

“Understanding the River Water Level in the Dunkirk Dam Lake District”

DDLD April 20, 2022 Quarterly Meeting Educational Presentation – an interview by Laura Davis, DDLD Chair with Tom Reiss, Dunkirk Dam Lessee

What is the water level range?

Tom explained the water level range of 832ft (above sea level) – 3.6” above and 3.6” below – 7” goal range.

How is the water depth monitored?

Tom said that there is a pressure transducer – staff manually read this gauge, numbers are charted – one sheet per week.

How is the water level controlled?

Tom said that this is controlled by the two big slide gates. We are only using one tainter gate right now with two slide gates on each side. This works like a belt and suspenders. The slide gates are not really needed right now. The tainter gate can handle all the flow. The turbines control the water as well. The tainter gate has an electric motor and up-and-down key switch. If the power goes out, a 3/8” battery powered drill can open and shut the gate. This is a great back-up system. We showed this to the DNR and they were very impressed as they had not seen this before.

Tom stated that his company has installed additional equipment so that, from the powerhouse, you can now operate the tainter gate. Eventually, we plan to be able to have the capability to operate this from Watertown where Tom’s company is. He also operates the two dams in Watertown.

Tom shared that the relationship with Stoughton Dam has improved. He, for a long time, also operated the Stoughton Dam but the city took over operation 6-10 years ago. In the past, it has been a struggle to get information downstream. Now, things are being coordinated much better.

Ron Vike (Dam Operator) added that, just today, Stoughton told him that the flow was going to be reduced by 75% from the Madison Lakes. Tom restated that the license to operate the dam requires “run of river” but that does not always happen.

Does the water depth change unexpectedly?

Tom said that when Madison makes an adjustment, it takes approximately one week until it gets to our section of the river. A big rain storm affects the water level but it depends on exactly where the rain falls and in how wide of an area.

Tom added that, they cannot feed power into the grid if the power goes out. They need utility power. If the power goes out, all the water goes through the dam and they have to adjust the gates.

What about ice on the river – it damages the docks.

Tom said that the best defense against ice damage of docks is strong pilings or removal of docks. He said we cannot control ice on the river. When there is a lot of water coming in, fast freezing moves docks – slow thaw does not affect docs.

Tom stated that there is one turbine running now. There is not enough water right now to run both turbines.

A participant asked how the Dunkirk Dam will be affected when the Stoughton Dam is partially removed since the Dunkirk Dam is first in line.

Tom answered that, now, Mother Nature will work better. Ron Vike added that the water level is 832.03 right now.

Tom shared that he has been involved with hydro and dams since 1st of 2nd grade as he has followed in his grandfather's footsteps. His grandfather built the first theme parks in the US. Disneyland is fashioned after one of his theme parks.

Participants heartily thanked Tom and Ron for providing this valuable information.