



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2004NY52B

**Title:** Measuring the effects of wetland and riparian zones on water quality in the urban Patroon Creek Watershed, Albany County, NY.

**Project Type:** Research

**Focus Categories:** Non Point Pollution, Wetlands, Water Quality

**Keywords:** Nonpoint pollution; Stormwater; Wetlands; Urban and suburban land use; Aquatic ecosystems

**Start Date:** 03/01/2004

**End Date:** 02/28/2005

**Federal Funds:** \$21,640

**Non-Federal Matching Funds:** \$27,194

**Congressional District:** 21

**Principal Investigators:**

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**Abstract**

Urban and suburban water bodies in New York State are increasingly affected by pollution associated with historic and changing land use in urban and suburban zones. Most of these water bodies continue to function in important ways, but many are facing demands for environmental services that exceed capacities. We are particularly interested in understanding the capacities of remnant riparian and wetland ecosystems in the Patroon Creek and similarly impacted watersheds. Enhancing these ecosystems will help to improve water quality for humans and wildlife. More data are needed to identify the principal contaminant sources, to determine the effects of land use on water quality, to develop restoration strategies, and to assist municipalities in the implementation of MS4 stormwater regulations. For example, application of de-icing salts to roadway and parking lot surfaces in the watershed may have acute and long-term effects on aquatic ecosystems, surface and groundwater chemistry, and the physical and chemical properties of clay minerals in soils. The primary initial result will be a better understanding of water quality in Six Mile Reservoir (Rensselaer Lake) located in the Patroon Creek Watershed.

Objectives are to: 1) monitor water quality in Rensselaer Lake over a 1-year period in order to establish a baseline dataset for future management and watershed remediation efforts; 2) analyze spatial and temporal variations in water quality parameters in order to identify point and nonpoint pollution sources to the lake; and 3) characterize aquatic and riparian ecosystems and soils within Rensselaer Lake Park in order to determine the degree to which they mitigate the negative effects of point source and nonpoint source runoff on water quality in the lake.