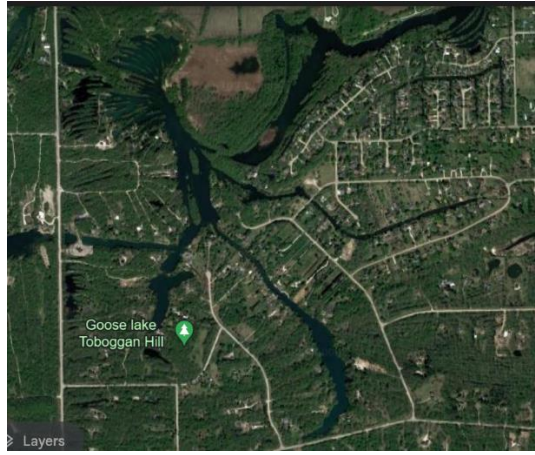


End of Season Report: Goose Lake Association - BEAVER LAKE



2023 was the first season McCloud Aquatics started managing the water bodies at Goose Lake Association. We are very excited to get the 2024 season started off on the right foot. In 2023 we spent a large amount of time getting familiar with the lake's growth habits and characteristics. This will be a great asset for us when selecting an application method utilized next year. Overall, Beaver Lake had low to moderate growth. There were a few areas I detected the cyclical growth throughout the season. Problem areas include the channel that goes under the bridge (bridge channel), South Half Moon channel, and the boat launch area. The dominant plant species seen in these locations was chara/subsurface algal growth. During hotter months of June/July/August, these locations suffered from low water levels which chara took advantage of. There is a new product I am excited to try in this situation as it is very common in the treatment world. Komeen Descend is a new product being released in 2024. This product offers microcrystal technology to allow higher copper concentrations at the soil sediment interface. This product was developed specifically for this type of situation and should help with control in your shallow channels where chara threatened reaching the surface.

While algae and chara were most prominent I did detect large amounts of milfoil and curly-leaf pondweed on the lake in 2023. We saw excellent control using our herbicides this season; however, we are proposing a slight change in herbicide used next season. We will be switching over to an early season slow-release product that will hold concentration in the water for an extended time before seed production occurs in the submerged weeds life cycle. The product is more selective towards these invasive species and will allow for native plant growth to continue unharmed. By killing the invasive plants early, your population will be drastically reduced year over year. This change will also help by keeping submerged weed growth from reaching the surface. When weeds reach the surface, it will cause the water to stagnate, which encourages algal growth in the immediate area.



Over time, your lakes will age, and more sediment/nutrients are deposited into the water body each year. Eventually the nutrient load becomes so high, plants will continue to grow exponentially. Plant growth requires a nutrient load, water source, and UV light. The only factor that we can actively manipulate is your nutrient load. Nutrient management is quickly becoming one of the most important pieces of a lake management plan. Phosphorus is the limiting agent in freshwater ecosystems in relation to plant growth. It is deposited with every rain event, as well as when any organic material washes/blows into the water. By limiting the phosphorus load in your lakes, the main food source for all potential plant life is reduced. As a result, you will see your overall plant pressure reduced. Eutrosorb WC has shown fantastic results across the region in reducing phosphorus levels for freshwater ecosystems. I highly recommend that we divert some of your budget to include a nutrient management application for the 2024 season. I recommend we apply the Eutrosorb in the South half moon channel, Bridge channel, and boat launch area to reduce aggressive algal/chara growth.

In conclusion, the 2023 season was a success in many ways. Our chemical applications were successful with minimal setbacks and retreats required, and our communication with David Bogash was developed and great groundwork is in place for next season. Maps and meetings provided each visit helped keep us on the same page regarding which areas needed to be surveyed/treated. Spending a significant time on the lake is the best way to diagnose a prescription tailored specifically for your lake. Moving into 2024 we now have bio-base mapping data, and hours logged surveying the lake. When combined with our expertise on lake management, your water is in good hands. Thank you for trusting McCloud Aquatics with the health of your water bodies! See you next year!