Farmer Saves Money, Maintains Corn Yields And Retains Soil On His Land!!
Nutrient Reductions to Conesus Lake

Conesus Lake Watershed Project
SUNY Brockport, SUNY Geneseo, Cornell Cooperative Extension

Problem:

Research had demonstrated that large amounts of nutrients and soil were being lost during the winter from the Graywood Creek watershed to Conesus Lake. Soil and nutrient loss is a national concern. Its loss leads to a reduction in crop yields and may lead to increased levels of nutrients in a lake causing blooms of algae and enhanced weed growth.

Management Practices Implemented:

With guidance from Cornell Cooperative Extension, the largest farming operation in the Graywood Creek watershed voluntarily implemented a number of Best Management Practices (BMPs) to address the problems observed. Fertilizer use rates were based on actual soil nutrient tests where credit for manure applications plus nutrient contributions from rotation crops was included. Fall and winter spreading of manure were discontinued in hydrologically sensitive areas and highly erodable land in the watershed in 2003. Strip and cover crops were also planted to reduce erosion on the steep sided slopes of the farm.

Resolution:

The farmer saved over $5000 in purchased fertilizer alone while maintaining crop yields. Just as important, research demonstrated that the amount of nutrients and soil lost from this watershed was significantly reduced by the management program. As Figure 1 demonstrates, significant decreases in total phosphorus (TP), soluble reactive phosphorus (SRP), nitrate, total Kjeldahl nitrogen (TKN) and total suspended solids (TSS) concentrations were realized by 2003 (Figure 1).

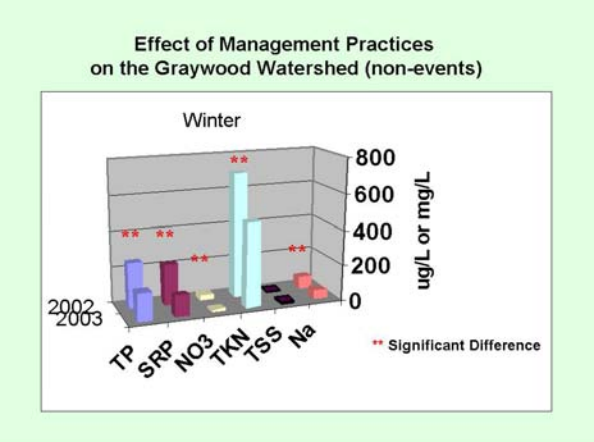

Figure 1. Comparison of winter nutrient and soil loss before and after the establishment of management practices. Total phosphorus (TP), soluble reactive phosphorus (SRP), nitrate (NO_3), total Kjeldahl nitrogen (TKN), total suspended solids (TSS) and sodium (Na).

Background: In the Conesus Lake watershed, several research projects testing various management plans to maintain soil and nutrients on farmland and thus reduce impacts on Conesus Lake have been implemented. Funding was to the State University of New York (SUNY) at Brockport, SUNY Geneseo and Cornell Cooperative Extension from the Cooperative State Research, Education, and Extension Service of the United States Department of Agriculture. With the voluntary cooperation of several farmers within the Conesus Lake watershed, several "Best Management Practices" have been implemented since 2002. These practices include reduction of manure spreading during the winter on steep sided slopes, construction of gully plugs, nutrient reduction, etc. Results on bacteria levels, shore algae and water chemistry are available at the project's web site http://www.envsci.brockport.edu/Conesus_Project