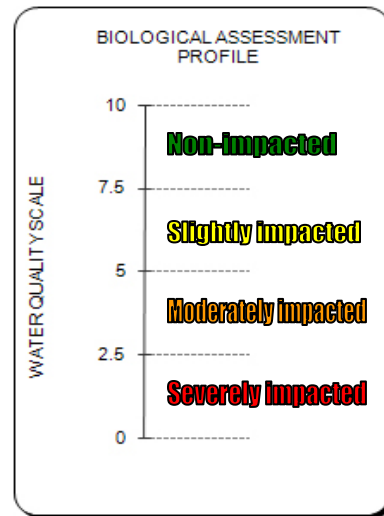


## Hudson River Estuary Watershed Assessment & Outreach Project

### General Information

The New York State Department of Environmental Conservation (NYS DEC) provided funding for this project from the state's Environmental Protection Fund through the Hudson River Estuary Program. This information is intended to increase public awareness of water quality conditions in Hudson River tributaries and to support community-based watershed protection and restoration projects. Where problems were found, follow-up monitoring should be conducted to identify specific causes and sources.

The NYS DEC Stream Biomonitoring Unit's (DEC SBU) methodology was used for all sample collection and analysis tasks. These methods involve collecting, sorting and analyzing a sample of benthic macroinvertebrates (stream bottom-dwelling organisms with no backbone that are visible to the naked eye). These organisms vary in their sensitivity to water quality impacts. DEC SBU's methods use the presence or absence, relative abundance, and diversity of species to obtain an overall water quality score called the Biological Assessment Profile (BAP). BAP is scored 0-10, with 10 indicating the best water quality. The DEC SBU also uses four narrative descriptions of water quality based on the BAP score as illustrated in this graph:



It's important to note that the term "slightly impacted" can be misleading if it's taken out of context. Sites with water quality at only 5.1 on the BAP scale, or almost "moderately impacted", can be described as only "slightly impacted".

Impact Source Determination (ISD) is a ranking of the most likely cause of water quality impacts at each site. The ISD categories are: non point source nutrient enrichment; organic (sewage and animal waste); complex (municipal and industrial inputs); toxic; siltation; impoundment; and natural.

### Interpreting and Following Up on Water Quality Findings

Many factors influence the BAP score. Professional guidance should be sought from HBRW, the NYS DEC SBU, or other qualified sources about data interpretation questions. In general, however, sites with BAP scores below 7.5 usually warrant further investigation. Sites below 5.0 should be subject to detailed study to identify the source(s) of impairment and guide water quality improvement measures.



## 2006 Watershed Report Card for streams in New Paltz, New York

### A Hudson Basin River Watch Watershed Assessment & Outreach Project

The purpose of this Watershed Report Card is to identify specific water quality problems and raise public awareness of important watershed issues in Hudson Valley communities. Hudson Basin River Watch selected locations with input from local stakeholders and assessed water quality impacts (pollution) at eleven stream stations in and around the town and Village of New Paltz in Ulster County. Macroinvertebrate samples and basic physical and chemical data were collected in September and October 2006. A map depicting the sampling locations and impact categories is on pages 2-3 of this brochure.



Wallkill River station NP01, "Libertyville rapids", just downstream of the fairgrounds Gardiner Ulster Co., NY

Water quality was slightly impacted at 9 stations, moderately impacted at one station, and non-impacted at one station. For five stations, the most likely cause of water quality impacts is non-point nutrients additions. For the other six stations, the most likely cause is a combination of sources. The "complex sources" indicated for the Mill Brook, the mouth of the Plattekill Brook, and the Clearwater Road stream near Route 32, could include industrial sources, wastewater treatment plant discharges, and urban runoff. The one moderately impacted result for station NP02 is not surprising, as this tributary originates on the urbanized SUNY New Paltz campus.

More information on methods, terminology and data interpretation is on page four. Stations are generally listed from upstream to downstream locations.

### New Paltz, New York -- Station Descriptions and Water Quality Findings

**Station NP01** (Wallkill River) is known as the "Libertyville rapids," upstream of the Ulster County fairgrounds. The Biological Assessment Profile (BAP) score, 5.65, fell in the lower half of the slightly impacted water quality category. The Impact Source Determination (ISD) indicated a community affected by non-point source nutrient additions.

**Station NP02** (Tributary to Wallkill), is at the Mountain View Nursing Home on Jansen Road, just downstream of their driveway bridge. The BAP score of 4.68 fell just into the moderately impacted category. The ISD indicated a community affected by impoundment, toxic inputs, and non-point source nutrient additions.

**Station NP03** (Klein Kill), is at 30 Buttermilk Road. The BAP score of 6.83 fell into the upper half of the slightly impacted category. The ISD indicated a community structure affected by impoundment and non-point source nutrient additions (an impoundment is 2 miles upstream at Duck Pond).

**Station NP04** (Mill Brook), is just downstream of the Green Acres storm water pond outflow. The BAP score of 5.20 fell at the bottom end of the slightly impacted category. The ISD indicated a community affected by complex sources, organic inputs, non-point source nutrient additions, and impoundment.

**Station NP05** (Mill Brook), is on the Woodland Ponds property, at the old breached dam north of the end of North Manheim Boulevard. The BAP score of 5.83 fell into the lower half of the slightly impacted category. The ISD indicated a community affected by the same factors as Station NP05.

**Station NP06** (Tributary to Wallkill near Clearwater Road), is just upstream of the Route 32 bridge. The BAP score of 6.16 fell into the slightly impacted category. The ISD indicated a community affected by impoundment and complex sources (an impoundment is 0.8 mile upstream, and Cameo Lake is 0.3 mile upstream on a tributary).

**Station NP07**, (same stream as Station NP06), is just upstream of the pond at the Transfer Station. The BAP score of 5.5 fell into the lower half of the slightly impacted category. The ISD indicated a community affected by non-point source nutrient additions.

**Station PL01** (Plattekill Brook), is just upstream of its confluence with the Wallkill. The BAP score of 5.84 fell into the slightly impacted category. The ISD indicated a community affected by impoundment and complex sources.

**Station PL02** (Plattekill Brook), is at the bottom of the Plattekill Gorge, just upstream of the Route 208 bridge. The BAP score of 6.78 fell into the upper half of the slightly impacted category. The ISD indicated a community affected by non-point source nutrient additions.

**Station PL03** (Tributary to Plattekill Brook), is just upstream of the Schrieber Lane culvert. The BAP score of 5.63 fell into the lower half of the slightly impacted category. The ISD indicated a community affected by non-point source nutrient additions. The Dissolved oxygen was slightly depressed, at 89% saturation.

**Station 21212** in the Swartekill is located just above Hardenburgh Rd. bridge. The BAP score, 7.54, indicated non-impacted water quality but was very close to the threshold for the slightly impacted category. The ISD indicated a community most similar to one affected by non-point source nutrient additions.









The Town of New Paltz has adopted "Habitat Assessment Guidelines" for subdivision and site plan reviews. The habitat assessments evaluate existing environmental conditions, areas of ecological sensitivity, and probable impacts of development. The New Paltz Habitat Assessment Guidelines are unique in that they specifically recommend assessment of stream water quality, using macroinvertebrates. This report card provides an example of information that could be used in the stream portion of each site's habitat assessment.

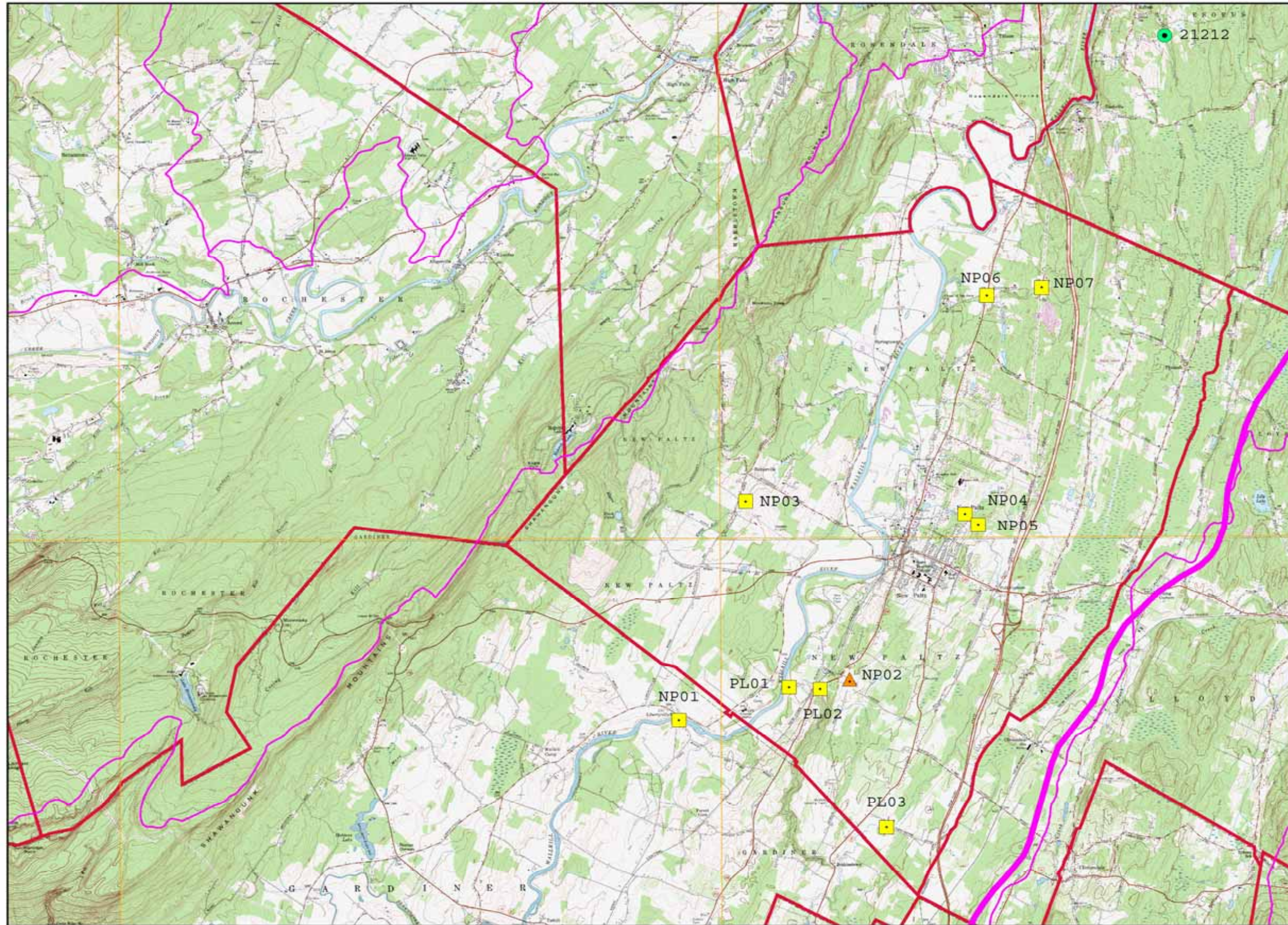
For More Information

Hudson Basin River Watch: go to [www.hudsonbasin.org/](http://www.hudsonbasin.org/) for survey reports and to download watershed report cards and other documents.

NYS DEC Stream Biomonitoring Unit: go to [www.dec.ny.gov/chemical/23847.html](http://www.dec.ny.gov/chemical/23847.html) and download the Quality Assurance Work Plan (methodology) and 30 Year Trends in Water Quality (summary of statewide findings).

Hudson River Estuary Program: go to [www.dec.ny.gov/lands/4920.html](http://www.dec.ny.gov/lands/4920.html) to download the Action Agenda, view the Top 12 Things Your Community Can Do to Protect Water Resources, and find other resources.

-  Non impacted
-  Slightly impacted
-  Moderately impacted
-  Severely impacted
-  Sub Drainage Basins (HUC11)
-  County Boundary
-  Town Boundary
-  USGS 7.5 Min Quads



## Wallkill River Watershed - New Paltz Area

Hudson River Estuary Watershed Assessment

