



ASK JEFF

Lake Ecology
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Weed Treatment /The Process

I want to dedicate this edition's article on how our weed management program works. I will explain what goes into the decisions to treat and how much of an area should be taken care of. We are a shallow lake and it takes constant vigilance to make sure a weed or algae problem does not get out of hand. Lastly, I would like to talk about an algae called diatoms, which gives our lake that brownish color and its positive effect on our lake.

As many of you know, we hire a lake management company called Solitude to survey our lake and come up with a plan to manage any nuisance and invasive growth that could affect wildlife and recreation in Lake Shawnee. They are here about every two weeks. The gentleman who comes has been treating our lake for over 20 years. He's a very knowledgeable biologist who always has good advice on taking care of our lake. When he first gets here, he does the chemistry of the lake which includes: temperature, Turbidity (water clarity), DO (dissolved oxygen), and PH (the acidic level in the water). All these factors can have an effect on wildlife and plants and whether or not we can treat. Then, we survey the entire lake for visual confirmation of any invasive weed growth. To survey this lake takes over an hour. I generally do surveys every day on my paddle boat and I give our biologist a call to let him know my findings so he has a "heads up" on what to bring for treatment. It also expedites our survey, so we can check out those hotspots first. It's critical he brings the correct herbicide so the treatment is successful. We then come back to the launch and discuss the acreage to be treated and with what.

There are times we cannot or should not treat. When are they?

After or Before a heavy rain- We have 4 feeder streams that bring in a lot of water and when that happens the current is moving fast. Putting a herbicide in the water with that movement will not be very effective and a majority of our herbicide will wind up over the spillway. On the positive side, Filamentous is not attached so a heavy rain could wash it over the spillway. Again, we normally will just hold off and wait. Also as discussed in an article in August, rain water lacks oxygen which lowers our oxygen in the lake creating a problem mentioned below (low DO) in low dissolved oxygen.

Heavy wind- (Treating Lilies). Treatment for lilies is spraying the top with an herbicide. Wind creates waves which washes it off.

Low DO (dissolve oxygen) — When a plant dies when treated, it requires oxygen to break it down. If our DO is low already it could result in a serious fish kill. It's exactly what we are experiencing right now (early August) with our filamentous algae problem on the western shore. Our DO is generally very good, around 8 or 9. Currently (mid -August) it's under 4 due to heavy rain. If the lake is extremely warm (high 80's), fish stress in this type of temperature. It's not a good idea to lower the DO with treatment.

So as you can see, there are many factors in play before we treat. Weather and timing are crucial. We are always making sure what we do is effective, safe for our wildlife and that we get the most bang for our buck in treatment.

Diatoms - So what are these microscopic, single cell photosynthetic organisms? (They are called this because they manufacture their own food); we call them Diatoms. They are found in both fresh and saltwater all over the world (except Antarctica). This Phytoplankton is what gives our lake that brownish color. They are temperature driven, they love the sun and thrive when the lake warms up. This is why in the Fall and Spring the lake is very clear. In the process of manufacturing their own food, they produce oxygen for our lake, which we all know is a by-product of any photosynthetic process. Their brownish color helps reduce sun penetration which interferes with the photosynthetic process of those nuisance weeds such as milfoil and tape grass. When the lake warms up and they are in abundance you may come out of the lake with a brown residue on your skin. It's harmless and perfectly safe. With our lake being so shallow, they are a tremendous help in managing invasive weeds and putting a little more oxygen in the water for our wildlife.

That's all for now. I hope I have answered a few questions you have had on what the airboat does when he is here. Our next edition will have a recap of our treatment for this summer and bring you up to speed on how effective our addling program for controlling our geese problem was this past Spring. Any questions about our Lake, please do not hesitate to call or email me.