

TMT Goals and Objectives for Upper Columbia River

COE Draft February 14, 2000

Upper Columbia

Overall

Goals

The goal is to recover listed stocks of resident fish and assist in the recovery of listed anadromous salmonids in the Columbia River by providing the best possible flow conditions for resident fish while providing flow augmentation downstream for salmon. This will be achieved by providing the best utilization of Upper Columbia River basin resources to benefit resident and anadromous species, and improve conditions associated with the Clean Water Act, while recognizing trust responsibilities to Native American tribes."

Objectives

Assist in meeting downstream BiOp flow objectives at Priest Rapids and McNary.
Provide local and system flood control. (Montana wishes to provide flood control by using VARQ strategy at Hungry Horse and Libby)
Meet other multi-purpose needs.

Hungry Horse

Goals

Provide a suitable stream flow regime for bull trout and other sensitive native species in the Flathead Watershed.

Objectives

Assist in meeting BiOp flow objectives.
Operate to meet 75% confidence of refill by April 20th flood control.
Provide local and system flood control.
Meet minimum flow requirement of 3,500 cfs at Columbia Falls.
Serve local and system-wide power or non-power emergency needs
Avoid spill through such actions as deferring refill.
Assist in meeting Flathead Basin Management operating objectives.
Secure optimum period-by-period storage levels to be responsive to needs and emergencies
Minimized river fluctuations to protect resident fish.

Montana's objectives

Montana provides the following modified objectives. They want to meet the above objects by using the VARQ strategy instead of the way we operate today.
Assist in meeting BiOp flow objectives by operating the reservoir above the IRCs, up to VARQ elevations (if safe in terms of flood control and economically feasible) to store water for spring release while maintaining 95% reservoir refill probability.
Provide local and system flood control using VARQ strategy, then use improved reservoir refill potential to increase the number of years in which storage above elevation 3550 is available for summer flow augmentation. When available use storage above elevation 3550 for summer flow augmentation, gradually released to produce a smoothed discharge shape to benefit juvenile bull trout in the Flathead River downstream.
Montana objects to the goal of operate to meet 75% confidence of refilling project by April 20th.

Normalize reservoir discharge hydrograph. Smooth discharge especially during the biologically productive summer months to avoid flow fluctuations and attendant negative varial zone effects.

Triggers

Reservoir inflow forecasts

Prognosis for spill; need for pre-emptive releases to avoid such spill

Available turbine/generation capacity

Expectations of flow arrival downstream for BiOp objectives triggers timing of release of storage draft.

Refill date should be on or within a few days of the date on which inflows decline to within maximum turbine capacity.

Libby

Goals

Restore natural recruitment to the Kootenai River white sturgeon population by providing suitable stream flows for spawning and recruitment.

Provide a suitable stream flow regime for bull trout in the Kootenai and Flathead (Montana says only Kootenai) rivers.

Objectives

Assist in meeting BiOp flow objectives.

Operate to meet 75% confidence of refill by April 20th flood control. Montana objects to this paragraph.

On upper rule curves by April 10th (from ROD) Montana objects to this paragraph

Provide local and system flood control.

Meet International Joint Commission (IJC) requirements at Kootenay Lake

Balance the needs of providing a volume water for sturgeon spawning, riverine habitat for bull trout, and achieving refill of Libby reservoir by mid-July.

Provide suitable river flow and water temperature for sturgeon spawning, incubation, hatching, and juvenile survival.

15 kcfs flow at Bonners Ferry from May 1 to Start of Sturgeon Spawning

Then release full powerhouse capacity for up to 42 days. Goal 35 kcfs at Bonners Ferry.

Then 11 kcfs at Bonners ferry for 21 days.

Montana's Objectives

Montana provides the following modified objectives. They want to meet the above objects by using the VARQ strategy instead of the way we operate today.

Assist in meeting BiOp flow objectives by operating the reservoir above the IRCs, up to VARQ elevations (if safe in terms of flood control and economically feasible) to store water for spring release while maintaining 95% reservoir refill probability.

Use improved reservoir refill potential to increase the number of years in which storage above elevation 2449 is available for summer flow augmentation.

Balance the needs of providing a volume water for sturgeon spawning, riverine habitat for bull trout, and achieving refill of Libby reservoir by mid-July. Refill date should be a sliding scale based on inflow volume, filling later in high water years.

Provide local and system flood control using VARQ strategy.

Normalize reservoir discharge hydrograph. Smooth discharge especially during the biologically productive summer months to avoid flow fluctuations and attendant negative varial zone effects.

Use storage above elevation 2449 for summer flow augmentation, gradually released to produce a smoothed discharge shape to benefit juvenile white sturgeon and bull trout in the Kootenai River downstream.

Maintain stable discharge from Libby Dam between the sturgeon spawning and salmon flow augmentation operations. This discharge may be between 4 kcfs and 10 kcfs.

Ramp stream flows in the Kootenai River at a rate that does not strand or otherwise adversely impact bull trout. This ramp rate should not exceed a 10% change within a day or between days.

Montana also submits the following guidelines for the Sturgeon Operation

When low elevation runoff increases flows to 15 kcfs at Bonners Ferry, use Libby discharge as needed to maintain or increase flows (simulating a natural ascending limb of the runoff hydrograph) during the start of Sturgeon Spawning.

Then release full powerhouse capacity for up to 42 days. Goal 35 kcfs at Bonners Ferry release Libby discharge as needed to meet the “tiered flow objective” at Bonners Ferry as described in the WS Recovery Plan and cited literature [Note: there seems to be some confusion about the operation specified by the WS Recovery Plan].

Maintain stable discharge from Libby Dam between (Montana says after) the sturgeon spawning and salmon flow augmentation operations. This discharge may be between 4 kcfs and 10 kcfs.

Triggers

Reservoir inflow forecasts

Refill date should occur on or within a few days of the date on which inflows decline to within turbine capacity.

Initiation of sturgeon spawning.

Guidelines developed by FWS for sturgeon and bull trout flows.

Flow at Bonners Ferry

Temperature at Bonners Ferry

Local inflow to the Kootenai River between Libby Dam and Bonners Ferry is increasing or believed to be near the annual peak.

Albeni Falls

Objectives

Operate to meet 90% confidence of refill by April 20th flood control.

Meet Minimum Flow Requirements

Provide local and system flood control.

Triggers

Reservoir inflow forecasts