

Priest Rapids Coordinating Committee
Statement of Agreement regarding GBT (gas bubble trauma) Monitoring of Smolts
at the Priest Rapids Project

Submitted to the Priest Rapids Coordinating Committee: May 12, 2016
Approved by the Priest Rapids Coordinating Committee: May 25, 2016

Statement: Based on 8 years (2008– 2015) of gas bubble trauma (GBT) data collected at the Priest Rapids Project, the PRCC agrees that operations of smolt monitoring for signs of GBT can be suspended until further notice from the PRCC.

Background: In 2004, an interim Biological Opinion (BiOp; NOAA 2004) for the Priest Rapids Project (PRP) required Grant PUD to collect and monitor

“At least 100 smolts would be collected twice weekly from various gatewells at Priest Rapids Dam and examined for GBD. Gatewells would be dipnetted to remove smolts that have accumulated for more than a day. The following morning, the same gatewells would be dipnetted again to sample fish that have entered since the previous day. Because the majority of smolts pass the dam at night, this procedure is expected to provide a sample that is representative of run-of-river fish. The examination procedures employed would be consistent with those used in the Smolt Monitoring Program (FERC 1999; Grant PUD 1999).”

In the 2008 BiOp for the PRP, the National Marine Fisheries Service (NOAA Fisheries) provide a reference to the monitoring smolts as it relates to GBT relating it to water quality monitoring;

“Provide biological monitoring to determine the incidence of GBT symptoms in downstream migrating juvenile salmonids and continue development of its real-time TDG monitoring system at the fixed monitoring sites”

During the time period that both of these BiOp.s were issued, Grant PUD was conducting gatewell dipping operations at both dams (Wanapum and Priest Rapids) as part of a “gatewell smolt salvage” operations for the duration of the salmonid smolt out-migration. In 2012, the PRCC approved SOA 2011-10, stating that (salvage) gatewell dipping at Wanapum Dam was no longer required and that once the Priest Rapids Fish Bypass was placed in operations, (salvage) gatewell dipping would no longer be required at Priest Rapids Dam. Both the Wanapum and Priest Rapids Bypasses have been completed and are operational.

Over the course of 8 years, (2008–2015) Grant PUD has examined 17,202 yearling Chinook and juvenile steelhead for signs of GBT. The criteria that is used during these examinations are

contained in the Fish Passage Center's user's manual titled "*Gas Bubble Trauma Monitoring Protocol and GBT.net Data Entry User's Manual*". Of those 17,202 smolts evaluated, 16,917 were assigned a rank of 0 (no bubbles seen), 250 smolts were assigned a rank of 1; 33 smolts were assigned a rank of 2; and two (2) were assigned the ranking of 3. At the most severe/condition of GBT (a ranking of 4), no smolts were observed having this condition.

In summary, only a total of 285 smolts of the 17,202 smolts examined over the past 8 years illustrated signs of GBT. Of the 285 smolt with GBT symptoms, 99.3% (n=283) of those could be classified as minor symptoms. Only 2 smolts as stated above were assigned a ranking of 3 which is considered to be seriously compromised.

Grant PUD will continued to monitor total dissolved gas (TDG) at its fixed site locations in the forebay and tailrace of both Wanapum and Priest Rapids dams. This information is provided and posted onto Grant PUD's external website on a near real-time year around basis.