



FISH PASSAGE CENTER

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MEMORANDUM

TO: Water Quality Team

FROM: Margaret Filardo 

DATE: July 12, 2006

RE: Preliminary Gas Bubble Trauma Data and Spill for Spring 2006

The Oregon Department of Environmental Quality requested that the Fish Passage Center present a summary of the spring spill operations, total dissolved gas and the resulting gas bubble trauma at the July WQT meeting. Attached is a PowerPoint presentation that was delivered at the July 10, 2006 WQT meeting.

The data and graphs presented should be considered a preliminary update. The gas bubble trauma monitoring is ongoing and all data will be analyzed for annual reporting to DEQ. This information is provided to the COE annually on December 1st for inclusion in their annual submittal to DEQ by the end of December.

The important points made in the update were:

1. At tailrace TDG levels near 120% the incidence of GBT in migrating salmonids was minimal;
2. When tailrace TDG approached 135% below Lower Granite Dam (due to limited hydraulic capacity at this project) at flows in the Snake River near 190 Kcfs, the incidence of GBT exceeded the waiver condition of 15%; however, signs of GBT were in the category where less than 25% of non paired fin surface was affected with bubbles;
3. Operations for management of excess market spill after the spring peak flows had occurred resulted in elevated levels of GBT in migrating salmonids. At the time the management of spill attempted to meet water quality standards during daytime hours and spill levels well in excess of the Court's order during nighttime hours. A more logical management approach would have been to even spill out over the 24-hour period to decrease average total dissolved gas levels and have less impact on fish.