

Site Results for Group 3 Streams on the New York-Pennsylvania Border

Babcock Run (BABC)

Group 3



During May 2008, the macroinvertebrate community of Babcock Run near Cadis, Pa., was designated as slightly impaired, which displayed no change from the 2007 assessment. BABC scored well in percent Ephemeroptera and Shannon Diversity Index. However, pollution tolerant macroinvertebrates in the Chironomidae family were the dominant taxa, making up over 30 percent of the sample. BABC also possessed a poor EPT Index, with only nine total intolerant Ephemeroptera, Plecoptera, and Trichoptera taxa present. Physical habitat at BABC was rated as supporting in 2008 for the second consecutive year. Staff noted excellent instream cover, epifaunal substrate, and frequency of riffles. Sub-optimal habitat parameters observed at BABC included embeddedness and sediment deposition. Low flow conditions were observed at time of assessment, with pooled water observed between riffles and a braided channel. All field chemistry parameters were within acceptable limits. BABC is located in a mostly forested watershed, and the streambed is dominated by cobble substrate.

Bill Hess Creek (BILL)

Group 3



Bill Hess Creek near Route 49 in Nelson, Pa., was designated moderately impaired in 2008 for the third consecutive year. The macroinvertebrate community scored poorly in EPT Index and percent dominant taxa, while percent Ephemeroptera was excellent. Habitat at BILL was rated supporting in 2008, which remains unchanged from 2007. Staff rated velocity/depth regimes, channel flow status, and condition of banks poorly. However, embeddedness and frequency of riffles were excellent. Low flow and exposed substrate were observed during the 2008 assessment. Land use around BILL included forest and old fields, while substrate was predominately composed of boulder and cobble. All field chemistry parameters were within acceptable limits at the time of sampling.

Bird Creek (BIRD)

Group 3



The biological condition of Bird Creek, near Webb Mills, N.Y., was designated as slightly impaired for the second consecutive year in 2008, which remains degraded from the nonimpaired ranking it received in 2006. BIRD received excellent scores in Shannon Diversity Index, Hilsenhoff Index, and percent Ephemeroptera, while EPT Index was poor. Habitat was rated supporting at BIRD in 2008, which remained unchanged from 2007. Velocity/depth regimes and channel alteration were inadequate, but frequency of riffles and sediment deposition were excellent. BIRD is located in a forested area with few residential dwellings. Cobble and boulder dominated the substrate, and all field chemistry parameters were within acceptable limits at the time of sampling.

Biscuit Hollow (BISC)
Group 3



Biscuit Hollow near Austinburg, Pa., was not sampled in 2008 due to dry conditions.

In 2007, BISC received a slightly impaired biological rating and an excellent habitat score. Field chemistry parameters were all within acceptable ranges as well. BISC flows through pasture fields and possesses highly erodible banks along its length.

Briggs Hollow Run (BRIG)

Group 3



Briggs Hollow Run near Nichols, N.Y., had a slightly impaired biological community in 2008. BRIG contained a high percentage of Ephemeroptera taxa and also displayed a good Hilsenhoff Index, showing that the macroinvertebrate community contained large numbers of pollution intolerant taxa. Incongruously, BRIG also contained many pollution tolerant midges (Chironomidae) and had a low taxonomic richness. Physical habitat was rated supporting at BRIG, with excellent epifaunal substrate, instream cover, and frequency of riffles. However, BRIG has erosion problems stemming from poor condition of banks, vegetative protective cover, and riparian vegetative zone width. As evident in the picture, Briggs Hollow Run fills a small portion of the available channel. This is common among Group 3 streams and is a result of recent, large magnitude flooding events. All field chemistry parameters were within acceptable limits.

Bulkley Brook (BULK)

Group 3



Bulkley Brook near Knoxville, Pa., was not sampled in 2008 due to dry conditions.

In 2007, BULK had a moderately impaired macroinvertebrate community and supporting habitat conditions. Field chemistry parameters were all within acceptable limits in 2007.

Camp Brook (CAMP)

Group 3



Camp Brook near Osceola, Pa., had a slightly impaired macroinvertebrate community in 2008. CAMP had a high percentage of Ephemeroptera taxa and a good Shannon Diversity Index, but scored poorly in EPT Index and percent dominant taxa. However, CAMP received an excellent habitat rating, which is an improvement from the supporting rating it received in 2006 and 2007. CAMP had excellent epifaunal substrate and frequency of riffles. At the time of assessment in 2008, CAMP was experiencing low flow with much exposed substrate and abundant green filamentous algae. All field chemistry parameters were within acceptable ranges.

Cook Hollow (COOK)

Group 3

In May 2008, Cook Hollow near Austinburg, Pa., had a slightly impaired biological community for the fourth consecutive year. This site scored well in the Shannon Diversity Index and percent Ephemeroptera, but had large numbers of the pollution tolerant family, Chironomidae, which was the dominant taxon. Habitat was rated as supporting in 2008, which showed a decline from the excellent rating it received in 2007. Concerns with the habitat at COOK included sediment deposition, embeddedness, and the erodability of its banks. COOK has a mix of boulder and cobble substrate and is located in an area of agriculture and forest land. All field chemistry parameters were within acceptable limits during the time of sampling.

Deep Hollow Brook (DEEP)

Group 3



After serving as the reference site for the past three consecutive years with the highest biological community score among Group 3 streams, Deep Hollow Brook near Danville, N.Y., had a slightly impaired biological community in May 2008. Although DEEP maintained its excellent habitat rating in 2008, water quality and the macroinvertebrate community declined in value. Alkalinity exceeded acceptable limits (<20 mg/L PA Aquatic Life) at a value of 18 mg/L. The pH value was also slightly below the standard of 6.5–8.5 (NY General), with an observed value of 6.25 in May 2008. DEEP's biological community was rated as slightly impaired due to high numbers of midges (Chironomidae) and a low EPT Index. Deep Hollow Brook maintains exceptional habitat with little channel alteration, frequent riffles, and excellent riparian vegetative zone width. This stream is located in a mostly forested area, interspersed with scattered cropland and old fields. The sampling station at DEEP is located downstream of a beaver dam, which effectively controlled flow and prevented the channel from being washed out in the flooding of 2006.

Denton Creek (DENT)
Group 3



Denton Creek near Hickory Grove, Pa., had a slightly impaired biological community in May 2008, which showed improvement from the moderately impaired rating it received for the past three years. DENT scored poorly in the EPT Index and percent dominant taxa. However, DENT received an excellent score in the Hilsenhoff Index, showing that organic pollution is not affecting the macroinvertebrate community at this site. Habitat was rated excellent at DENT in 2008 because of the absence of channel alteration, frequent riffles, and abundant instream cover. Alkalinity and pH both fell below acceptable limits with values of 10 mg/L and 6.05, respectively.

Dry Brook (DRYB)

Group 3



Dry Brook at Waverly, N.Y., is an example of a stream that has been impacted by urban development. In May 2008, the biological community at DRYB was severely impaired. The pollution tolerant macroinvertebrate Chironomidae was the dominant taxa, while the entire sample had extremely low taxonomic richness and did poorly in the EPT Index. However, 13 percent of the sample were individuals of the order Ephemeroptera, which shows improvement from 2007 when no mayfly taxa were found. Additionally, DRYB scored poorly in the Hilsenhoff Index, which serves as evidence that organic pollution from surrounding development is stressing the biological community. Habitat was rated as partially supporting for the second year in a row, largely due to the lack of riparian vegetation as a result of mowed lawns and roads closely bordering each bank. Field chemistry parameters were all within acceptable limits. Staff noted that sewage odors once detected at DRYB were absent at sampling time in 2008.

Little Wappasening Creek (LWAP)
Group 3



Little Wappasening Creek near Nichols, N.Y., had a slightly impaired biological community in May 2008. LWAP scored poorly in the EPT Index, but scored well in the Shannon Diversity Index, Hilsenhoff Index, and percent Ephemeroptera. Habitat was rated as supporting with excellent instream cover and frequent riffles, but with poor velocity/depth regimes and vegetative protective cover along banks. All field chemistry parameters were within acceptable limits. LWAP has a primarily forested watershed and although it was dry in May 2007, it is an important tributary to another Group 3 stream, Sacketts Creek (SACK).

Parks Creek (PARK)

Group 3



For the fourth consecutive year, Parks Creek near Litchfield, N.Y., was designated as having a slightly impaired biological community. PARK scored well in the Hilsenhoff Index and percent Ephemeroptera indices, but scored poorly in percent dominant taxa. Habitat was rated as supporting due to poor velocity/depth regimes, channel flow status, and condition of banks. However, habitat at PARK scored well in sediment deposition and frequency of riffle categories. At the time of sampling, no field chemistry parameters exceeded acceptable limits. Staff noted that, similar to all Group 3 streams, PARK showed strong evidence of the 2006 flood. The channel was very large, while the stream filled little of the available space with large amounts of exposed substrate. Upstream of this site is densely forested, with development and closely cropped lawns along the left bank downstream.

Prince Hollow Run (PRIN)

Group 3



Prince Hollow Run near Cadis, Pa., was designated as moderately impaired in May 2008 for the second straight year. PRIN scored among the lowest of all Group 3 streams in EPT Index, percent Chironomidae, and percent dominant taxa. However, a strong population of Ephemeroptera taxa was found at this site. Habitat was rated as supporting and did show evidence of recovery in 2008 after the flooding in 2006, which devastated the channel and instream cover. Specifically, the banks are beginning to become stabilized by vegetation cover, and a new channel is being cut by the stream. PRIN is located in a largely agricultural area, with plowed fields near to the right bank. At the time of sampling, all field chemistry parameters were within acceptable limits.

Redhouse Run/ Beagle Hollow (REDH)

Group 3



Due to dry conditions, Redhouse Run near Osceola, Pa., was not sampled in May 2008. In 2007, REDH had slightly impaired biological conditions and supporting habitat.

Russell Run (RUSS)

Group 3



Russell Run near Windham, Pa., had a slightly impaired biological community in May 2008. High metric scores were given for the Shannon Diversity Index, Hilsenhoff Index, and percent Ephemeroptera. However, RUSS scored among the lowest of all Group 3 streams in EPT Index and taxonomic richness. Although staff noted low flow at the time of sampling, the habitat at RUSS was still rated as supporting due to excellent epifaunal substrate along with minimal embeddedness and sediment deposition. All field chemistry parameters were within acceptable limits. RUSS is located in a primarily forested area, which bodes well for its recovery after a recent flood left the channel widened and without instream cover.

Sackett Creek (SACK)

Group 3



Sackett Creek near Nichols, N.Y., was designated as having a slightly impaired biological community in May 2008. SACK scored well in the Shannon Diversity Index, Hilsenhoff Index, and percent Ephemeroptera, but did poorly in EPT Index. Habitat was rated as supporting, with poor channel flow status and channel alteration precluding an excellent rating. All field chemistry parameters were within acceptable limits at the time of sampling. SACK is located in a primarily forested watershed and is also the receiving stream for another Group 3 stream, Little Wappasening Creek (LWAP).

Smith Creek (SMIT)
Group 3



Smith Creek near East Lawrence, Pa., served as the reference site for all Group 3 streams in 2008. SMIT had the only biological community of all Group 3 streams that was designated as nonimpaired in May 2008. The habitat at SMIT was also rated excellent due to frequent riffles, excellent bank vegetative cover, and the absence of channel alteration. SMIT's location within a mixed coniferous forest and wetland area assists in maintaining this high quality aquatic resource. All field chemistry parameters were within acceptable limits at the time of sampling.

Strait Creek (STRA)

Group 3



Strait Creek near Nelson, Pa., had a slightly impaired biological community in May 2008. STRA scored poorly in the EPT Index, but all other metrics were at or above average. Habitat was rated as supporting, with poor scores recorded for velocity/depth regimes and bank vegetative protective cover. All field chemistry parameters were within acceptable limits at the time of sampling. Strait Creek appears to have been channelized at some point in the past and is located in a mixed use forest and agriculture/old field area.

White Branch Cowanesque River (WBCO)

Group 3



White Branch Cowanesque River near North Fork, Pa., possessed a severely impaired biological community, while habitat was rated excellent in May 2008. The biological community at WBCO has been declining since 2000, when it had a nonimpaired status. WBCO scored among the worst of all Group 3 streams in EPT Index, percent Ephemeroptera, percent Chironomidae, and percent dominant taxa, giving this site the worst combined bioassessment score of all Group 3 streams. However, habitat was rated excellent at WBCO because of good bank condition and vegetative cover, full channel flow status, and epifaunal substrate. Additionally, all field chemistry parameters were within acceptable limits during the time of sampling. Field chemistry analysis does not include nutrients or other pollutants, which could be the cause of the poor biological community in WBCO. Brown algae were observed by staff, suggesting that excessive nutrients could be adversely affecting water quality.

White Hollow (WHIT)

Group 3



White Hollow near Wellsburg, N.Y., had a slightly impaired macroinvertebrate community in 2008. This rating was a decline from 2007, when WHIT was designated as nonimpaired. WHIT received excellent ratings for Shannon Diversity and Hilsenhoff indices, as well as percent Ephemeroptera and Chironomidae. However, WHIT scored among the worst of all Group 3 streams in taxonomic richness, EPT Index, and percent dominant taxa. The physical habitat at WHIT was rated as supporting in 2008 for the second consecutive year. Parameters were scored as optimal to suboptimal with the exception of bank vegetative protective cover, which was marginal. All field chemistry parameters were within acceptable limits at the time of sampling. WHIT is a high gradient stream with cascading riffles and pools located in a mainly forested watershed. The exceedingly wide stream channel shows signs of recent flooding, with much exposed substrate.