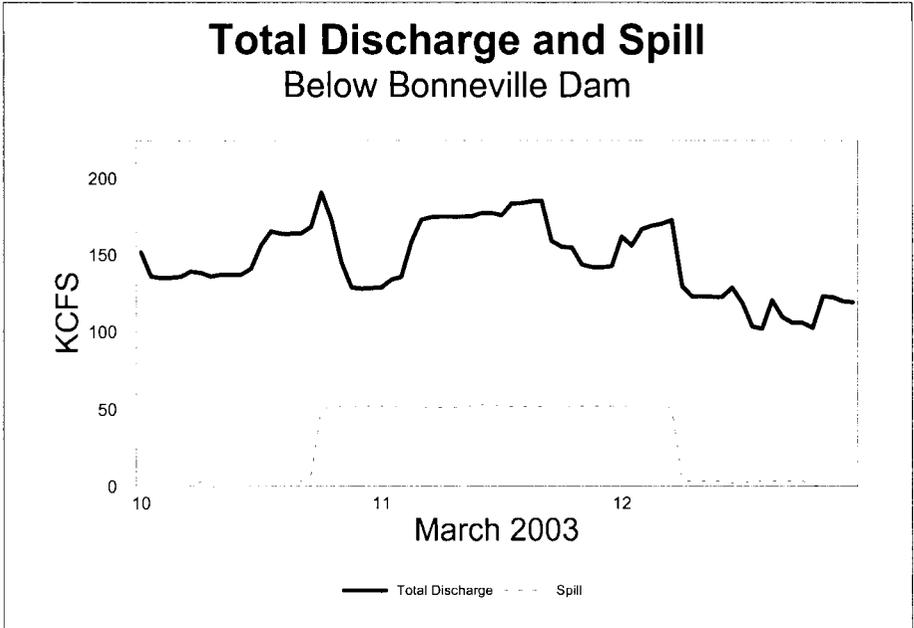


Figure 1. Total discharge and spill from Bonneville Dam, March 10-12, 2003.

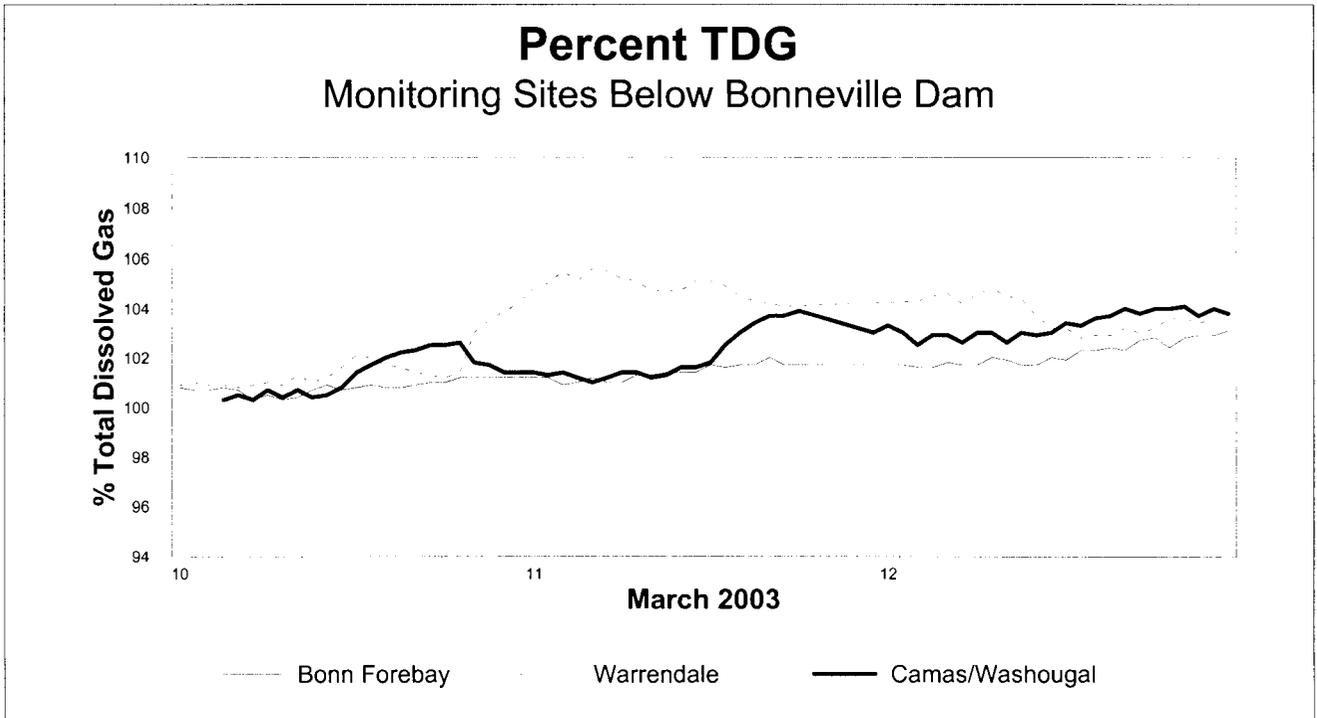


Figure 2. Percent TDG at Bonneville Dam forebay, Warrendale, and Camas/Washougal monitoring sites, March 10-12, 2003.