

SYSTEM OPERATIONAL REQUEST #2003-FWS-01

The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, NOAA Fisheries, Columbia River Inter-Tribal Fish Commission, Idaho Department of Fish and Game.

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FROM: Susan Martin, Supervisor, Upper Columbia Fish and Wildlife Office,
U. S. Fish and Wildlife Service, in coordination with NOAA Fisheries

DATE: October 07, 2003

SUBJECT: Request for winter water level operations on Lake Pend Oreille,
Idaho during 2004 and 2005, to increase egg to fry survival of
kokanee, the primary forage base for listed bull trout.

SPECIFICATIONS:

By November 15, 2003, draw Lake Pend Oreille down to elevation 2051 feet to precede significant lake shore spawning by kokanee and subsequent redd dessication or redd disturbance by wave action, and to redistribute shore line gravel for subsequent years spawning. During the winter of water year 2005, hold Lake Pend Oreille at elevation 2055 feet to continue the evaluation of the effect of lake level on kokanee spawning success.

JUSTIFICATION:

In Lake Pend Oreille, bull trout are heavily dependent upon kokanee salmon as forage. Elsewhere, when forage became limiting and introduced lake trout were present, the bull trout populations have been severely depressed and lake trout have become the dominant char. Examples of this negative population interaction include Flathead Lake, Montana and Priest Lake, Idaho. Kokanee population levels in Lake Pend Oreille have become depressed to the extent that in the absence of significant habitat manipulation and concurrent management actions leading to a reduction in the lake trout population, the bull trout population is at risk. The effect of lake level on kokanee spawning success is being evaluated as a tool to benefit the kokanee population.

This recommendation addresses two of the final three years (2004 and 2005) of a 10 year (two full life cycles of kokanee) study of lake level operations intended to determine the effectiveness of variable lake level management as a tool in the maintenance of the kokanee population. Preliminary findings indicate that kokanee egg to fry survival may be increased by variable lake

level management. However, the Fish and Wildlife Service does not recommend maintaining higher levels in Lake Pend Oreille this winter for purposes of kokanee fry production because the spawning habitat available at elevation 2051 is sufficient to meet the needs of the kokanee year class that will be spawning this year. Recent monitoring of the kokanee population by Idaho Department of Fish and Game indicates large kokanee spawning populations are expected during the subsequent winter. Based on this information and input from an independent scientific peer review, the Fish and Wildlife Service recommends, and NOAA Fisheries concurs, that Lake Pend Oreille water surface elevation be maintained at 2055 feet during the winter of 2005 to evaluate the efficacy of a higher lake level on kokanee spawning success and subsequent fry survival.

Concurrent fisheries management changes by the Idaho Department of Fish and Game on Lake Pend Oreille include: elimination of harvest of bull trout since 1996, before its listing under the Endangered Species Act; closure of the kokanee fishery; liberalized sport harvest limits on both introduced lake trout and Girard rainbow trout; and opening of a commercial fishery to most expeditiously control the large population of lake trout which includes partially subsidized trap net operations.

The 2006 lake level operation (the final year of the 10 year study) will be determined following a review of information available at that time. This will include a review of the data collected to date on the effect of lake level on kokanee spawning success and subsequent fry survival; the strength of that year's kokanee adult population and the quantity of spawning substrate needed to support the number of projected spawners; as well as the availability of water from free flowing and impounded sources to support the chum population spawning below Bonneville Dam.