

**SYSTEM OPERATIONAL REQUEST #\_\_ - USFWS/IDFG -2008-1**

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**FROM:** Chip Corsi, Regional Supervisor, Idaho Department of Fish and Game  
Rich Torquemada, acting Supervisor, U.S. Fish and Wildlife Service

**SUBJECT:** Request to implement a 2008-2009 winter lake elevation of 2051' for Lake Pend Oreille, Idaho.

**SPECIFICATIONS:**

Draw Lake Pend Oreille down to a winter minimum control elevation (MCE) no lower than 2051' by November 15<sup>th</sup> while minimizing or eliminating the need to spill at Albeni Falls Dam, and not exceeding state maximum total dissolved gas standards at Albeni Falls or downstream projects. Kokanee spawning has commenced earlier the past two years than in previous years (November 8 instead of more typical November 20), and the large size of individual adult kokanee this year indicates possible early spawning in 2008 as well. We therefore request that as much of the draw down occur by November 8<sup>th</sup> as reasonably possible. Idaho Department of Fish and Game (IDFG) will monitor arrival time of kokanee on shoreline spawning areas. If kokanee spawning is in progress prior to November 15<sup>th</sup> and occurs in locations and depths that are deemed vulnerable to continued drawdown, then the Corps of Engineers shall, within 5 days of notification, complete drawdown activities even if 2051' has not been reached. The elevation reached under this scenario would then become the MCE for this winter. The lake will then be held within 0.5' of MCE to the end of spawning (monitored by IDFG) or December 31, whichever comes first.

A second SOR will be developed in early December to set the winter operating range (end of spawning to March 31). Because of system flexibility constraints caused by The Dalles Dam spillwall construction, the Bonneville Power Administration is concerned they may need more than the normal 1.0ft winter operating range at Lake Pend Oreille to maintain system reliability.

We therefore have agreed to wait until the Action Agencies have gained experience operating with the Dalles Dam spillway construction flexibility constraints before submitting a SOR specifying this winter's operating range. If kokanee spawning is

determined by IDFG to be complete before the second Lake Pend Oreille SOR is submitted, the interim operating range should be the normal 1.0ft if reasonably possible.

### **JUSTIFICATION:**

In Lake Pend Oreille, bull trout are heavily dependent upon kokanee as forage. Without kokanee, lake trout will likely replace bull trout as the dominant char in the lake.

Examples of this negative population interaction include Flathead Lake, Montana and Priest Lake, Idaho. Adult kokanee in Lake Pend Oreille are at low levels. The estimated number of female kokanee expected to spawn this fall is about 30,000 fish. Three decades of annual deep drawdown during the winter months are believed to be a contributing factor to the large declines in kokanee abundance, and are more recently exacerbated by the combined predation effects of lake trout and rainbow trout. Both populations of predators are being intensively researched and managed to reduce their impacts on kokanee abundance.

A decision tree has been developed (included below) to help guide selection of Lake Pend Oreille winter elevation. This decision tree recommends an elevation for this winter of 2051'. The primary factors guiding this recommendation are as follows:

- First, the National Weather Service's Climate Prediction Center forecast on September 18<sup>th</sup> was for equal chance of above, below, or normal precipitation during November, December, and January. Providing the additional flow augmentation from Lake Pend Oreille in years with below or average November – January precipitation may help provide river flows below Bonneville Dam that are more advantageous for chum salmon spawning before increased flows from winter flood control drafts at upstream reservoirs arrive. Although there is no official run forecast for chum salmon, based on this year's returns of spring, summer, and fall Chinook salmon (significantly higher than in 2007 and near or above the ten year average) the chum return is expected many to be significantly larger than last year's apparently poor return.
- Second, Lake Pend Oreille adult kokanee abundance is estimated to be below 70,000 females, and IDFG research indicates there is adequate spawning gravel for this low female abundance at elevation 2051'.
- Third, IDFG lake surveys indicate an increase in the sub-adult kokanee population that should be ready to spawn next fall. Drafting Lake Pend Oreille to elevation 2051' this winter will allow wave action to clean the primary spawning gravels used by kokanee when the lake is held at 2055', and drafting the lake to 2051' this winter will set the decision tree to more likely recommend a winter lake elevation of 2055' for next winter when there should be more female kokanee spawners. Keeping Lake Pend Oreille higher after a winter of draw down has been shown to enhance kokanee egg-to-juvenile survival. The higher lake level inundates shoreline areas that were previously exposed to wave action, and provides an abundance of good, clean spawning habitat. It is undesirable to have back-to-

back years of draw down which could impact consecutive year classes of kokanee.

For these reasons, we recommend drafting Lake Pend Oreille to elevation 2051' during the upcoming winter.

Start

Table 1. Decision Tree to guide selection of the winter lake level for Lake Pend Oreille.

