

**MONITORING AN URBAN STREAM: STRATEGIES AND  
RESULTS FOR NON-POINT POLLUTION – MOLLY ANN BROOK  
PASSAIC COUNTY, NEW JERSEY**

Dr. Richard R. Pardi, Environmental Science, Dr. Michael Sebetich, Biology  
William Paterson University  
300 Pompton Road  
Wayne, New Jersey 07470

**ABSTRACT**

Molly Ann Brook is an urban stream that is a tributary to the Lower Passaic River. The stream is located in Passaic County, northern New Jersey with most of its watershed is located within the Boroughs of Franklin Lakes, North Haledon, Haledon, Prospect Park and the city of Paterson. The stream has been identified by New Jersey Department of Environmental Protection as being impaired along portions of its length for fecal coliform bacteria and ecosystem degradation as indicated by macroinvertebrate surveys.

The results shown in this poster reflect an intensive water-quality survey of 6 sampling sites within the watershed. Fecal coliform and *E. coli* bacteria, nutrients, major elements and field variables (pH, dissolved oxygen, conductivity, temperature, and turbidity) were measured along with discharge beginning in August, 2006. Some of the results are shown on this poster.

High levels of bacteria were measured along the entire length of the stream and nearly always exceeded the surface water standard for both fecal coliform and *E. coli* during both the 2006 and 2007 sampling seasons. Nutrient levels were low to moderate but showed some consistent variations along the length of the main channel and between low-water and storm events. Dissolved oxygen was close to saturation at the ambient water temperatures along the entire length of the stream during daylight hours when discrete sampling was conducted. However, continuous sampling over week-long periods indicated low oxygen levels at night and during periods of low flow.

Other data presented within this poster provide insight into the water quality dynamics of this urban stream and contribute to a foundation of understanding that will aid in the planning of a restoration and protection plan for this water body.

**KEYWORDS**

Urban streams, non-point source pollution, monitoring, restoration