

Update on Management Practices in the Conesus Lake Watershed

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The land use in an area drained by a river or a creek, the watershed, often determines what materials and in some cases what pollutants enter a lake. For example, over-fertilization of lawns may lead to losses of nutrients, such as phosphorus and nitrate. There they may stimulate growth of weeds and algae near the shoreline. Geese also can deposit surprisingly large amount of “nutrients” and likely have similar effects on the shoreline.

Another source of soil and nutrient can be farming operations. A significant portion of the Conesus Lake watershed is dedicated to agriculture. Research at SUNY Brockport and SUNY Geneseo has demonstrated that during a period of rainfall (or rapid snowmelt), soil and nutrients can be lost from farm land into streams and into the lake.

For the farming community, loss of soil and nutrients is not economically sound. Herein lies the growing dilemma for governmental leaders in agricultural areas; that their most important economic industry (agriculture) may also be a source of degradation of water quality. This situation leads to heightening public concern.

In the Conesus Lake basin, several projects are underway in which farmers have implemented measures to maintain soil and nutrients on farmland and thus reduce impacts on the creeks and Conesus Lake. The development of a Watershed Characterization Report for the Conesus Lake Watershed provided a starting point for a management plan in Livingston County. Later, a research and management plan was developed with support from the Livingston County Planning Department. Funding to SUNY Brockport, SUNY Geneseo and Cornell Cooperative Extension from the Cooperative State Research, Education, and Extension Service of the United States Department of Agriculture allowed us, with the cooperation of several farmers on the west shore of Conesus Lake, to implement “Best Management Practices” on their farms. These practices, such as the installation of “Gully Plugs” and the reduction of practices spreading manure on hill sides during the winter have been successful. For instance, SUNY Brockport researchers lead by project director Joe Makarewicz have documented major decreases in the loss of soil and nutrients from the farmlands. Downstream from these areas, SUNY Geneseo researchers Drs. Sid Bosch and Robert Simon and their students have documented declines in the biomass of filamentous algae and numbers of bacteria on the shores of Conesus Lake. Nate Herendeen and Nancy Glazier of Cornell Cooperative Extension and Pete Kanouse of Livingston County Soil and Water Conservation District have provided much of the direction within

the farming community. We hope this work will continue for another three years as our USDA grant is being considered for renewal.

Most recently, the Altria Group has provided funds to assist in the development of additional management practices mostly on the east side of Conesus Lake. The Altria Group is a holding company whose principal subsidiaries are engaged in the manufacture and sale of various consumer products, including cigarettes, packaged & processed foods, and beverages. The Kraft "Cool Whip" plant in Avon is owned by the Altria Group, Inc.

Nate Herendeen will assist three dairy farms all within the Conesus Lake watershed (No Name Creek in Groveland, NY, North McMillan in Conesus, NY, and one that spans both North Gully and South Gully in Livonia, NY) to begin implementing management practices during the next growing season. The primary practice these farms would implement in 2005 would be to modification of whole farm nutrient management practices. That is, they would apply fertilizer based on soil tests rather than historical usage. Secondly, they would give proper credit to nutrients being recycled from animal manure. The total acreage involved in the nutrient management practices is about 1700 acres that support 220 dairy cows and 225 other animals (heifers, sheep, horses, etc.). A third practice that would be implemented in 2005 is roof water management. This practice separates clean roof runoff from contaminated barnyard or farmstead water and reduces the loss of nutrients to streams. A fourth practice, specifically designed for one farm with an observed problem, is to reduce contamination of natural drainage water with barn yard waste. SUNY Brockport will evaluate the effect of the management practices by monitoring water samples from streams draining the managed watersheds.

A key long-term goal of our project is to demonstrate to communities and policy makers, through science, extension and education, that best management practices in watersheds not only lead to more effective land usage but also help to improve water quality, and bring about decreases in the abundance of nuisance species in downstream ecosystems. Our project also puts into action some of the recommendations of the Conesus Lake Watershed Management Plan, and we are very pleased indeed to have seen that some of these actions already come to fruition in the form of local improvements to lake water quality.