

June 25, 2020

I inspected Lake Francis today to view the current state of algae control, observe other aquatic plant issues, and to make observations that relate to the long-term management of this water body.

Filamentous algae has been an ongoing issue in the narrow shallow arms of the lake during the last two springs. Tilapia were used with apparent success in these areas, but filamentous algae is still somewhat problematic in other areas. Mild winters have allowed some overwintering of these fish, but tilapia juveniles were stocked again this spring in the most problematic areas of the lake. This stocking should reduce the level of problematic algae as the season progresses. This biological control method remains the best solution for this problem.

Grass carp are used for other submersed soft-stem problematic plants. Grass carp are long lived and provide effective control for the first 8 to 10 years of life. The current number of grass carp in the system are keeping coontail (*Ceratophyllum demersum*) and parrot feather (*Myriophyllum aquaticum*) under control. The current level of grass carp herbivory should be sufficient through 2022.

There are several beds of alligator weed (*Alternanthera philoxeroides*) occurring along the shoreline. This is the vine like plant that grows out from the shore with clover-like white flowers. All of the beds show damage from alligator weed flea beetles (*Agasicles hygrophila*), which should control this problem as the season progresses. Like tilapia, flea beetles survive mild winters, but may need to be supplemented in the future following exceptionally cold winters.

The number of non-native waterfowl appears to have been reduced over time. The cessation of feeding has helped reduce their numbers. Homeowners should be encouraged to continue to discourage the presence of Canada Geese, domestic Mallards, and Muscovy ducks. Low shoreline fences or wires (rope or strings) make yards harder to access and will reduce the attractiveness of the lake to them.

In addition to waterfowl, all additional sources of fertility and organic matter should be considered and reduced. Lawn fertilization should be done with slow release formulations and should not be applied within 10 feet of the water. Leaves and grass clippings should not be deliberately introduced or blown into the lake.

The spillway is no longer properly sized to handle the volume of storm water that runs through the Lake. Increased impervious surfaces in upstream developments have greatly increased the hydrologic response following rainfall events, resulting in episodes of lake elevation that have increased the potential for flooding and overtopping the causeway. A recent 6-inch rainfall event resulted in a water level increase of 18 inches. Increasing the capacity of the spillway needs to be pursued moving forward.

Regards,

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