



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** RI2761

**Title:** Wet Weather Characterization of Selected Rhode Island Baseline Monitoring Stations

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

**Keywords:** baseline monitoring, Water quality

**Start Date:** 03/01/2001

**End Date:** 05/31/2002

**Federal Funds:** \$8,184

**Non-Federal Matching Funds:** \$14,383

**Congressional District:** RI 2

**Principal Investigators:**

Oran J Viator

Post Doctoral Student, University of Rhode Island

Raymond M Wright

Professor, University of Rhode Island

**Abstract**

Since 1991, the Civil and Environmental Engineering Department (CVE) has conducted research for the Rhode Island Department of Environmental Management (RI DEM) by establishing a Baseline Monitoring Program for the rivers of Rhode Island. The purpose of the program was to establish a long term, water quality database. The study has been collecting samples from 25 river systems on a quarterly basis for 1991/92, 1992/93, 1996, 1998, 1999 and 2000. The current program will continue through 2003. To date, the program has completed 23 seasonal surveys of various river systems under dry weather, steady state conditions. There has never been any sampling of these stations under dynamic, wet weather conditions.

The CVE Department has conducted a number of wet weather research programs on several of the watersheds in Rhode Island (Hunt River, Saugatucket River, Narrow River, and Greenwich Bay streams) and on the Blackstone River in Massachusetts. In every instance, the system being monitored exhibited completely different water quality characteristics for dry and wet weather conditions. Under dry weather conditions, point sources and groundwater conditions characterize the river's water quality. Under wet weather, the water quality is a combination of groundwater, point sources, and non-point sources. In many cases, the non-point sources may have been the largest source of contaminants to the stream system. This problem would not have been discovered unless water quality samples were collected during a storm event.

This study would be the first wet weather study attempted on the Baseline Monitoring Stations. The stations are spread throughout Rhode Island, and have been grouped together in geographical areas. This project will conduct a single wet weather study on a manageable grouping of baseline stations to augment the dry weather data collected to date. If this initial wet weather study discovers significant differences in the water quality of the selected streams, the scope of this study could be expanded to cover the entire cadre of baseline stations in the future.