

## Meddybemps Dam, 2010

Once upon a time, in about 1785 or 1786, Col. Benjamin Lincoln of Dennysville built an earthen and log berm at one outlet of Meddybemps Lake where Stony Brook empties to the St. Croix River, and built a dam at the outlet where the Dennys River flows south out of the lake. This operation raised the lake about 5 feet above its natural and historic level, and provided additional power to dams that the Colonel owned along the river and in Dennysville. A full lake provided lots of power, and money, to the one who controlled it, and back then the main reason for managing the lake level was purely economic.

A few days later, two riders appeared at the Colonels house in Dennysville within hours of each other, one complained that the lake was too high, the other complained that the lake was too low.

And so it began.

A dam at the outlet implies control is possible, and suggests that water levels can be managed to satisfy all concerns. That is a myth.

The history of the Dam is complex, and the ensuing water level issues have been complex as well. Initially, the water was managed for commerce, and there was no provision for recreational use. Discovery of the lake by people who appreciate it's beauty, resources and solitude have complicated the issues surrounding water levels and uses.

Trapper Lombard, my grandmother's brother, was a guide, who saw the lake as a place to share with "sports" as he guided fishing and hunting parties early in the last century. He also had the "keys" to the dam because he lived across the road from it. Some days, so he claimed, he made several trips a day to the dam to open or close it, depending on who sounded more irate on the phone or in person. River folks and lake folks both had separate agendas even back then.

Harry Smith, who generated electricity with a powerplant, saw the lake as a big puddle of dollar bills.

The Atlantic Salmon Commission, now the Bureau of Sea Run Fisheries and Habitat, is currently charged with control of the flow from the dam, and their prime concern is to provide water for spawning and migration of anadromous species, those that live in salt water, but travel to fresh water to spawn. Those include alewives, lamprey eels, and an occasional salmon. They also are aware of the needs of residents on the lake, and have the job of trying to manage the water for both of those interests.

We all have said "Man, I wish that the water level was normal". That begs the question ....what exactly is normal? We have to remember that normal is the product of the extremes, and not a nice smooth curve. A rainfall graph is jagged indeed, but averages to average in most years.

I contend that we have not had a "normal" year in a long time, if ever. Precipitation is the only way water gets into the lake. We "normally" have about 40 inches of rain here. The amount is one factor, but how it arrives, or the distribution, is another. To stretch a point, if we got all 40 inches in January, lake levels and runoff would be extreme for a month or two, and by July we would be walking to some of the islands. It would be really nice if that 40 inches fell in monthly 3.33333 inch amounts, but as we know, Mother Nature can be a witch, and we get our rain when she decides we can have it.

Last year we dealt with very high water well into the summer. The year before, water was 4 inches over the dam in late fall. This year, we had what my grandmother called an OPEN WINTER, with little in the way of snowfall, and abnormally high temperatures. Many of the folks who came to winterfest this year would be shocked to know that 3 weeks after they were travelling on the ice, the lake was ice free. The ice officially left the lake at 3 pm, March 20, 2010. A week later, snow that usually persists in the woods until late April or even into May was gone, when we got a few days of temperatures well into the 80's.

That is the earliest, by about a month, that I, and everyone I asked, can remember the lake ever being ice free.

Since then, we have had slightly less than normal precipitation, right now we are about 3 inches lower than "normal", but as I said before, distribution is key, we got almost half of our rainfall in two events, one in late March, and one in early June. The rest of the time, our rain has been under an inch a week, sometimes way under.

So, factors this year affecting our low water levels started early on.

- A. Lack of snowpack in the woods, what fell did not stay long enough to accumulate over the winter. When it did melt, it melted quickly, much directly into the ground with less runoff than normal.
- B. Lower than normal precipitation.
- C. Higher temperatures, which increases evaporation from the lake. In one 24 hour period in mid July, during a week with temperatures flirting with 90 degrees, the lake dropped 1/2 inch. The lake is approximately 6900 acres, or roughly 300 million square feet of surface area, and a drop of a half inch equals ....get this .... 120,000,000 gallons of water. That is almost 3 times the amount of water that flows through the dam in the same period with it open two inches. A week of really hot weather with no rain and low humidity can easily drop the lake more than 3 inches, no matter where the dam is set. What we are in for with possible climate change may not be pretty for the lake.

Water levels in the lake are the source of much exasperation for all, myself included. With the water now 30 inches below the top of the dam, or 24 inches below what we voted to call a "full lake" last year, at our dock, I have to pull the motor up and paddle in. I know some people think even that is luxurious, especially those that cannot even get to their dock or boathouse.

This year, I have provided water level information and precipitation amounts to the operators of the dam. I take readings generally on Sundays at 4 pm, noting the opening of the dam and how much rain we got the preceding week. That has worked well, and I will continue doing that, as Ernie Atkinson appreciates the timely data.

I have fielded calls from people expressing concern for water levels, both in the lake, and in the river. I received several comments from people who have been concerned that there was not enough water in the river to even float a kayak during most of the spring, and one that brought to light an issue I never even considered muskrat habitat. One caller described finding several muskrat lodges torn apart by coyotes because low water in the river made their lodges accessible.

Many find time to talk about water levels, and genuine concern is a good thing. Around Meddybemps lake, its not "How about them Red Sox? Between Memorial day and Labor day, its something else entirely. Lots complain, and while there may not be a solution to the weather, there is a potential method to remove a lot of the guess work from water level issues.

My proposal is to modify the fish ladder at the dam to provide for minimum flows in the river, sufficient to support the fishery. The dam itself could be closed, but have a Vee shaped notch cut in it, with the bottom of the Vee set at the level that is optimum for the lake. In periods of high water, water flows out the Vee. As water gets higher during heavy inflow, the wider portion of the Vee allows for more outflow. As it drops, less and less water flows out, until it stops.

The dam could still be opened in an emergency, but on a day to day basis, little would need to be done to maintain the water level. The biggest issue as I see it, is deciding what lake level is most desirable. That could be an interesting process in itself, given the many opinions and options available. But it's worth some consideration.

All that being said, rather than spend our time griping about the level of the lake, there are some advantages to having low water occasionally. We can work on our docks, we can learn new rocks, we can discover spots on the lake that are rarely exposed, there are new beaches everywhere.

My advice for survival in this abnormal year, which is normal in it's own way, is to slow down, enjoy this gorgeous weather that comes with less rain, and hope we don't get "normal" suddenly with 15 inches of rain from a hurricane.

Respectfully submitted ...

*Jeff Orchard*