

Granite Lake Monitoring Report

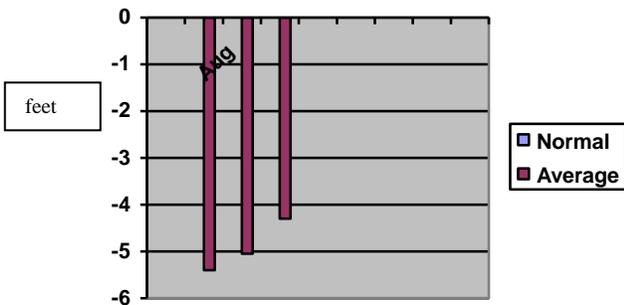
Summer 2010

July – September

Summer Review

By the time July rolls around, daytime air temperatures are into the eighties and the lake water likewise is heating up. Overall, the water quality stayed good throughout the summer as in physical appearance and for recreational use. Aquatic vegetation was limited this year allowing recreational use to be more enjoyable. Those lakeshore owners who had their vegetation harvested, enjoyed a water area around the docks that was weed free. As for the wildlife, they all enjoyed a good reproduction season with two young grebes, two young loons, five young wood ducks and five cygnets. Of course, a large number of pelicans and cormorants made Granite Lake their own private fishing hole. In the sky, eagles soared, grasping a fish or two as an opportunity arose. From observations, the eagles hatched out one young. The rain received this year was frequent, but in limited amounts with virtually no runoff. The hailstorm in July surely took a large toll on wildlife. The buildings around the lake did not escape the damage either and many roofs and siding needed replacement.

Transparency



The graphic is very typical for Granite Lake, but the difference this year is that the transparency was much better throughout the summer.

The transparency depicted in the graph is monthly averages taken from July thru September. The graph clearly shows that the transparency remained greater than 4 feet through September. The comments

from the lake residents clearly indicated that the water quality was the best experienced in years. The aquatic vegetation was less problematic this year, especially those residents that had their areas around the docks harvested. Those areas remained clear throughout the summer months.

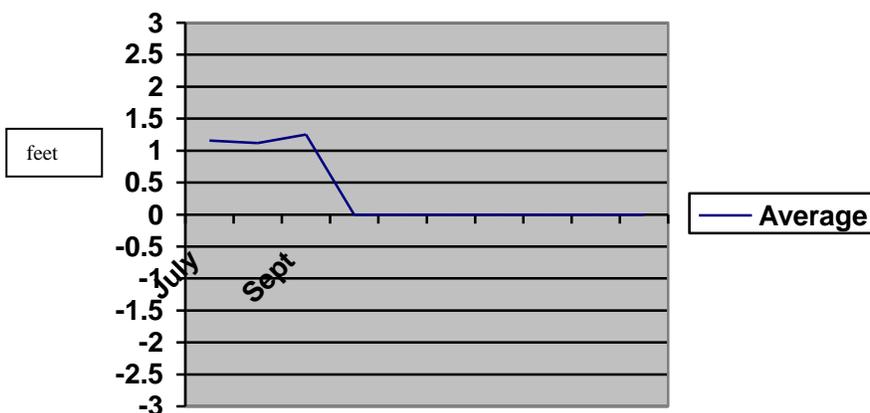
In order to significantly improve water quality in the lake, it will require an increase effort by the lake residents to decrease storm water runoff into the lake from properties surrounding the lake. This requires the elimination of mowing lawns to the water's edge. It will require restoring the shoreline to a more natural state with buffer strips and upland vegetation. Adding a few rain gardens and rain barrels should be used to catch runoff from impervious surfaces. This stored water can be used to water flowers and other plants

throughout the summer dry months. This summer was not a problem since plenty of rain was available. Burning leaves or tree branches along the lakeshore should be eliminated, but sadly to say, there are lake residents that continue this practice. Winter lake users should be strongly encouraged not to pollute the lake. Winter pollution amounts to runoff from 10 acres of agricultural land that drains directly into the lake. The Association should become more aggressive in educating winter lake users to take everything they bring back with them when they leave the lake. There are lots of things that the lake residents can do to improve water clarity and water quality. Many of these things do not cost a lot. It's more like being motivated to do the right thing.

The Association has every right to feel pleased with the agricultural landowners in the Granite Lake Watershed for stepping up by planting trees in three areas and allowing the construction and placement of two holding ponds. For a private lakeshore landowner to allow the repair of a collapsing ravine and hillside, that reduced the amount of nutrients and sediments from entering the lake.

After eleven years of monitoring water clarity, some things become known that were not obvious before. Algae blooms cycle, in that, algae will grow to a massive amount, then it eats itself out of house and home. It dies off and the water gets a brown tint but it also clears for a couple days before the nutrients of the dead algae generates a new algae growth cycle. If nutrients are constantly available, the algae blooms don't cycle, and the lake will have poor water clarity for most of the summer months. Granite Lake is fortunate, in that, its blooms tend to cycle. The lake, at times, reaches a threshold where insufficient nutrients are available to sustain an algae growth. If the nutrient loading into the lake could be reduced by a small amount from all sources, the algae bloom cycles could be shortened and the clarity cycles could be lengthen.

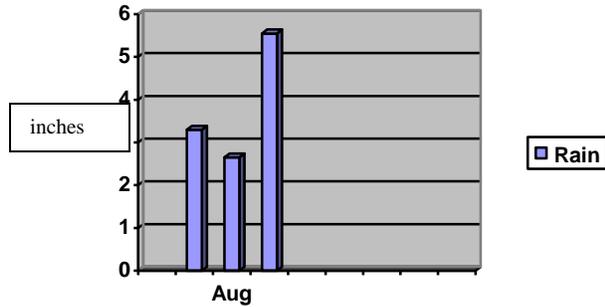
Lake Level



The graph displays the average gage scale readings for each month from July through September. The amount of rain received during the above three months was sufficient to keep the lake water level above normal by 2-3 inches. By maintaining the water level above normal, it controls

some of the aquatic vegetation growth from reaching the water surface. This may be one of the reasons that aquatic vegetation was less problematic during the three months.

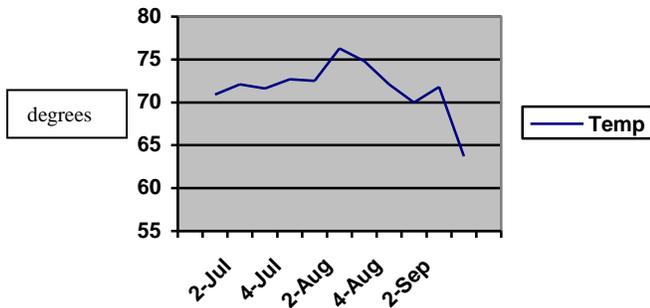
Precipitation



The period of July thru September provided ample amounts of rain. The only real negative in this period was the severe hailstorm that occurred on July 17th that damaged properties and field crops. Some wildlife also was dealt a deadly blow by the hail. This wet period helped maintain the water level in the lake and may account for some of the water clarity enjoyed during the best time of the summer. The rain was metered out in just

the right amounts and it did not create any amount of storm water runoff. Just to make a comparison between this period and the same period last year. This year it rained 11.5 inches while last year it rained 9.52 inches. That's two more inches! As the graph shows, September came in as the big rain month at 5.55 inches, but it was less than last year with 5.62 inches.

Water Temperature



The water temperature struggled this summer to get into the comfortable ranch for swimming. August was when the water temperature reached its highest comfortable state. This temperature is good for the fish since the cooler water holds more oxygen and it is less stressful for the fish. The fish may be harder to catch since the more oxygen allows them to feed at more levels in the water column.

By September, the lake started its fall cool down that will force the lake to turn over during October. The clarity of the water this year along the cooler daytime air temperatures had a large part to do with the cooler water temperatures.

Minnesota Star Lakes & Rivers Program

An updated Management was supplied to the Star Lakes Board, it was requested by the board as part of their decision making process. As to date, no response has been received as to a decision.

Loons, Eagles, Turkeys & Swans

The two young loons made it through the summer holidays. The adult loons left around the first week of September. Then the older of the young loons left, but reappeared two weeks later. It left again and did not return, leaving the younger of the loons to guard the lake.

A young eagle appeared on the lake during August and September, so it is safe to assume that the pair of adults that nested on the southwest corner of the lake hatched one young.

There are a number of wild turkeys that have nested in the area. Four young turkeys have been observed throughout most of the summer. A much larger flock of these birds have been seen during the summer, as many as 11 at the same time.

The swans have been very successful this year in protecting all hatched cygnets. The moving of the cygnets to Libby Lake shortly after being hatch by the adults has worked out well. The survival rate has been much higher at Libby Lake.