

# **SYSTEM OPERATIONAL REQUEST: #2004-MT-1**

*The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: Montana Fish Wildlife and Parks*

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**FROM: Jim Litchfield, State of Montana**

**DATE: June 14, 2004**

**SUBJECT: Libby Operations for June & the rest of the summer**

## ***Biological Objectives***

The objective of this SOR is to modify current operations at Libby for sturgeon in order to conserve water to be able to maintain a reasonably stable summer flow for bull trout while at the same time providing water for salmon in the lower Columbia River.

## ***Specifications***

Reduce the current flows out of Libby dam to 12 kcfs as soon as possible using the established ramping rates for bull trout. It is anticipated that based on current inflow forecasts that approximately this level of flow can be maintained until the end of August with the reservoir ending at elevation 2439. Additional work is currently underway to determine if it is feasible to draft Libby to elevation 2439 by the end of September, but this work is not complete at this time. When completed, Montana will present another SOR to further modify Libby flows with the objective of maintaining a constant, or slightly declining, weekly average flow through the end of September.

## ***Justification***

The current sturgeon flows from Libby are not justified given the current water supply forecast at Libby. The planned increase in sturgeon flows was recommended based on the May final water supply forecast. However, subsequent forecasts are now below the level where flow augmentation for sturgeon is required in the sturgeon Biop. In addition the declining water supply forecast is not the actual water supply at Libby this year. Uncertainty about future inflows to Libby make it prudent to conserve water stored behind Libby for use in the summer and fall time periods for salmon and bull trout. The

planned ramp up of flows at Libby over the next few weeks will put both summer flows for salmon and bull trout at risk.

## Libby Operations

The Corps conducted several model studies of possible operations of Libby dam for the June through September time period. The operation recommended in this SOR is preparing to be able to implement either the operation shown in Figure 1 or that shown in Figure 2. Figure 1 illustrates the likely flow objective that would follow the sturgeon flows if those flows are reduced immediately. Based on the modeled assumptions a flow of approximately 12 kcfs can be maintained from the end of the sturgeon flows until the end of August with the reservoir 20 feet from full at elevation 2439. This operation will cause Libby reservoir to fail to refill by approximately 12 feet.

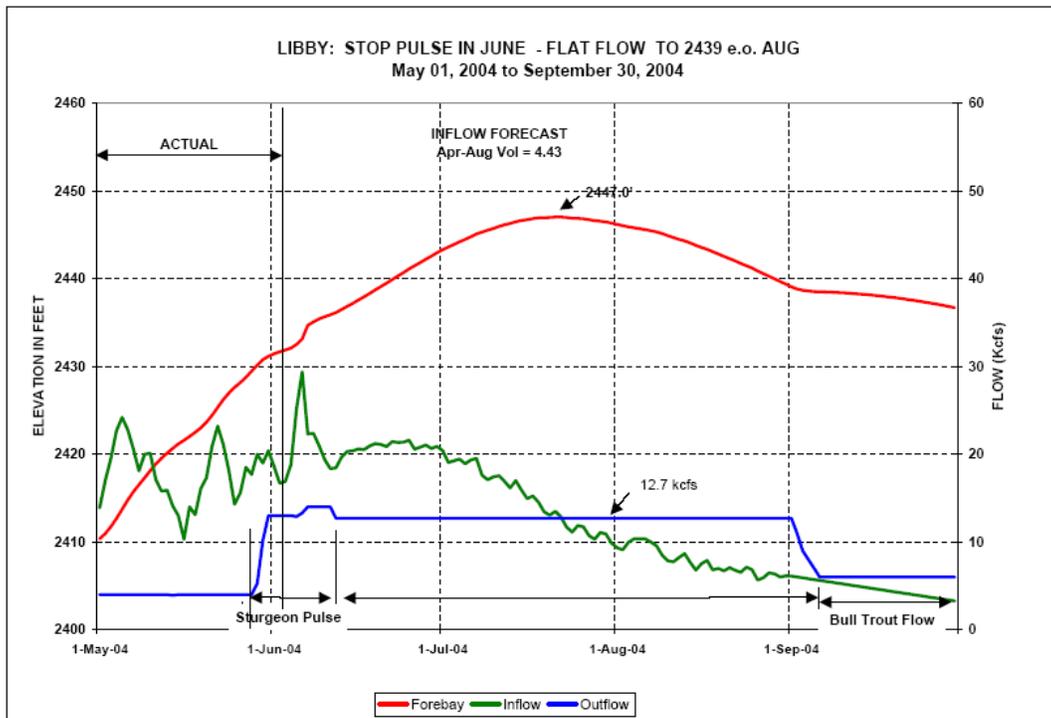


Figure 1 – SOR Operation with a flat summer flow of 12 kcfs

The Corps also modeled a flat summer flow strategy that set, as a target, drafting Libby to elevation 2439 by providing flat flows until the end of September. This operation is shown in Figure 2 which shows that a flat flow of approximately 10 kcfs can be maintained from the end of the sturgeon flows until the end of September. As noted above, this strategy for drafting Libby is under development at this time. There are several issues that need to be resolved. However, if those issues can be satisfactorily resolved the State of Montana will present another SOR that recommends using approximately a flat average weekly flow through the end of September that is designed to draft Libby to 20 feet from full.

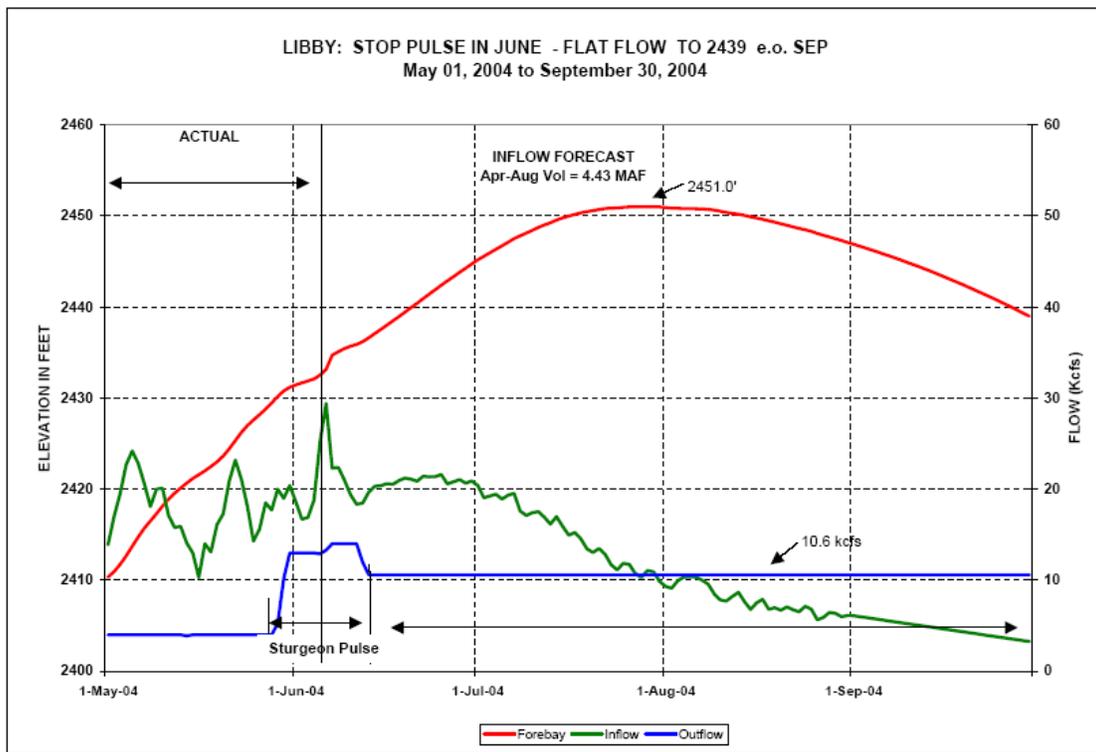


Figure 2 – SOR Operation with a flat summer flow of 10 kcfs