

# **SYSTEM OPERATIONAL REQUEST: #2002-MT-1**

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

**DATE: August, 2002**

**SUBJECT: Libby Operations for the remainder of August and September**

## **Biological Objectives**

The State of Montana is seeking to stabilize the flows out of Libby dam through the end of September. This will provide improved habitat conditions for bull trout and resident fish in the Kootenai River and Lake Kooconusa by creating a relatively constant outflow from Libby dam while also maintaining better habitat in the reservoir by reducing the rate of drawdown. We believe that this can be accomplished without significantly impacting anadromous fish in the Lower Columbia River.

## **Specifications**

As soon as practical, reduce flows out of Libby dam to 11 kcfs and maintain as close as possible to this flow until the end of September. Maintaining a flow of 11 kcfs from Libby is estimated to require drafting Kooconusa to elevation 2449 at the end of September based on current inflow forecasts. Since the projected outflow is based on forecasts of inflows to Lake Kooconusa the actual flows should be gradually adjusted to achieve the desired ending elevation at the end of September. Any flow changes should be effected by following the flow ramp rates in the Biological Opinion for bull trout.

## **Justification**

This has been a difficult hydrologic year for the resident fish above and below Libby dam. The summer began with what was forecast to be an average water year. However, only a few days into a test of the effects of spills on resident fish rapid runoff necessitated massive spills to maintain adequate space for a controlled refill. Outflows peaked at 40 kcfs with almost 16 kcfs of this flow being spilled. These spills created gas super-saturation conditions in the river and impacted fish and habitat in the river reach below the project. This had substantial impacts on fish below Libby dam and the full biological effects are being documented at this time, however the reports are not yet available. Since this event the fish in the Kootenai River have not been afforded river conditions

that would allow them to recover because large drafts of Libby were begun to remove 20 feet of storage to assist with providing flows in the Lower Columbia.

The State of Montana requests the support of the salmon managers in reducing and stabilizing the flows out of Libby dam until at least the end of September. This will help to reestablish bull trout habitat below Libby dam and to reduce the rapid drawdown of Lake Koocanusa below the Integrated Rule Curves that were designed by Montana Fish Wildlife and Parks to provide a balance between impacts on resident fish in Montana with the needs of anadromous fish down stream.

The current operational strategy will result in a 20 foot draft by the end of August and then suddenly drop the flows out of Libby to extremely low levels during the month of September. This will create yet another impact on bull trout that can be avoided by slowing the rate of draw down and extending the draft to the end of September.

The current strategy is producing flows out of Libby dam that are between 22 and 23 kcfs. This is a very high flow given that optimal habitat conditions as measured by Montana Fish Wildlife and Parks is approximately 8 kcfs. Montana is sensitive to the tradeoffs between the flows out of Libby and the needs of anadromous fish below McNary but the releases from Libby Dam are not translated into a one-for-one increase in McNary due to a number of factors. First is the extended distance between Libby and the Lower Columbia. This distance and the intervening dams serve to attenuate the flows that will result at McNary. The most dramatic affect is the ability for Canada to store in Kootenai Lake a portion of the flows out of Libby. In communications between the Corps and BC Hydro they estimated that approximately 35 percent of the flows out of Libby will be captured in Kootenay Lake and not passed downstream.

The current average seasonal flow over the period from July 1 to the end of August is projected to produce an average flow of 197 kcfs at McNary. The proposed reduction in Libby outflows of approximately 11 kcfs, after 35 percent of the flows are retained in Kootenai Lake, will result in a flow reduction at McNary of a little more than 7 kcfs. When this change for the last three weeks of August is factored into the average McNary flow over the July – August period it results in a seasonal average flow at McNary of 195 kcfs. This is a very small change in overall hydrologic conditions in the Lower Columbia River and yet the biological impacts on Montana's resident fish are very serious and continuing. The result is that approximately an 11 kcfs reduction in Libby outflows can be achieved with only a 2 kcfs change in the average flow at McNary over the summer season. The reduction in flows at McNary for the last three weeks of August is about one percent while the flows at Libby can be reduced by approximately 50 percent. The proposed operation will provide substantial biological benefits for Montana's resident fish while having no measurable impact on salmon.

The possibility remains for a swap of reservoir drafts from Libby in exchange for increased drafts of Canadian reservoirs. Montana recommends that the Corps and BPA continue to discuss the possibility of such swaps with the Canadian government and BC Hydro.