

SYSTEM OPERATIONAL REQUEST # ___ - USFWS/IDFG -2009-1

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

SUBJECT: Request to implement a 2009-2010 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, while minimizing or eliminating the need to spill at Albeni Falls Dam. This proposed operation is not anticipated to cause exceedence of the state maximum total dissolved gas standards at downstream projects barring unforeseen circumstances. Kokanee spawning has commenced earlier the past three years than in previous years (about November 8 instead of historically typical November 20). We therefore request that as much of the draw down occur by November 8 as reasonably possible. Idaho Department of Fish and Game (IDFG) will monitor arrival time of kokanee at shoreline spawning areas. If kokanee spawning is in progress prior to November 15 and occurs in locations and depths that are deemed vulnerable to continued drawdown, then the Corps of Engineers shall, within 5 days of notification (but not later than November 15), cease 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.

JUSTIFICATION:

In Lake Pend Oreille, bull trout are heavily dependent upon kokanee as forage. Without kokanee, the Lake Pend Oreille bull trout population is at risk of becoming severely depressed, threatening recovery efforts in both the Idaho and Montana portions of the Pend Oreille basin. 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 40,000 fish. Research indicates three decades of annual deep drawdowns during the winter months is the primary contributing factor to the large declines in kokanee abundance observed from the 1970's into the 1990's. More recently, the combined predation effects of lake trout and rainbow trout have limited kokanee recovery, despite improved egg-to-fry survival as a result of the modified winter lake level management. Both populations of predators are being intensively researched, managed, and controlled to reduce their impacts on kokanee abundance, but kokanee recovery efforts will require adequate egg-to-fry survival to be successful.

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 17 was for below normal precipitation during November, December, January. Providing the additional flow augmentation from Lake Pend Oreille in years with below 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. The decision tree was designed to use the October weather forecast for the winter months, but this year was based on the September forecast. This was done to provide as much advanced notice as possible for various agencies to plan for the winter MCE. Reduced turbine capacity at Box Canyon Dam, construction of The Dalles spillwall, and possible earlier than normal spawning by kokanee are examples of activities that require planning if a 2051' MCE is decided. The current forecast suggests strong El Nino conditions, which is likely to lead to dry conditions and not change the October forecast.

Second, Lake Pend Oreille adult kokanee abundance is estimated to be below 70,000 females, and IDFG research currently suggests there is adequate spawning gravel for this low female abundance at elevation 2051'.

Third, IDFG lake surveys indicate a dramatic increase in kokanee survival rates and an increase in sub-adult kokanee abundance. Thus, it is likely that upcoming years will provide substantially more kokanee spawners than in recent years. While it is undesirable to have back-to-back years of draw down which could impact consecutive year classes of kokanee, IDFG recognizes that the kokanee population likely will gain more by higher lake elevation during upcoming years when spawner abundance is projected to be higher. Drafting Lake Pend Oreille to 2051' this winter will set the decision tree to provide a high likelihood of a 2055' elevation next winter.

For these reasons, we recommend drafting Lake Pend Oreille to elevation 2051' during the upcoming winter and maintaining the spawning elevation as the minimum through kokanee emergence.