2021 Bacteria Program

The 2021 season was the fifth year in a row that the association has used beneficial bacteria to help minimize organic sediment within Goose Lake. This season we stayed with the same treatment area as last year at 8.5 Acres. The treatment areas included Bluegill Ct channel, Perch Channel, Bass channel, Walleye channel, Catfish channel, the full length of Muskie trail and the main east/west channel that connects all the finger channels.

This year we changed product from MD pellets to Muck Biotics. With the different product we were able to lower the amount used from 30 to 20 pounds per acre and expect similar to better results. Below are the treatment dates and individual results for each area.

Treatment Dates:

5/20/21

7/1/21

7/28/21

9/1/21

9/29/21

Bluegill Ct Channel:

This channel is in its fifth year of a bacteria program. Compared to the other channels it has the most amount of organic sediment. It also is the area where most of the nuisance Algae and Duckweed is present. At the beginning of the spring, we measured the muck level at an average of 40.75”. From last fall to this spring the amount of muck decreased .77” over the winter.

The water clarity was clear all year in this channel. The water depth dropped significantly by the end of the season. Duckweed growth was an issue in this channel and so was a few algae blooms. Overall algae growth was below average this season due to more frequent algae treatments. In the fall I measured the muck level at an average of 35.25” This shows a reduction of 5.5” over the course of the season. Through out the five seasons of bacteria programs we have reduced organic sediment by over 21”

Perch Channel:

This channel is in its fourth season with the use of bacteria. Perch channel also is noted for experiencing moderate algae growth throughout the summer which adds to organic sediment. At the beginning of the spring, we measured the muck level at an average of 30.75”. That shows an increase of muck over the winter of 5.5”.

By the end of the fall, we measured the muck level again. The average depth of muck was 25.75”. This shows a reduction over the season of 5”. This channel continues to show positive

results over the last couple seasons. We have been able to reduce the muck level by roughly 23 inches over the past four seasons.

Bass Channel:

This channel is also in its fourth season with the use of bacteria. At the beginning of the spring this year we measured the muck level at an average of 30". That shows an increase of muck by 3.48" over the winter.

By the end of the fall, we measured the muck levels again. The average depth of the channel was 26.25". This shows an average reduction of 3.75". Over the course of the four seasons, we have reduced the organic muck by over 18".

Walleye Channel:

This channel is also on its fourth year with the use of bacteria. At the beginning of the spring, we measured the muck at 29.5". Compared to the previous fall, that shows an increase of 3.02" over the winter.

In the fall we measured the muck again. The average muck levels were at 27.5". This shows a reduction over the season of 2". This channel showed the least amount of reduction over this season. Over the course of the four seasons, we have noted a total reduction over 11".

Catfish Channel:

This is the last of the finger channels that is on its fourth year of the bacteria program. At the beginning of the spring, I measured the muck levels at an average of 34". This shows an increase of 6.04" over the winter.

By the end of the fall, we measured the muck depth again. The average muck level was at 28.75" within the channel. This comes out to be a reduction of 5.25"". Over the course of the four seasons we have reduced muck levels by over 19".

Muskie Trail:

Muskie trail is on its fifth season of the bacteria program. We have noted great results on this channel over the past few years. It is important to keep the organic sediment to a minimum in this channel due to its shallow water depth and boating access. Especially this year due to the drought and lack of water in this channel. This area accumulates moderate algae and weed growth throughout the growing season as well, which will add to the organics.

In the spring we measured the muck at an average of 12.5". This shows an increase of 2.06" over the winter. By the end of the fall, we measured the muck level again. The average muck level at that time was 9.88". This is a reduction of 2.6" over the course of the 2021 season. We have been able to reduce the amount of organic sediment in this channel by over 21" over the past four seasons.

Main East/West Finger Channel:

This is the second year for the bacteria program in this area. Much of this channel experiences nuisance algae blooms so it made sense to include the area for the bacteria program last season.

In the spring we measured the muck at an average of 34.25". This shows an increase of 3.77" over the winter. At the end of the fall, we measured again at an average of 31.88". This shows an average reduction of 2.4" over the 2021 season. Over the course of the two seasons, we have reduced muck levels by over 5".

Conclusion:

This season yielded another year of positive results of the bacteria program. We saw reductions from 2" to 5.5" within the treatment areas. The water clarity stayed very clear through the whole season. The algae growth was below average for the season but that could have been related to the more frequent algae and Duckweed treatments that were performed. There was only a couple of heavy algae blooms that occurred compared to multiple during seasons in the past.

For the 2022 season I recommend keeping the same treatment area of 8.5 acres. This was the first season that we switched products from the MD Pellets to the Muck Biotics. We were able to show similar results as previous years. The bacteria program was even more beneficial this season with the drought we experienced. The finger channels and Muskie trail's water level dropped below normal but due to the existing bacteria program's result there was less muck build up and more water depth. Below is the year-to-date data on the muck reduction for the bacteria program.

Year to date results:

	Spring17'	Fall17'	Spring18'	Fall18'	Spring19'	Fall19'	Spring20'	Fall20'	Spring 21'	Fall 21'
Bluegill	40.5"	37.4"	51.7"	43.4"	45.2	43.7	45"	41.5"	40.7"	35.2"
Perch	N/A	N/A	36.7"	30"	32.5"	26.3"	29.3"	25.2"	30.75"	25.75"
Bass	N/A	N/A	35.3"	31.2"	35.7"	30.7"	32.7"	26.5"	30"	26.2"
Walleye	N/A	N/A	41.8"	38.3"	35.2"	32.8"	30.2"	26.5"	29.5"	27.5"
Catfish	N/A	N/A	48.2	40.6"	42.2"	39.2"	32.1"	27.6"	34"	28.8"
Muskie	28.4"	26.5"	20.1"	13.9"	19.6"	11.6"	13.4"	10.44"	12.5"	9.8"
Main	N/A	N/A	N/A	N/A	N/A	N/A	33.5"	30.5"	34.2"	31.8"