Goose Lake Association

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2021 Annual Lake Report

Objective:

This year we were contracted again to spot treat all three lakes for nuisance weed and algae growth. All Algaecides/Herbicides used over the season are labeled through the EPA for aquatic use and were also used in accordance with label rates. The vegetation that was treated include the following: Eurasian Milfoil, Variable-Leaf Milfoil, Curlyleaf Pondweed, American Pondweed, Sago Pondweed, Small Pondweed, Naiad, Duckweed, Filamentous and Chara type Algae. Below you will find a review of the season for each lake.

Goose Lake Review:

We started our management program out the first week of April. During our inspection we performed the first algae treatment on the finger channels like previous years. The first weed treatment was performed in early May for the control of Milfoil. The nuisance growth targeted this season on Goose Lake was Eurasian Milfoil, Variable-Leaf Milfoil, Duckweed, Naiad and Algae.

The treatment areas throughout the season were similar to previous years. We scheduled treatments in the finger channels, Muskie Trail, West end of the lake and the side channels south of the boat launch. Duckweed was the biggest issue this season, mainly in the finger channels. We performed treatments multiple times and would see results for a couple weeks then the growth would slowly return. We also treated some of the side channels and west end of the lake for Milfoil growth. This was the first year we started to see some re-growth of Milfoil where Procellacor was previously used in 2019. The amount of Milfoil was still minimal compared to when original treatment was performed, proving at least 2-year control.

We performed a total of 6 weed treatments this season on Goose Lake totaling 11.1 Acres. During the 2021 season we were contracted to treat up to 12 acres of nuisance weed growth. We used some of the contracted acreage from Goose Lake towards Beaver Lake (.9 Acre). With the additional amount used on Beaver Lake that brought the total amount up to 12 Acres. Besides the Duckweed growth within the finger channels the management plan worked well on Goose Lake. We did not have to perform any treatments on Curly Leaf Pondweed this year. The drought and warmer temps this season added more difficulty late in the year. It also created a Planktonic Algae bloom in the lake, which eventually went away this fall.

I am recommending for the 2022 season to spot treat up to 11 acres of nuisance weed growth. We will include unlimited algae treatments as needed throughout the season. I plan to use a different herbicide next season on the Duckweed if growth starts to get bad again. The herbicide, Avast, is a systemic herbicide that works well on Duckweed and Watermeal growth. It will require a 30-day irrigation restriction, so timing will be important to schedule early in the year if needed before residents start watering lawns/plants.

Vegetation Species Noted:

Filamentous Algae

Chara type Algae

Eurasian Water Milfoil

Northern Milfoil

Variable Leaf Milfoil

Curlyleaf Pondweed

Coontail

Sago Pondweed

American Pondweed

Flat-Stemmed Pondweed

Bushy Pondweed

Southern Naiad

Bladderwort

Duckweed

Watermeal

Valisineria

Widgeon Grass

Beaver Lake Review:

Beaver lake was contracted for spot treatment up to 18 acres this season again. We started our management program in early April with inspections. The first treatment was made in early May for the control of Curly Leaf Pondweed. The treatment areas this season on Beaver Lake were North Half-Moon, South Half-Moon, north end of the lake, southwest channel of the lake and a handful of lots with nuisance growth along beach areas. The nuisance growth targeted was Curly Leaf Pondweed, Small pondweed, Eurasian Milfoil, Variable-leaf Milfoil, Duckweed, Naiad, American Pondweed and Chara type algae.

The initial treatment was made the first week of May for the control of Curly Leaf Pondweed in South Half-Moon. This area has been known to have Curly Leaf Pondweed grow in depths in excess of 20 feet. The weed growth was a little later than normal in this area and density was less than the previous seasons. This proves that last year's treatment worked well. We used the same combination of liquid Aquathol K and granular Aquathol Super K. Results were noted quickly and lasted all season.

Last season we performed a larger treatment for Milfoil with the use of Procellacor on the north end of the lake. Most of the area stayed clear of Milfoil growth until early July when we had to perform a treatment on the south end of the previously treated area. The growth was still less than last year but I wanted to stay ahead of it, so treatment was performed. Overall, there was a lot less Milfoil present in the lake, especially in the far north bay where it had been a problem in the past. I did notice some Milfoil coming up late in the season in South Half-Moon where the Curly Leaf pondweed had been treated earlier in the year. I will keep an eye on this area next season and perform treatment with Procellacor if it continues to spread.

Throughout the season we performed 9 treatments for a total of 19.1 acres. Since we went over the contracted treatment acres we used (.2 Acre) from last season's rollover and (.9 Acre) from Goose lake's contracted treatment acreage.

For the 2022 season I am recommending spot treatments up to 18 acres for the season. I will keep aggressively managing South Half-Moon and the north end of the lake for nuisance exotic plant growth. I anticipate seeing less Milfoil growth on the north end of the lake, but treatment may be needed in South Half-Moon due to the growth noted in the fall. I will also plan for early season treatment for Curly Leaf Pondweed if needed in South Half-Moon like previous seasons.

Vegetation Species Noted:

Filamentous Algae

Chara/Nitella type Algae

Eurasian Water Milfoil

Northern Water Milfoil

Variable Leaf Milfoil

Coontail

Bladderwort

Curlyleaf Pondweed

Sago Pondweed

Slender Pondweed

American Pondweed

Flat-Stemmed Pondweed

Bushy Pondweed

Southern Naiad

Leafy Pondweed

Water Stargrass

Valisineria

Widgeon Grass

Lincoln Lake Review:

Lincoln Lake was contracted to spot treat up to 10 acres this season. The management plan started in early April with inspections and the first treatment was performed in mid-May. The nuisance growth targeted was Curly Leaf Pondweed, Small Pondweed, Eurasian Milfoil, Variable-Leaf Milfoil and Sago Pondweed.

The main target weeds this season were Milfoil and Curly Leaf Pondweed. Last season we did not treat for any Milfoil and only Pondweed species were treated. The areas where Milfoil was treated this season, we used Procellacor. We anticipate 2-year control again in these areas. The highlight on Lincoln Lake this season was that we were done with treatments by the end of June. Most of the treatment areas were the same as last season so we were able to get a jump on the growth and finish treatments sooner.

Throughout the season we performed 5 weed treatments for a total of 10.6 acres. Since we went over the contracted treatment acreage we used (.6 Acre) from the rollover from last season. This year's management plan worked well on Lincoln Lake. We had to do less re-treatments and most of the control lasted all season.

For the 2022 season I am recommending spot treatments up to 9 acres. I will continue to monitor areas where we used Procellacor for any regrowth. I will try to get Curly Leaf Pondweed treatments scheduled as early as possible to eliminate the plant and make room for more native plant growth. Lincoln Lake is the largest body of water for the association but has the least amount of weed growth treated. Most of the lake is 25 feet plus, so nuisance growth mainly exists in shallow channels and shorelines 10 feet or less. The future goals would be to get more weed growth established in the lake without being a nuisance to residents or lake users.

<u>Vegetation Species Noted:</u>

Filamentous Algae

Chara/Nitella type Algae

Eurasian Water Milfoil

Variable Leaf Milfoil

Curlyleaf Pondweed

Bladderwort

Sago Pondweed

Small Pondweed

American Pondweed

Coontail

Southern Naiad

Valisineria

Widgeon Grass

***The above-mentioned plants are not a representation of the entire plant community within the lakes. These plants are just what were noted over the course of previous seasons.**

Conclusion:

The treatment season started out similar to last year. We had below average water temps all the way into late May, which caused a delay with some of the weed growth. This season we had a significant drought which caused all lakes to drop below normal water levels. We experienced Planktonic Algae blooms in Goose Lake due to the drought and higher water temps late in the season. Overall, management plans seem to work well for each lake and minimal complaints were noted by the residents.

Some of the positives of the year were no Curly Leaf Pondweed treatments on Goose Lake. We are seeing minimum 2-year control of Milfoil species in all 3 lakes. In Lincoln Lake all treatments were completed by end of June so that more native plants could get established. We noted a couple additional native plant species in all the lakes: Valisineria and Widgeon Grass.

For 2022 I am recommending spot treating each one of the lakes again. I recommend for Goose Lake 11 Acres, Beaver Lake I propose 18 Acres and Lincoln Lake I propose 9 acres. There is no rollover from this season towards next year since we used all contracted acreage. I hope to continue the reduction of Milfoil species in all 3 lakes with the use of Procellacor and get Curly Leaf Pondweed treatments completed earlier in the year to make way for more native plant growth.

Sincerely,

Chris Cartwright

Aquatic Biologist

Rollins Aquatic solutions