

ABSTRACT

Salisbury's Lake Wonoscopomuc Association board is struggling to maintain the ecological balance of our local lake while working cooperatively with private land owners. As more people populate the town of Salisbury, residential areas around the lake are also growing. Uneducated or misinformed private land owners are buying, developing, and treating their properties without proper concern for the environment. Now, the Lake Association would like to educate private landowner's about their luxuries, such as large driveways, excessive clear cutting, and lawn treatment with chemical fertilizers and pesticides, in order to reduce the impact on our lake. As impervious surfaces, like roofs, roads, driveways are developing within a very close proximity to the Lake Wonoscopomuc's shore, storm water runoff is eroding the sediment and creating two large deltas in the lake, one of which is growing rapidly. Another problem the lake faces is the ubiquity of Eurasian milfoil and the monitoring of boats that may be infected with zebra mussels. To successfully keep our lake healthy, both environmentalists and homeowners must work cooperatively. Therefore, my project is designed to educate private landowners in the Lake Wonoscopomuc subwatershed on what they can do to prevent environmental degradation in the lake.

INTRODUCTION

Salisbury, Connecticut, is a wonderful abode for those in search of a largely untainted rural atmosphere. However, Salisbury's natural resources are being threatened, like those of so many other rural towns. Salisbury comprises of several natural lakes, such as lake Wonoscopomuc. The Housatonic River carves one of the borders of Salisbury and scatters the town with its many tributaries, particularly Salmon Kill and Factory Brook. In order to protect the quality of large bodies of water, such as those in Northwestern Connecticut, it is important to evaluate the potential threats that affect the watershed as a whole. Working with Tracy Brown under a project run by Trout Unlimited, we studied the impact culverts had on local trout populations, looking at stream health, bridges, and river crossings across the town. In conjunction with our project with Trout Unlimited, I also worked with the Lake Wonoscopomuc Association board as a junior member. With the Lake Association, one large problem has been identified, and people of the community are now joining together to find solutions. Here is where my role this past school year really started.

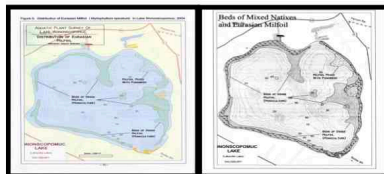
Year 1934 v. Year 2012 Residential Development



Year 1934 v. Year 2012 Infrastructure Development



Two Water Basins Separated by Sand Bars



2004 Lake Map and 2004 Plant Survey

The Two Growing Lake Deltas



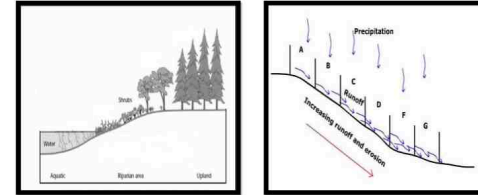
Growing Delta off Millerton Road

Sucker Brook Delta

The Lake Wonoscopomuc Subwatershed



THE PROBLEMS



THE SOLUTIONS

The most effective solutions to the problems the Lake Wonoscopomuc watershed is facing are also the most radical. In order to work cooperatively with prospective and current landowners, a middle ground must be found.

Becoming more restrictive of development of new houses around the lake would reduce impervious surfaces, such as roofs, pavements, roads, and driveways. This would also negate any effects from new construction, such as the compaction of soil. All of the above instances greatly increase the amount of unfiltered storm water runoff that is eroding our soils and creating the large sand banks, or deltas, within the two basins of the lake. However, minimal restrictions are implemented on new construction, such as a prerequisite of a permit only when building a house. Consequentially, property owners are still developing their properties without limitations beyond the control of the Lake Association or the town of Salisbury. Therefore, the solution to the problems the watershed of Lake Wonoscopomuc face is to educate private property owners. First, we have encouraged property owners to consider replanting after new construction or clearcuttings. Replantings will not only aerate compacted soil, but also add a buffer, or a riparian zone, between the developed land and the lake. A riparian zone is important, as this not only slows storm water runoff, reducing erosion, but it also filters pollutants from the water before it enters the lake. Lastly, the Lake Wonoscopomuc Association is a huge advocate throughout the town of Salisbury for more organic or ecofriendly alternatives. Board members promote riparian zones, for example, to infiltrate any fertilizers or pesticides used on treated lawns and gardens. However, the Lake Association would prefer not use chemicals at all. Board members have been vying for a new harvester, as opposed to the easier, cheaper, and more effective utilization of pesticides to contain populations of Eurasian milfoil found throughout the lake.

ACKNOWLEDGEMENTS

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