

Group 3 Streams

Babcock Run (BABC)



During May 2006, the macroinvertebrate community of Babcock Run near Cadis, Pa., was designated as moderately impaired; which is a marked decline from last years nonimpaired rating. BABC had low metric scores for EPT Index, percent Chironomidae, and percent dominant taxa. The pollution tolerant Chironomidae midges were almost 60 percent of the entire sample. Physical habitat conditions were once again rated excellent, with good scores for epifaunal substrate, velocity/depth regimes, frequency of riffles, and vegetative protective cover. All field chemistry parameters were within acceptable limits. BABC is located in a mostly forested watershed, and the stream bed is dominated by cobble substrate.

Beagle Hollow/Redhouse Run (BEAG)



Slightly impaired biological conditions existed at Beagle Hollow Run (this stream is also sometimes called Redhouse Run) near Osceola, Pa., during May 2006. The sample contained a large number of organic pollution-intolerant organisms, such as the stonefly genus *Leuctra* (Plecoptera: Leuctridae) and the mayfly genus *Eperous* (Ephemeroptera: Heptageniidae). This resulted in high scores for Hilsenhoff Biotic Index and percent Ephemeroptera. However, taxonomic richness and Shannon Diversity did not rank very high. Habitat conditions were considered supporting, with good scores for frequency of riffles and vegetative protective cover but poor scores for condition of banks and riparian vegetative zone width. All field chemistry parameters were within natural ranges.

Bill Hess Creek (BILL)



Bill Hess Creek near Nelson, Pa., was designated moderately impaired, which is a decline from last years ranking of slightly impaired. The biological community showed poor scores for Shannon Diversity Index, Hilsenhoff biotic Index, and percent Chironomidae. Midges dominated the sample at greater than 60 percent of the sample. The habitat was rated supporting again this year, with low scores given for condition of banks, velocity/depth regimes, riparian vegetative zone, and channel flow status. All field chemistry parameters were within acceptable limits.

Bird Creek (BIRD)

Bird Creek near Webb Mills, N.Y., was designated as nonimpaired for biological condition. This site had good scores for EPT Index, percent Ephemeroptera, and percent Chironomidae. This was an improvement from last year's status as slightly impaired. The habitat at Bird Creek was designated as supporting primarily due to poor conditions of banks, velocity/depth regimes, and channel flow status. This site was located in a primarily residential area. All field chemistry parameters fell within acceptable ranges. Staff noted that nearly all of the cobble substrate was covered in algae.

Biscuit Hollow (BISC)

Slightly impaired biological conditions existed at Biscuit Hollow near Austinburg, Pa., during the 2006 survey, which is a decline from the last two years when the site was rated as nonimpaired. Biscuit Hollow had a good score for percent Ephemeroptera but just average scores for the other biotic index parameters. The physical habitat at this site was considered supporting, with poor scores given for sediment deposition, conditions of banks, velocity/depth regimes, and riparian vegetative zone width. The site had slightly eroded banks and was located in an area dominated by abandoned fields and an overgrown pasture, downstream of numerous old beaver dams. Staff noted evidence of cows frequently crossing through the stream. Field chemistry parameters were within acceptable ranges.

Briggs Hollow Run (BRIG)



Briggs Hollow Run near Nichols, N.Y., was designated slightly impaired during the 2006 sampling season for the second consecutive year. The sample showed with good metric scores for Hilsenhoff Biotic Index and percent Ephemeroptera. The very low metric score for Hilsenhoff Index means there were a large number of pollution intolerant organisms in the sample, such as the mayfly genera *Epeorus*. However, BRIG also had a fairly low taxonomic richness and Shannon Diversity Index. The physical habitat was designated as supporting and was given low scores for epifaunal substrate, embeddedness, channel flow status, and riparian vegetative zone width. All field chemistry parameters were within acceptable limits.

Bulkley Brook (BULK)

Bulkley Brook near Knoxville, Pa., had a slightly impaired biological community and excellent habitat conditions during the 2006 sampling season. The two lowest biological scores for this site were EPT Index and percent Chironomidae, which was also the dominant taxon. Habitat assessment showed high scores for instream cover, frequency of riffles, vegetative protective cover, and riparian vegetative zone width. BULK is located in a forested area downstream of a beaver dam and continues to have a well developed riparian zone. Field chemistry indicated that all parameters were within acceptable limits.

Camp Brook (CAMP)

Camp Brook near Osceola, Pa., improved from 2005 to have a nonimpaired biological community in May 2006, with high scores for EPT Index, Shannon Diversity Index, taxonomic richness, and percent Ephemeroptera. The biological community at CAMP consisted of a large number of the pollution intolerant mayfly genera *Epeorus* (Ephemeroptera: Heptageniidae). The physical habitat of the stream was designated supporting; low scores were given for condition of banks, velocity/depth regimes, riparian vegetative zone width, and channel flow status. All field chemistry parameters were in the normal range.

Cook Hollow (COOK)

Cook Hollow near Austinburg, Pa., had a slightly impaired biological community for the second straight year. This site had a fairly high EPT Index and taxonomic richness, but scored poorly for percentage of Chironomidae, which were the dominant taxa. The habitat was rated as supporting, with high scored for frequency of riffles, vegetative protective cover, and epifaunal substrate. However, habitat scores for embeddedness, sediment deposition, and riparian vegetative zone were marginal. All field chemistry parameters were within acceptable limits. Staff noted the presence of human garbage along the banks of Cook Hollow at this location.

Deep Hollow Brook (DEEP)

The biological community of Deep Hollow Brook near Danville, N.Y., served as the reference site for the Group 3 streams in 2006 for the second year in a row. This site had the best combination of biological, habitat, and field chemistry conditions of the Group 3 streams. DEEP had the highest taxonomic richness, Shannon Diversity Index, and EPT Index of all Group 3 streams. Alkalinity was slightly below the Pennsylvania aquatic life standard this year but all other field chemistry parameters were at acceptable levels. Habitat at DEEP was designated as excellent, with high scores for epifaunal substrate, frequency of riffles, instream cover, vegetative protective cover, and riparian vegetative zone width. This watershed was located in a mostly forested area, interspersed with scattered cropland and old fields, and the station was located downstream of a beaver dam.

Denton Creek (DENT)

Denton Creek near Hickory Grove, Pa., had a moderately impaired biological community during May 2006 for the second straight year. DENT had poor scores for several metrics, including EPT Index, Shannon Diversity Index, percent Ephemeroptera, and percent dominant taxa. The habitat was rated as excellent, with high scores for channel flow status, condition of banks, frequency of riffles, and vegetative protective cover. The sampling site was located downstream of Hawkins Lake. As in previous years, alkalinity values at DENT exceeded the water quality standards, but other field chemistry parameters were within acceptable limits in May 2006.

Dry Brook (DRYB)



Dry Brook at Waverly, N.Y., was sampled again in 2006 after being dry in 2005. The biological condition was rated as moderately impaired. Dry Brook had the poorest scores of all the Group 3 streams for Shannon Diversity Index, Hilsenhoff Biotic Index, percent Chironomidae, and percent dominant taxa. Habitat was rated as partially supporting with low scores for riparian vegetative zone, velocity/depth regimes, condition of banks, and sediment deposition. This site is located in a primarily residential area. Staff noted the presence of human refuse around the site. All field chemistry parameters were within the acceptable range.

Little Wappasening Creek (LWAP)

The biological community of Little Wappasening Creek near Nichols, N.Y., was designated as nonimpaired in May 2006, due to high scores for Hilsenhoff Biotic Index and taxonomic richness. This site was dominated by the pollution intolerant mayfly genus *Epeorus* (Ephemeroptera: Heptageniidae). This was a large shift from last year's sample which was dominated by midges. The physical habitat at LWAP was rated as supporting this year after being rated as partially supporting last year. Low scores were again given for channel flow status, and condition of banks; but the site scored high for instream cover, frequency of riffles, and riparian vegetative zone. In 2001, dredging equipment was found in the stream, and timber was being removed from the streambanks. Since that time, no evidence of dredging or timber removal was noted. All field chemistry parameters remained normal.

Parks Creek (PARK)



Parks Creek was sampled near Litchfield, N.Y., and was designated as having a slightly impaired biological community for the second straight year. This site scored high on the Hilsenhoff Biotic Index and percentage of Chironomidae but fairly low for EPT Index and taxonomic richness. Parks Creek had an excellent habitat ranking in 2006, with high scores for a number of parameters, including epifaunal substrate, sediment deposition, frequency of riffles, and riparian vegetative zone. At the time of sampling, staff noted that the bank conditions were poor on both left and right banks. The predominant land use is forested, with a considerable amount of woody debris and fallen trees in the stream channel. All field chemistry parameters were within acceptable ranges.

Prince Hollow Run (PRIN)



Prince Hollow Run near Cadis, Pa., was designated slightly impaired in May 2006, showing a slight decline from its nonimpaired rating last year but still better than the severely impaired conditions of past years. This site had very low scores for percent Chironomidae, which were the dominant taxa. However, Prince Hollow Run did show good scores for taxonomic richness EPT Index. The habitat was rated as supporting, with low scores for condition of banks, embeddedness, and riparian vegetative zone width but high scores for frequency of riffles and epifaunal substrate. At the time of sampling, staff noted the presence of human trash along the stream banks. All field chemistry parameters were within the acceptable ranges.

Russell Run (RUSS)

Russell Run near Windham, Pa., was designated as nonimpaired, which is an improvement from the past two years of slightly impaired ratings. High metric scores were given for Shannon Diversity Index, Hilsenhoff Biotic Index, and percent Ephemeroptera. The habitat at RUSS was considered supporting, with low scores given for sediment deposition and condition of banks, but high scores for channel alteration, frequency of riffles, and vegetative protective cover. Russell Run is located in a primarily forested area and staff noted that much of the substrate was covered with algae. All field chemistry parameters were normal.

Sackett Creek (SACK)

The biological condition and habitat at Sackett Creek near Nichols, N.Y., were both improved in 2006. SACK was designated as slightly impaired for biology, and the physical habitat was rated supporting. This site had the lowest taxonomic richness of all the Group 3 streams but showed good scores for Hilsenhoff Biotic Index and percent Ephemeroptera. Habitat was rated high for epifaunal substrate, frequency of riffles, and vegetative protective cover, but had low scores for condition of banks and channel flow status. All field chemistry parameters were within normal ranges.

Smith Creek (SMIT)



Smith Creek near East Lawrence, Pa., was designated as having a nonimpaired biological community with supporting physical habitat in May 2006. SMIT had the best score for percent dominant taxa of all the Group 3 streams and also had above average scores for Shannon Diversity Index, taxonomic richness, and EPT Index. Low habitat scores were given for a number of parameters, including sediment deposition, velocity/depth regimes, embeddedness, and riparian vegetative zone width. This small stream drains a wetland area and mixed coniferous forest. There were no field chemistry parameters that exceeded state limits.

Strait Creek (STRA)



A nonimpaired biological community existed at Strait Creek near Nelson, Pa., during fiscal year 2006, for the second consecutive year. The site received excellent rankings for Hilsenhoff Biotic Index due to the number of pollution intolerant genera such as the mayfly *Epeorus* (Ephemeroptera; Heptageniidae) and the stonefly *Alloperla* (Plecoptera: Choloroperlidae). The physical habitat was designated supporting, and all field chemistry parameters were within normal limits. Low habitat scores were given for channel flow status, condition of banks, and riparian vegetative zone width. However, frequency of riffles and vegetative protective cover were rated as optimal.

White Branch Cowanesque River (WBCO)

In May 2006, White Branch Cowanesque River near North Fork, Pa., was designated moderately impaired for the third consecutive year, with the worst metric scores for Hilsenhoff Biotic Index, EPT Index, and percent Ephemeroptera. Additionally, it scored very low for taxonomic richness, percent Chironomidae, and percent dominant taxa. The sample was dominated by midges, comprising 46 percent of the sample. WBCO had been nonimpaired in May 2000 with a number of pollution intolerant taxa, but degraded to severely impaired by May 2003. However, the habitat was excellent due to high scores for frequency of riffles, condition of banks, vegetative protective cover, and epifaunal substrate. WBCO is located downstream of an impoundment. Field chemistry measurements were within acceptable ranges. Staff noted survey markers along stream that looked like a possible stream bank restoration project.

White Hollow (WHIT)

White Hollow near Wellsburg, N.Y., was designated as slightly impaired in fiscal year 2006, which was a decline from last years nonimpaired rating. The biological index score was high for Hilsenhoff Biotic Index and percent Chironomidae, but a poor score for taxonomic richness. This site was dominated by the pollution intolerant mayfly, *Epeorus* (Ephemeroptera: Heptageniidae) again this year. The physical habitat was supporting, with lower scores for channel flow status, sediment deposition, and condition of banks; but high scores for frequency of riffles and vegetative protective cover. All water chemistry parameters were within the normal range.