

Date: 8-21-21

To: WLPOA membership

From: Dennis Westphal

Re: Billy Boy Dam Water Level Control

Dear members:

With this summer of drought conditions, members of WLPOA have expressed concern about Whitefish Lake Water Level in relation to Billy Boy Dam. This has been an interesting little project with all the interested parties, with differing opinions on what the LCO lake level should be maintained at. COLA in particular has opened up dialog as recently as August 16, 2021 siting legal documents. It's very complicated to say the least:

- The Dam was built by Sawyer County after approval from the Wisconsin DNR.
- The first inspection was 1936. (Detailed Report County Website)
- The Dam is controlled by Sawyer County Conservation Department.
- The watershed lakes feeding the Billy Boy Flowage and Dam include:
 - Sissabagama, Sand, Little Sand, Upper Holly, Whitefish
 - These all feed in series to Lake Lac Courte Oreilles. (LCO)
 - Round Lake & Little Round to Osprey to LCO
 - Grindstone directly to LCO
 - LCO feeds into Little LCO and then to Billy Boy Flowage and Dam. (County Map and Wisconsin DNR Website)
- The total water surface area of these lakes is about 15,200 acres.
- Normal storage 28,600 acre-ft / Maximum storage 53,600 acre-ft
 - Note: The crow flight distance from the south end of Lake Sissabagama to the north end of Round Lake is slightly over 20 miles. (Google Earth)
- The desired target level measured at the bridge between Big & Little LCO is the water level set by the Public Service Commission at that location in 1954. (PSC no longer has any authority)
- Gates fully open at 1297.3 ft Above sea level (ASL). Gates fully closed at 1296.8 ft (+ or - 6 in).
- The Target on the board below the bridge on Thoroughfare RD 1.5 to 2.0 (+ or - 6 inches)
- During low water or extreme drought conditions the Dam gates are closed. Some flow is necessary to feed the Couderay River which drains into the Chippewa River. During high water or flood conditions the gates are opened.
 - Note: This is no small challenge given the size of the watershed.
- Best guess is during severe drought level, flow would stop except for evaporation at the bottom of the channel between Big and Little LCO. Currently about 18 inches deep. Before that would happen the creek from Whitefish to LCO would bottom out.

References: Sawyer County Outdoor Map, Wisconsin DNR, Google Earth, & Billy Boy Dam Failure & Regional Flood Determination of Upstream Lakes Dec. 2006. Tim Seidle Sawyer County Conservation & Dennis Westphal