

## Weeds...Past, Present and Future

DNR Added Upper Twin to impaired water list- meaning acceptable pollutant levels make it no longer drinkable, swimmable or fishable 1998-Mercury & PCB in fish, 2006 nutrients and aquatic recreation, 2010 PFOs in fish... water quality studies (TDML)done in 2007 and put in place. Phosphorus levels were the main focus of the planned projects. High levels of phosphorus lead to algae blooms (some of which can be poisonous and deadly). Our phosphorus levels were approx. 3 times the standard level and our algae levels were close to 4 times the standard levels acceptable for lakes of our depths

Upper Twin is part of the Shingle Creek water shed. Our lake is the first filtering lake for the runoff coming from the south end of Brooklyn Park, Brooklyn Center, the Crystal airport and Crystal shopping center (plus all neighborhoods in between). Projects set up by the DNR, Shingle Creek Watershed District and Wenck (the project management company) focused on reducing the nutrients coming from the run off out all the surrounding neighborhoods.

## Projects...

2010-14 Weirs- Crystal airport is surrounded by wetlands. These wetlands filter the nutrients in the runoff coming from the neighborhoods to the north and east that surround the airport. As the area developed, the levels of water runoff rose and the water flowed too quickly through the wetlands to be properly filtered. In 2010 weirs (or small dams) were built to help slow the water flow through the wetlands. The theory was the water would then be held in the wetlands longer and have more chance to filter down into the water table and not allow as much phosphorus to flow into the lake. The project was minimally successful and only filtered 10-20% of what they expected. In 2013 they raised the height of the weirs to hold back more water and were able to get the phosphorus levels reduced to approx. half of what was expected.

Brooklyn Center street improvements on east side of lake. In 2009-10 built a centrifuge in the street in front of the boat launch. All of the water from the storm drains flows through the centrifuge and spins the trash out of the water before it is discharged into the lake. The centrifuge is emptied by the city several times throughout the year and we seem to have minimal trash on that side of the lake.

2013 Holding pond by VFW. Before the Crystal street improvement projects started a small holding pond was built on Bass Lake Rd in front of Twin Oaks park. The theory was it would help to filter runoff from the neighborhoods to the south and west of the airport and reduce trash and phosphorus coming into the lake from the Crystal side. As I understand it, it filled within the first year with sediment and trash and became ineffective. I am not sure if there is a plan for repairing it.

2015 Fish barrier installation- prevent movement and spawning of rough fish. Started tracking fish in preparation for carp harvesting

Carp harvesting. Done in 2018-19. Rough fish stir up the lake bottom. Beyond being gross to catch, they make the water cloudy and release nutrients into the water stream. They were able to remove about 30% of their expected harvest.

Crystal Becker Park project. Completed last year. This was created to filter the runoff and trash from the Crystal Shopping center. They created a large holding area of crushed rock under the park. The storm water runs through the rock filtering it and is held in the ground. The water is used to irrigate the park

and then when it reaches a high enough level, flows into the storm sewers on the west side of the park and into our lake. We are hoping to see both a reduction in trash and nutrient levels from this project.

Projects proposed by Wenck that were met with strong home owner opposition (2013-2017)

Drawdown of the lake--- All water flowing into the lake would be diverted into middle twin and Upper-Twin would be drained and the lake bed allowed to dry up and compact or harden. This would reduce the phosphorus levels in the bottom, reduce mucky bottoms rough fish like and provide a perfect habitat for lake weeds... The hope would be water quality would improve, but with improved water quality would come a takeover of lake weeds. They admitted there were no plans for lake weed control and they were in favor of letting the lake go to a "natural state" where it would become a large marsh and be the filter for the rest of the watershed. The lake would no longer have recreation capabilities.

Aeration of the lake- prevent complete freeze of the lake, preventing fish kill in the Spring and improve survival rates of game fish. Require a compressor to be permanently installed on the lakeshore and run 24 hours a day to keep a hole open in the ice during the winter months. There was opposition to the noise from the compressor and hazard of having open water on a recreational lake.

What has been done regarding lake weeds in this associations history....

Process before treatments can be done... We request for a permit to be issued. We send the DNR a map of the lake and tell them the areas we know the target weed exists. We will ask for the world and for all areas to be treated. The DNR will survey the lake and tell us what areas we can actually treat. For lakewide treatments the DNR will limit us to 15% of the total lake area at one time. They can issue a variance for up to 30% in extreme cases. The DNR ultimately will tell us what the treatment zone will be.

2012- treated for Eurasian milfoil. We had lost 1/3 of our lake to the invasive weed. We did this with the DNR on site and volunteers from our association. We treated 24 acres of the lake and the channel. This treatment was extremely successful, eradicating Eurasian from the entire lake and downstream bodies of water.

2015- treated for curly pond leaf. We did this with volunteers from our association and treated 12 acres. It was successful for one year.

2017- treated for curly pond leaf. We used Lake Restoration and treated 18 acres.

2018- treated for curly pond leaf. This was coordinated by Wenck as part of a 3 year lake weed plan to satisfy homeowner concerns about improvement of water quality leading to weed growth.

2018- treated for algae blooms. We did this with volunteers from our association and treated

2019- treatment for curly pond leaf was not done. It was supposed to be a part of a 3 year weed plan, but was not done before water temps got too warm

2020- treated for curly pond leaf. This was coordinated by Wenck as part of a 3 year lake weed plan to satisfy homeowner concerns about improvement of water quality leading to weed growth. Had no impact on weeds. Was performed late in the season after water temps were too warm

2020- treatment of the channel for submergent, emergent and floating leaf plants. We did this with volunteers from our association in the hopes to suppress the spread of invasive weeds between the lakes.

2021- applied for grants to treat curly pond through the DNR lottery. Did not receive grant money, but the association had already approved to spend our funds to treat. We applied for treatment permits and contacted Lake Restoration to proceed with treatment. In March we were contacted by DNR and notified that multiple treatment permits had been requested. Wenck was also applying for additional grant money and willing to do weed survey and pay for treatment. We decided to let Wenck take the reins, do the treatment, pay for it and save the association's money. Wenck's survey then determined we did not have enough curly pond to justify treating and cancelled treatment. They did not notify the association until the timeframe for best treatment results had passed and no treatment was done. We felt the areas they surveyed were not correct and they skipped large areas that we informed them had weeds. This is the worst season we have seen for curly pond and it spread extensively on the east side.

#### Weed ID

Curly pond invasive- abundant and dying (will have to treat next year- will continue to spread)

Coontail- abundant (not invasive, can be treated with individual permits)

Northern milfoil- limited (not invasive, can be treated with individual permits)

Bushy pondweed- limited (not invasive, can be treated with individual permits)

Eurasian milfoil- limited (could not find today)