

Little Goose Dam (LGS) Navigation Lock Bulkhead Storage Operation

1. Background: The LGS nav lock returned to service on the evening of April 10 after an extended maintenance outage. Now that maintenance is complete, the nav lock bulkhead must be floated into the designated forebay slot for storage, which requires a full pool at the top of the normal operating range to make it over the sill.

Typically, this operation is performed before April 3 when forebay constraints begin for the minimum operating pool (MOP) 1-ft range of 633-634 ft, but this year the bulkhead was in use through April 10. Storing the bulkhead in the forebay slot is necessary so that it is available to isolate the nav lock gate should there be an emergency repair situation or an unforeseen outage.

Therefore, the Corps will float the bulkhead to the storage slot when the pool fills to the target elevation, scheduled for Wednesday, April 12, from 0800-1200 hours.

2. Special Operation: LGS began filling above MOP range 633-634 ft at 2300 hours, Mon, April 10, to target elevation 638.5 ft by 0800 hours, Wed, April 12. The bulkhead will be floated into the storage slot from 0800-1200 hours.

After the bulkhead is stored, the two options for TMT to consider are:

- a. Default operation – immediately begin drafting LGS back to MOP, which would add about 5 kcfs of additional flow downstream for approximately 4 days.
- b. Alternate operation – keep LGS full (637-638 ft) to store water until flows recede to the point that the additional flow would provide a greater benefit for downstream-migrating fish.
 - i. Draft LGS to MOP when the additional flow would maintain LMN at the uniform pattern for ~4 days longer than would otherwise occur.¹ Currently, two LMN units are out of service through June 30, so the flow threshold for involuntary spill (turbine capacity + bulk gas cap) is ~102 kcfs. At flows above that, the uniform pattern is used to manage TDG during involuntary spill. The current forecast indicates LMN inflow >100 kcfs through June 20: <https://www.nwrfc.noaa.gov/stp/station/stpplot/stpplot.cgi?LMNW1>
 - ii. Draft LGS to MOP before reaching the LMN bulk pattern threshold if juvenile sockeye numbers at LGS increase to a TMT-recommended abundance trigger.

¹ The 2017 FOP states: “When total river flow is likely to exceed turbine capacity and spill over the 120% gas cap (occurs at total river flow of ~140 kcfs) for three or more days, the project will use the uniform pattern. The uniform pattern may also be used if spill over the 120% gas cap is required due to “lack of demand” spill at any river flow level.”