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2009 Smith Mountain Lake - Vegetation Survey

Skip's Aquatic Solutions performed the 2009 vegetation survey on Smith Mountain Lake; the resulting findings of which are outlined below.

Aquatic Vegetation Survey Methods

A survey using the point intercept methods (Madsen 1999) was conducted from Sept 21st through October 6th 2009 in producing the results of this survey. Using Geographic Information System (GIS) software Targeting known and reported vegetation sites .provided by Tri-County Lake Administrative Commission, The waypoints were then transferred to a Geographic Positioning System (GPS) unit. At each point, an aquatic vegetation sampling device was thrown to scrape the bottom the Lake. The vegetation was sorted to determine which species were found and the results recorded with respect to the related waypoints. Surveyors also recorded visible vegetation in the areas surrounding each waypoint.

Track of the Area Surveyed

The survey started at the Crazy Horse Marina, moved southwest though Gills Creek, across towards Contentment Island, Pelican point and then back across to the Weavery area in an effort to accommodate upcoming hydrilla control treatments.

The survey then continued from the Weavery area into the Bull Run area, out towards Craddock Creek, north to Roanoke to point 916 across to point 919 back south to Waverley as directed.

Survey Results

A total of 1600 points were surveyed, of which vegetation was found at 651 points (40.6%). Of the 651 points at which vegetation was found, 11.5% of the species is native and 88% is non-native.

Types of Vegetation Found

The breakdowns of the 651 points found with vegetation are as follows. Brittle Naiad was found at 506 points (77%) Chara 69 (10.5%), Hydrilla at 44 points (7%) Curley Leaf Pond Weed at 21 (3%), Elodea was found at a single point (0.01%) and also Thin Leaf Pondweed at one point (0.01%). The balance is made up of Lilly Pads, Sago Pond weed and Nitella

Summary

Of the total number of points showing vegetation 7% was Hydrilla 3% was Curley Leaf Pondweed.

In reviewing these numbers closely, a 7% of the total weed population stands out as a small figure but this is misleading. This 7% figure equates to an estimate in excessive of 200 acres of Hydrilla threatening SML. Due to the difficulty in treating

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Hydrilla, a wider area surrounding the infested area is required, possibly doubling the treatment area required.

Hydrilla - The majority of the points where Hydrilla was found consisted of the area surrounding Waverley Subdivision, Crazy Horse Marina, Pelican Point and Contentment Island. We found one point in Gills Creek and one point in Little Bull Run.

Elodea - The one point Elodea was found with in the Bull Run area (point # 1368)

Curley Leaf Pondweed - This weed has spread out a little more but the infestation appears to be concentrated in the Little Bull Run area where systemic herbicide will work fine.

Conclusion

Due to the nature of the body of water and the species present, I do not believe that a complete eradication of the weeds noted in this survey is a viable option. However, it is my opinion that the infestations of weeds can be contained and controlled by engaging an aggressive treatment program implemented in and around the areas noted.

By observing the maps, most of the invasive vegetation is concentrated in a couple of sections of the lake, mostly in the Black Water area where the current can be leveraged in SML's favor for treatment options. Treatment should be triggered on a 4 to 6 week scheduled, throughout the growing season, to minimize the spread of the weeds through fragmentation and reproduction methods.

If possible a systemic herbicide should be used wherever feasible and several contact treatments where systemic treatments are not possible. The same systemic treatment plan can be used for Curley Leaf Pondweed as for Hydrilla. Treatments should be basic using low cost herbicides for the treatment of Hydrilla, Curley Leaf Pondweed and Elodea. Standard Sonar SRP or equitant (Systemic) and Komeen or equitant (Contact) are both excellent herbicides in moving water situations and are more cost effective then other products currently being pushed by herbicide manufacturers.

I believe the reality is that there will always be invasive noxious weeds in Smith Mountain Lake but control is a very obtainable with the proper management plan.