Mille Lacs Lake
Watershed Management Group

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Topic of the Month - September 2018

Wild Rice & Waterlevels

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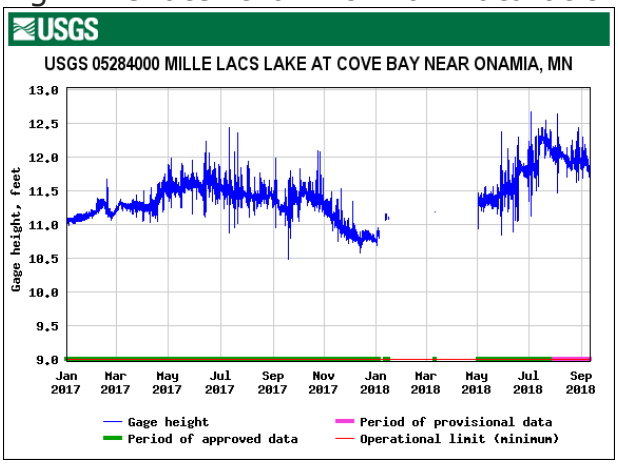
Although the Manoominike-giizis (Ricing Moon) rises in August, the bulk of the manoomin, or wild rice, harvest will occur in early September this year in the lakes and wetlands in the Mille Lacs Lake area. Unfortunately, the wild rice stands and respective harvests this year look unpromising. The later than normal maturation date is due in part to the late-arriving spring but there is no doubt the main culprit regarding the bleak wild rice conditions harvesters are facing; persistent and heavy rainfall throughout the summer led to flooding and elevated water levels not only in the Mille Lacs area but across much of the State.



U.S. Geological Survey, 2018, National Water Information System, accessed 9/11/18 at URL http://waterdata.usgs.gov/nwis

But what is it with water levels that can negativity impact wild rice? This aquatic grass grows best in soft organic bottoms in shallow waters ranging from 1 to 3 feet, emerging in mid-June to lay flat on the water surface during what is called the floating leaf stage. Not only is wild rice susceptible to uprooting by water level fluctuations and high winds but the plants can also drown with sudden water level increases since the plants begin exchanging gasses with the air during the floating leaf stage.

Lake Ogechie - 6/23/2016. Photo courtesy of Mille Lacs Band DNR

If the plant is fortunate to make it past this stage, another issue associated with this year's wetter than normal conditions is fungal brown spot (FBS). Peter David, Wildlife Biologist with the Great Lakes Indian Fish and Wildlife Commission, in a recent

interview with Wisconsin Public Radio said that outbreaks of FBS seem to be happening more often over time. "It's something that's enhanced by warm, wet, humid conditions. Our summers are getting warmer all the time it seems like." FBS can infect the leaves, stems, and sheaths of the plant thus causing stem breakage and considerable kernel loss.

Though consistent to gradually declining water levels are preferable within any particular year, it is also important water levels not remain too stable over multiple years as that environment will favor perennial vegetation over wild rice which is an annual. This scenario may very well have played out on the recent Lake Ogechie restoration project.

Lake Ogechie - 8/30/2016. Photo courtesy of Mille Lacs Band DNR

Following the 3 foot lowering of Buckmore Dam in the fall of 2015, the absence of aquatic macrophytes (weeds) the following summer was very evident; the lake bottom, once dominated by both native and non-native species, now had vast areas of unoccupied space. The once-dormant wild rice seeds responded accordingly! 2017 was a repeat of the very successful 2016 season but this summer is another story; with the return of high water levels, so has the competing vegetation returned and the wild rice has suffered.

Can the return of high water levels and respective competition from other aquatic plants be the sole reason for the poor wild rice stands of 2018? To help with the answer to this, and other questions, the Mille Lacs Band DNR has partnered with other concerned tribes and the University of Minnesota and embarked on a research project called Kawe Gidaa-Naanaagadawendamin Manoomin (first we should consider manoomin / psiŋ (wild rice)). This project aims to not only address questions on environmental threats to manoomin including unnatural water levels, invasive and competing species, and contaminants, but also prioritize Tribal views on the cultural significance, ecology, and policy of manoomin.

This project began in June with the installation of automated water levels sensors to monitor surface and groundwater levels on Lake Ogechie as well as Swamp Lake located north of Glen. Respected Mille Lacs Band tribal elder and Manoomini-ogimaawag (wild rice chief), Leonard Sam, once warmly recalled to me the days he spent as a young boy watching his family harvest manoomin on the once bountiful lake. Swamp Lake too, it seems, is a victim of elevated water levels and it is hoped that data from this new research effort and lessons learned from manoomin restorations such as Ogechie, will make plentiful harvests on Swamp Lake more than just a fond and distant memory.