



## Section 319

# NONPOINT SOURCE PROGRAM SUCCESS STORY

# New York

## Watershed Grazing Initiative Reduces Nutrient and Sediment Impacts

### Waterbody Improved

Excessive nutrient loads and turbidity severely reduced the water transparency of New York's Chittenango Creek, preventing fish propagation. As a result, the New York State Department of Environmental Conservation (NYS DEC) added Chittenango Creek to the state's 1998 303(d) list of impaired waters. Farmers implemented a series of agricultural best management practices (BMPs), which improved the creek's water quality. Therefore, NYS DEC proposed removing Chittenango Creek from New York's 2008 303(d) list for nutrients (phosphorus).

### Problem

Chittenango Creek flows northward from its headwaters at the Erieville Reservoir before draining through the Cicero Swamp and eventually into Oneida Lake. It forms the border between Madison and Onondaga counties for its lower 18 miles. The old Erie Canal flows east to west through the Chittenango Creek watershed. The creek flows through a unique geologic feature, the Chittenango Gorge and Chittenango Falls (Figure 1) north of Cazenovia. The drainage area of the Chittenango Creek subwatershed is approximately 99,250 acres. The subwatershed includes the villages of Cazenovia and Chittenango. Most of the subwatershed is within the Oneida Indian land claim. Agriculture is a primary land use, with approximately 60 operating farms in the Madison County portion alone. Thirty-seven of these farms are dairy operations, while others include cash grain and beef operations, along with several sheep and pig farms. Chittenango Creek contributes approximately 18 percent of the total surface water inflow to Oneida Lake (Figure 2).

New York added a 3-mile segment of Chittenango Creek to its 1998 303(d) list because of impairments to aquatic life uses and minor impacts to recreational uses. NYS DEC identified agriculture as the primary source of excess phosphorus, with additional contributions from urban/suburban land uses and on-site wastewater systems. The 1998 assessment of Chittenango Creek indicated violations of the state's narrative water quality standard for nutrients, which prohibits nutrients in "amounts that will result in growths of algae, weeds and slimes that impair the waters for their best usages."



Photo courtesy of Chris Murray Photography, Fayetteville, NY

Figure 1. Chittenango Falls is one of the outstanding waterfalls in central New York.

## Project Highlights

Farmers implemented a series of agricultural BMPs designed to reduce nutrient and sediment loads to the Chittenango Creek subwatershed. BMPs include restricted/designated livestock laneways, controlled stream crossings for livestock, improved fencing parameters, alternative livestock watering systems, improved stewardship of existing pasturelands, and selecting and implementing better vegetative cover. Additional BMP projects continue to be funded through the latest round of grants.

## Results

A range of both point and nonpoint source controls helped improve water quality in Chittenango Creek; however, implementing agricultural BMPs contributed significantly to the overall result. The agricultural environmental management program that was implemented worked to reduce phosphorus loads to Chittenango Creek. Macroinvertebrate data indicate that aquatic communities are no longer impaired. The state's narrative standard is being attained, and the creek now fully supports its designated uses of aquatic life and recreational uses. Consequently, NYS DEC proposed removing the creek from New York's 2008 303(d) list of impaired waters for nutrients (phosphorus).

## Partners and Funding

The Oneida Lake Watershed Agricultural Advisory Committee, established in 2002, encourages farmer participation in the Oneida Lake Watershed Management Program, which includes the Chittenango Creek subwatershed. Supporting this effort, the NYS Agricultural Nonpoint Source Abatement and Control Program (ANSCAP) has funded a continuing series of BMP projects to

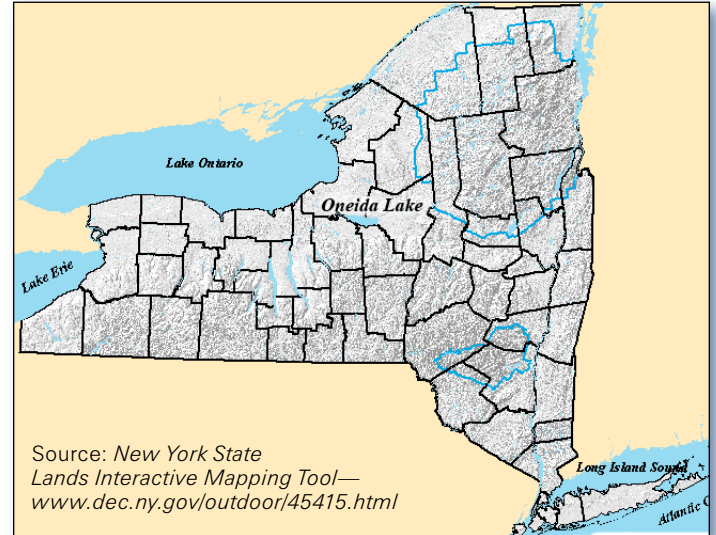


Figure 2. Chittenango Creek drains into New York's Oneida Lake.

reduce nutrient, sediment and pathogen loads to the watershed. ANSCAP funds are used as a match for section 319 funding.

The BMP projects highlighted in this success story were funded through ANSCAP, which provided \$246,687 of state funds on 26 farms in the Oneida Lake watershed, including six high-priority farms (receiving \$47,772 of the funds) in the Chittenango Creek subwatershed. The practices that were implemented include those endorsed by the NYS Grazing Lands Conservation Initiative, a grassroots coalition of producers, agricultural industry and conservation groups with an interest in the sound conservation of private grazing lands. ANSCAP has continued to support BMP projects that contribute to nutrient and sediment load reductions in the Chittenango Creek subwatershed.



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