



## ENVIRONMENT BULLETIN

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# Water Levels – 2020



White Lake Dam is managed by the Ministry of Natural Resources and Forestry, Kemtpville District office. The operational plan is part of the [Madawaska River Water Management Plan, 2009](#).

The White Lake Dam is a concrete structure, 29 m (98 ft.) long incorporating three log sluices: one central 2.44m (8 ft.) stoplog bay between two 4.27 m (14 ft.) bays. Each bay contains six 12-inch by 12-inch stoplogs. Half logs and spacers are available to fine tune operations.

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The table at right gives the target water levels for White Lake as read on the water level gauge at the dam. The water level gauge is calibrated in decimal feet.

The White Lake Dam Operating Regime is described on page 194 and 195 of the Madawaska River Management Plan and is quoted directly below:

“The compliance framework for MNR facilities in the Madawaska River watershed does not require the use of mandatory level or flow limits. The level of White Lake is usually maintained between 3.5 and 5.2 feet. A minimum flow (baseflow) requirement for the White Lake Dam has been established. A flow of

Dates	Target Levels	
	Decimal Feet	cm
January 1 to March 15	3.5	106.7
April 1	4.0	122.0
April 15	4.5	137.2
May 1	5.0	152.4
May 15	5.2	158.5
June 1	4.9	149.4
June 15	4.8	146.3
July 1	4.7	143.3
July 15	4.6	140.2
August 1	4.5	137.2
August 15	4.3	131.1
September 1	4.2	128.1
September 15	4.0	122.0
October 1	3.8	115.9
October 15 to December 31	3.5	106.7

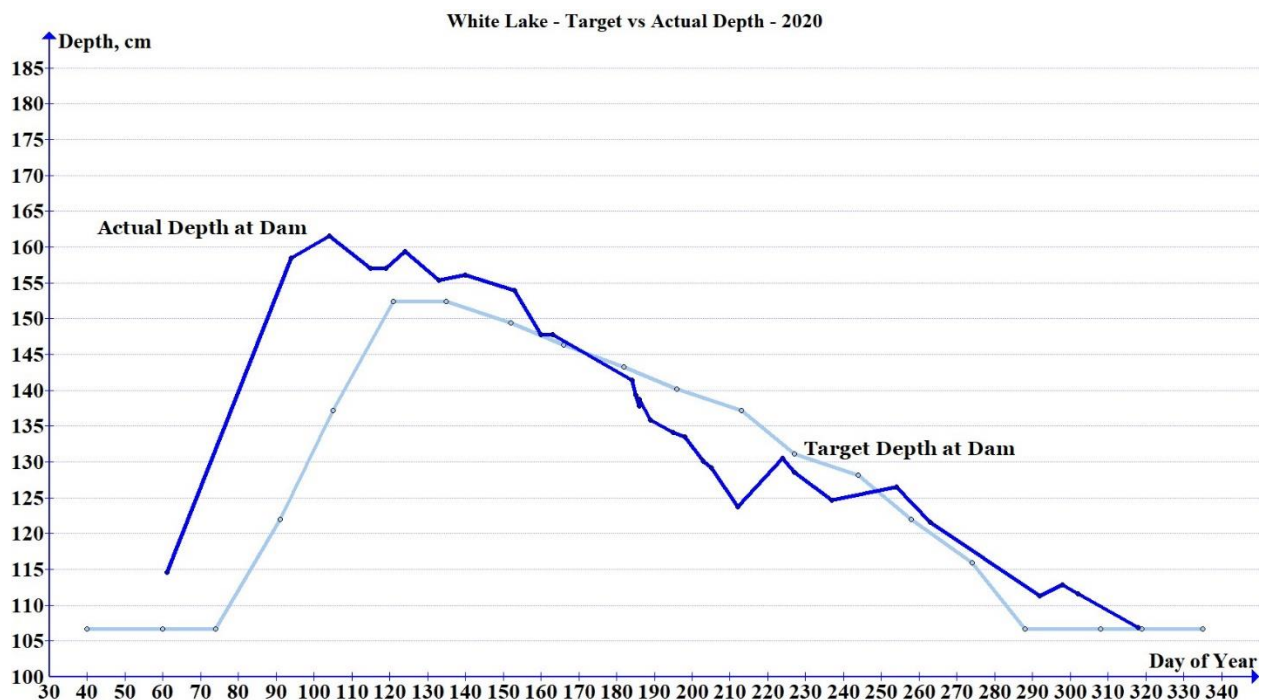
0.14 m<sup>3</sup>/s will be maintained at the dam at all times to ensure a sufficient flow is discharged into Waba Creek. This will provide a flow for the maintenance of fish habitat and address other ecological concerns during low flow conditions. A notch will be placed between the second and third log of the middle stop-log bay.

The annual variation of the operating band provides that water levels will decrease gradually from the spring flood peak in April to a constant level through the first half of May. In the middle of May, the summer drawdown will commence, which will bring the lake down to the winter holding level.”

During dry years, such as 2016, the challenge is to balance water levels in the lake with the flow required to maintain the Waba Creek ecosystem. In wet years, such as 2017, the challenge is to reduce the flow into Waba Creek to prevent flooding downstream.

In order to monitor water levels in White Lake, we take regular and frequent depth readings at the White Lake Dam using the gauge fixed to the dam structure.

The figure below shows actual depth measurements for 2020, read at the dam (dark blue line), plotted with the target water levels for the same time period (light blue line).



When comparing the line showing actual depth readings with that for target levels, it is evident that lake levels were high up to mid-May, and thereafter followed the water level plan until early August. Lower water levels at the beginning of August occurred after a period of hot dry weather. Beyond this point, water levels were according to plan.

April 1, 2021