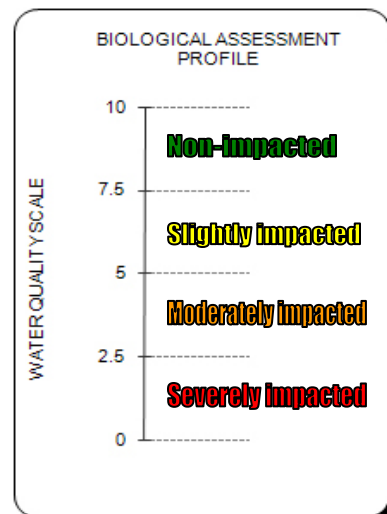


## Hudson River Estuary Watershed Assessment & Outreach Project

### 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 for the Wallkill River Watershed in NY

### 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 ten stream stations in the Wallkill River Watershed. Macroinvertebrate samples and basic physical and chemical data were collected in September 2006. A map depicting the sampling locations and impact categories is on pages 2-3 of this brochure. Water quality was non-impacted at four stations, slightly impacted at five stations, and moderately impacted at one station. The most likely cause of any water quality impacts is natural at six stations, non point source nutrient additions at three stations, and siltation at one station.



*Shawangunk Kill, station 21214, located at the end of Sax Rd. Shawangunk Ulster County NY.*

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

### Wallkill River Watershed -- Station Descriptions and Water Quality Findings

**Station 21215** in the main stem of the Wallkill River is located approximately 4 miles downstream of station 19088 at the USGS gaging station. The BAP score, 4.80, indicated moderately impacted water quality. The ISD indicated that non-point source nutrients were the most likely primary stressor causing these impacts but additional research is needed to track down the causes. This station had the lowest water quality of all 10 sampled in this assessment.

**Station 21216** in the Shawangunk Kill is located just below the CR 9 bridge. The BAP score, 7.30, indicated slightly impacted water quality, and compared to the upstream station 21214 water quality declined significantly. Genera richness declined by seven genera and EPT (mainly clean water organisms) declined by four genera. ISD, however, indicated a community structure most similar to a natural non-impacted community.

**Station 19088** in the main stem of the Wallkill River is located just above the CR 19 Bridge. The BAP score, 6.90, indicated slightly impacted water quality. The water appeared turbid and was malodorous. ISD indicated a community structure most similar to a natural community and similar to one affected by non-point source nutrients and siltation.

**Station 02A** in an unnamed tributary of the Wallkill River is located just below the Rt. 208 bridge. The BAP score, 5.60, indicated slightly impacted water quality. ISD was inconclusive. The stream banks were modified with rock and cement in this vicinity, which is likely to reduce habitat quality.

**Station 04A** in the Palmaghatt Kill is located just above the Lake Rd. bridge. The BAP score, 8.80, indicated non-impacted water quality and ISD was most similar to a natural non-impacted community.

**Station 21214** in the Shawangunk Kill is located at the end of Sax Rd. The BAP score, 8.50, indicated non-impacted water quality. The macroinvertebrate community structure was diverse with 24 genera. ISD was most similar to a natural non-impacted community.

**Station 02** in the Dwaar Kill is located approximately 1 mile below station 01A and just below the Watchtower Farm. The BAP score, 6.80, indicates slightly impacted water quality that dropped compared to the upstream site 01A. The substrate exhibited abundant sediment and filamentous algae growth. There was only one genus from the Perlidae (Stonefly) family in the sub-sample. ISD indicated a community most similar to a natural community structure.

**Station 01A** in the Dwaar Kill is located just above the CR 7 bridge. The BAP score, 7.80, is in the non-impacted water quality category. The community was diverse and included four genera from the Perlidae (Stonefly) family. ISD indicated a community structure most similar to a natural non-impacted community.

**Station 03** in the Verkeerder Kill is located just above Piorg Rd. bridge. The BAP score, 6.60, indicated slightly impacted water quality. ISD indicated the most likely cause of impacts was non-point source nutrient additions.

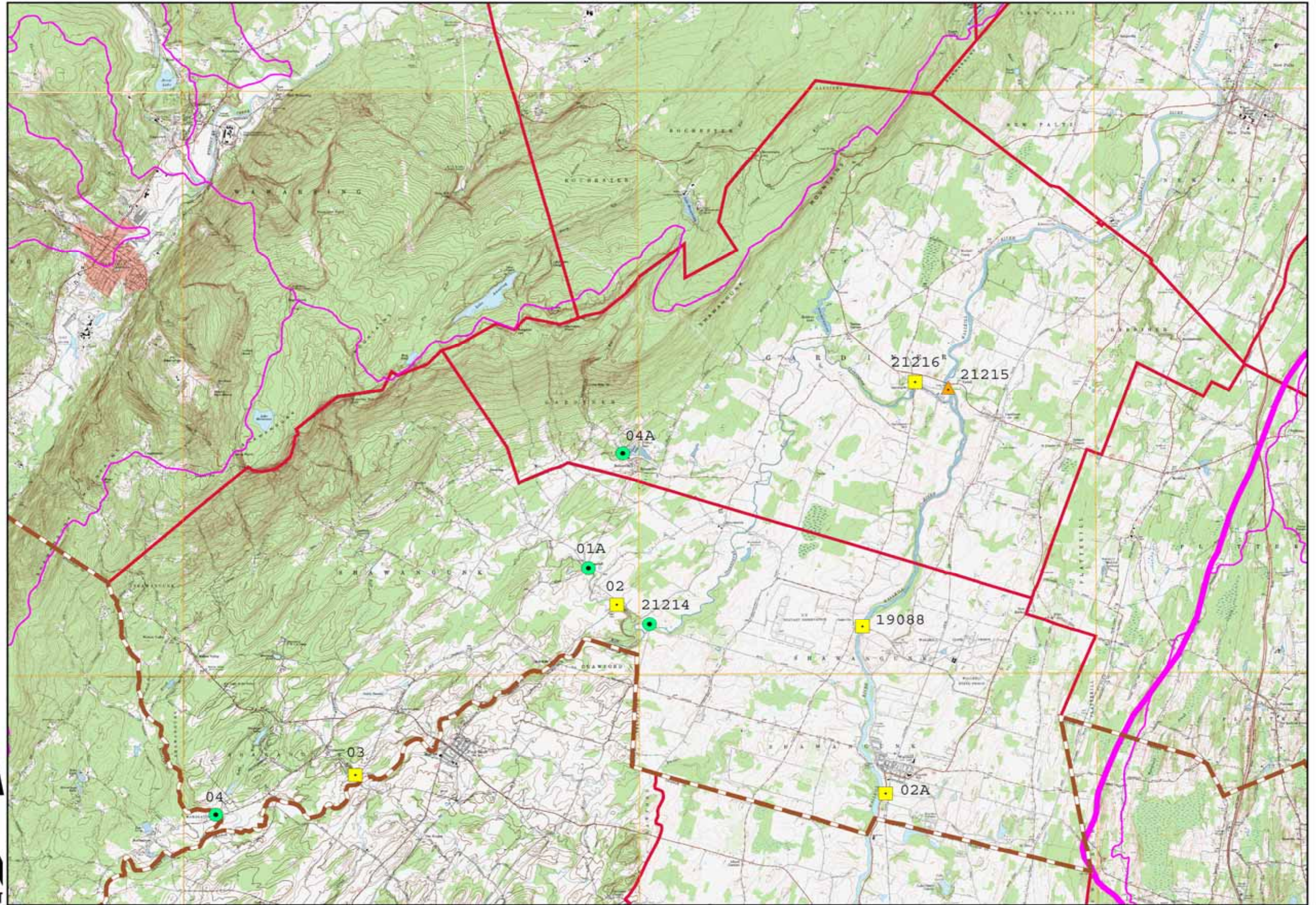
**Station 04** in the Platte Kill is located just above the CR 7 bridge. The BAP score, 8.60, indicated non-impacted water quality and ISD was most similar to a natural non-impacted community.

**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.



# Wallkill River Watershed - Southern Ulster County

Hudson River Estuary Watershed Assessment

