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

**Babcock Run (BABC)**

**Group 3**

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 26 | Slightly Impaired |
| 2008 | 22 | Slightly Impaired |
| 2009 | 24 | Slightly Impaired |
| 2010 | 28 | Slightly Impaired |
| 2011 | 14 | Moderately Impaired |

In May 2011, SRBC staff assessed Babcock Run near Cadis, Pa. Overall physical habitat was rated as supporting within minimal channel alteration with frequent, well-developed riffles. The station suffered biologically from poor taxonomic richness and possessed relatively few EPT taxa. All water quality parameters tested within acceptable limits.

**Bill Hess Creek (BILL)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 16 | Moderately Impaired |
| 2008 | 16 | Moderately Impaired |
| 2009 | 22 | Slightly Impaired |
| 2010 | 28 | Slightly Impaired |
| 2011 | 18 | Slightly Impaired |

Bill Hess Creek, located near Route 49 in Nelson, Pa., received a biological condition rating of slightly impaired when sampled in 2011. This represents the third consecutive year the stream has attained this classification. The macroinvertebrate sample scored well on the Shannon Diversity Index but lacked significant numbers of EPT taxa. Overall physical habitat was rated as supporting. All water quality parameters tested within acceptable limits.

**Bird Creek (BIRD)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 28 | Slightly Impaired |
| 2008 | 28 | Slightly Impaired |
| 2009 | 30 | Nonimpaired |
| 2010 | 30 | Nonimpaired |
| 2011 | 18 | Slightly Impaired |

SRBC staff assessed Bird Creek located near Webb Mills, N.Y., in May 2011. Water chemistry parameters measured in the field were all within accepted criteria. Overall available physical habitat was rated as supporting. Streambank erosion issues identified in prior surveys remained evident in the 2011 habitat assessment. The biological condition rating of Bird Creek declined to slightly impaired after two years of attaining a nonimpaired status. The macroinvertebrate sample possessed a large proportion of Ephemeroptera taxa but did score poorly on the modified Hilsenhoff Index.

**Biscuit Hollow (BISC)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 22 | Slightly Impaired |
| 2008 | NA | NA |
| 2009 | 10 | Moderately Impaired |
| 2010 | 24 | Slightly Impaired |
| 2011 | 22 | Slightly Impaired |

Biscuit Hollow, near Austinburg, Pa., received a biological condition rating of slightly impaired when SRBC staff evaluated the stream in May 2011. BISC possessed the highest taxonomic richness of all Group 3 streams surveyed in 2011, netting 29 distinct taxa. Available physical habitat was rated as excellent and conditions continued to improve as surrounding pasture lands revert back to forest. All measured water quality parameters fell within accepted limits.

**Briggs Hollow Run (BRIG)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 24 | Slightly Impaired |
| 2008 | 26 | Slightly Impaired |
| 2009 | 26 | Slightly Impaired |
| 2010 | 30 | Nonimpaired |
| 2011 | 24 | Slightly Impaired |

Briggs Hollow Run near Nichols, N.Y., received a slightly impaired rating of its biological community in 2011. The macroinvertebrate sample contained good taxonomic evenness and a favorable Shannon Diversity Index score. Available physical habitat was rated as supporting with minimal embeddedness and good riffle frequency. Bank conditions were problematic with poor vegetative protective cover on the left descending bank. All measured water quality parameters tested within acceptable limits.

**Bulkley Brook (BULK)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 12 | Moderately Impaired |
| 2008 | NA | NA |
| 2009 | 26 | Slightly Impaired |
| 2010 | 32 | Nonimpaired |
| 2011 | 26 | Slightly Impaired |

SRBC staff evaluated Bulkley Brook, near Knoxville, Pa., in May 2011. BULK received a biological condition rating of slightly impaired and a habitat assessment rating of supporting. The site possessed generally favorable habitat conditions despite lower flow conditions at the time of the survey. All measured water quality parameters tested within acceptable limits.

## Camp Brook (CAMP)

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 26 | Slightly Impaired |
| 2008 | 24 | Slightly Impaired |
| 2009 | 8 | Moderately Impaired |
| 2010 | 12 | Moderately Impaired |
| 2011 | 28 | Nonimpaired |

Camp Brook, located outside of Osceola, Pa., received a nonimpaired biological condition assessment in 2011. The macroinvertebrate sample taken from this stream possessed the best overall rating since the 2006 monitoring year. Despite receiving mostly sub-optimal physical habitat parameter ratings, the overall assessment classified the stream as supporting. Key areas for improvement included velocity/depth regimes and sediment deposition. All measured water quality parameters tested within acceptable limits.

**Cook Hollow (COOK)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 28 | Slightly Impaired |
| 2008 | 26 | Slightly Impaired |
| 2009 | 24 | Slightly Impaired |
| 2010 | 28 | Slightly Impaired |
| 2011 | 22 | Slightly Impaired |

Cook Hollow Brook, near Austinburg, Pa., attained a biological condition rating of slightly impaired for the sixth consecutive year. The available physical habitat was rated as excellent featuring a minimally altered channel and frequent riffles. Bank conditions and vegetative protective widths received the highest scores of all Group 3 streams monitored in 2011. All measured water quality parameters tested within acceptable limits.

**Deep Hollow Brook (DEEP)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 40 | Nonimpaired |
| 2008 | 26 | Slightly Impaired |
| 2009 | 30 | Nonimpaired |
| 2010 | 30 | Nonimpaired |
| 2011 | 24 | Slightly Impaired |

Deep Hollow Brook, assessed near Danville, N.Y., received a biological condition rating of slightly impaired in 2011. Available physical habitat was deemed excellent as the stream is located in a mostly forested drainage. Deep Hollow Brook possessed a diverse macroinvertebrate community but was limited by a high proportion of a single dominant taxa. Alkalinity was determined to be 18 mg/L which falls under Pennsylvania's water quality criteria of 20 mg/L.

**Denton Creek (DENT)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 20 | Moderately Impaired |
| 2008 | 22 | Slightly Impaired |
| 2009 | 18 | Slightly Impaired |
| 2010 | 14 | Moderately Impaired |
| 2011 | 10 | Moderately Impaired |

SRBC staff assessed Denton Creek near the Hawkins Pond Nature Area outside of Hickory Grove, Pa., in May 2011. The stream received a biological condition rating of moderately impaired. Limiting biological conditions were low overall taxonomic richness and a high (33 percent) proportion of pollution tolerant Chiromidae taxa. Measured alkalinity was found to be 12 mg/L which is below the Pennsylvania water quality criteria of 20 mg/L. Available physical habitat was rated as excellent with optimal epifaunal substrate and instream cover.

**Dry Brook (DRYB)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 2 | Severely Impaired |
| 2008 | 8 | Slightly Impaired |
| 2009 | 10 | Moderately Impaired |
| 2010 | 26 | Slightly Impaired |
| 2011 | 16 | Moderately Impaired |

Dry Brook, sampled in Waverly, Pa., possessed a moderately impaired biological community when sampled in May 2011. Available physical habitat was classified as supporting. Dry Brook continues to be one of the most impaired Group 3 streams within the monitoring project. Draining a highly developed and populated watershed, depressed biological conditions have persisted at this site throughout the majority of the duration of the Interstate Streams Monitoring Project. All measured water quality parameters tested within acceptable limits.

**Little Wappasening Creek (LWAP)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | NA | NA |
| 2008 | 30 | Slightly Impaired |
| 2009 | 28 | Nonimpaired |
| 2010 | 36 | Nonimpaired |
| 2011 | 24 | Slightly Impaired |

Little Wappasening Creek near Nichols, N.Y., received a biological condition rating of slightly impaired when assessed by SRBC staff in May 2011. Supported by available physical habitat rated as excellent, the stream continued to score well across a variety of macroinvertebrate evaluation indices. All measured water quality parameters tested within acceptable limits.

**Parks Creek (PARK)**

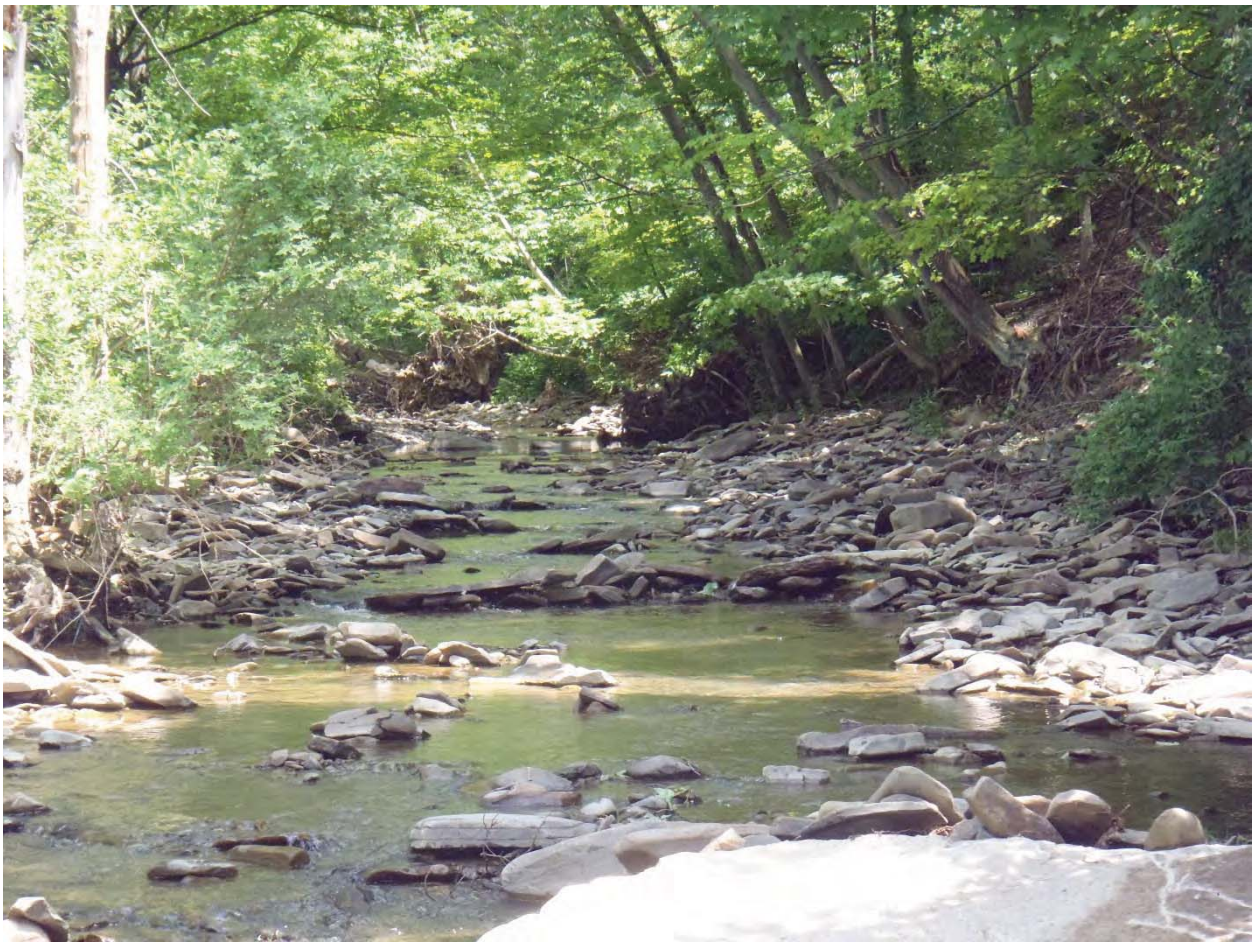
Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 24 | Slightly Impaired |
| 2008 | 26 | Slightly Impaired |
| 2009 | 26 | Slightly Impaired |
| 2010 | 24 | Slightly Impaired |
| 2011 | 28 | Nonimpaired |

Parks Creek near Litchfield, N.Y., was designated as having a nonimpaired biological community in 2011 after receiving a rating of slightly impaired for the previous six years. The biological community received high scores in the Modified Hilsenhoff Index, percent Ephemeroptera, and percent Chironomidae in particular. Available physical habitat was classified as supporting. All measured field chemistry parameters were within acceptable limits at the time of sampling.

**Prince Hollow Run**

Group 3



| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 8 | Moderately Impaired |
| 2008 | 14 | Moderately Impaired |
| 2009 | 16 | Moderately Impaired |
| 2010 | 20 | Slightly Impaired |
| 2011 | 24 | Slightly Impaired |

Prince Hollow Run near Cadis, Pa., received a biological condition rating of slightly impaired when sampled in May 2011. Despite the sub-optimal biological rating, the stream has continued to show gradual improvement from previous sampling efforts. The biological community scored well in most categories with the exception of the EPT Index. Available physical habitat was rated as supporting. All measured water quality parameters tested within acceptable limits.

**Redhouse Run/Beagle Hollow (REDH)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 22 | Slightly Impaired |
| 2008 | NA | NA |
| 2009 | 22 | Slightly Impaired |
| 2010 | 34 | Nonimpaired |
| 2011 | 24 | Slightly Impaired |

Redhouse Run (Beagle Hollow) located near Osceola, Pa., received a biological condition rating of slightly impaired in 2011. The stream did have a measured pH value of 8.65 which is above the water quality standards of the state of New York. Available physical habitat was rated as supporting. Habitat areas of concern are primarily on the left descending bank which lies adjacent to Holden Brook Rd. SRBC staff noted a narrow riparian buffer and a lack of vegetative protective cover.

**Russell Run (RUSS)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 22 | Slightly Impaired |
| 2008 | 28 | Slightly Impaired |
| 2009 | 24 | Slightly Impaired |
| 2010 | 24 | Slightly Impaired |
| 2011 | 14 | Moderately Impaired |

Russell Run near Windham, Pa., had a moderately impaired biological community when sampled in May 2011. This designation represents declining conditions when compared to previous data. In May 2006, the biological community was rated as nonimpaired. Physical habitat remains designated as supporting and all measured water quality parameters tested within acceptable limits.

**Sacket Creek (SACK)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 28 | Slightly Impaired |
| 2008 | 28 | Slightly Impaired |
| 2009 | 32 | Nonimpaired |
| 2010 | 26 | Slightly Impaired |
| 2011 | 22 | Slightly Impaired |

SRBC staff surveyed Sackett Creek near Nichols, N.Y., in May 2011. The biological condition was rated as slightly impaired and available physical habitat was deemed supporting. Instream habitat features rated well, though the site appeared limited by unstable, eroding banks. Biological conditions were limited by few low taxonomic richness, particularly few EPT taxa. All measured water quality parameters tested within acceptable limits.

**Smith Creek (SMIT)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 34 | Nonimpaired |
| 2008 | 38 | Nonimpaired |
| 2009 | 26 | Slightly Impaired |
| 2010 | 36 | Nonimpaired |
| 2011 | 8 | Moderately Impaired |

Located near East Lawrence, Pa., Smith Creek was surveyed by SRBC staff in May 2011. In 2010, Smith Creek was designated as the reference site to which all other Group 3 streams were compared. While physical habitat remained excellent, the biological condition of the stream was rated as moderately impaired. It is noted that the macroinvertebrate sample for this site did not contain enough organisms for a quality subsample. Biological conditions reported in 2011 may not accurately reflect the condition of the stream. All measured water quality parameters tested within acceptable limits.

**Strait Creek (STRA)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 26 | Slightly Impaired |
| 2008 | 30 | Slightly Impaired |
| 2009 | 18 | Slightly Impaired |
| 2010 | 30 | Nonimpaired |
| 2011 | 32 | Nonimpaired |

Possessing the highest biological condition score of all Group 3 streams in 2011, Strait Creek near Nelson, Pa., was designated as the reference stream to which all other Group 3 streams were compared. All measured water quality parameters tested within acceptable limits. Available physical habitat conditions continue to improve and were rated as excellent. In 2011, Strait Creek possessed the best combination of biological condition, water quality, and available physical habitat amongst all Group 3 streams.

**White Branch Cowanesque River (WBCO)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 2 | Severely Impaired |
| 2008 | 6 | Severely Impaired |
| 2009 | 8 | Moderately Impaired |
| 2010 | 0 | Severely Impaired |
| 2011 | 4 | Severely Impaired |

Located immediately downstream of a recently completed reservoir, the White Branch of Cowanesque River received a biological condition rating of severely impaired. This site is the only Group 3 stream to receive this designation. Water quality parameters were found to be within accepted limits but the presence of the reservoir upstream and associated impacts appears to be severely restricting the biological community of the stream at the sampling site. Physical habitat assessed downstream of the reservoir and its influence was rated as excellent.

**White Hollow (WHIT)**

Group 3

| Biological Condition | | |
|---|---|---|
| Year | Score | Rating |
| 2007 | 36 | Nonimpaired |
| 2008 | 23 | Slightly Impaired |
| 2009 | 24 | Slightly Impaired |
| 2010 | 22 | Slightly Impaired |
| 2011 | 22 | Slightly Impaired |

White Hollow, near Wellsburg, N.Y., received a biological condition rating of slightly impaired when sampled in May 2011. Available physical habitat was designated as excellent, featuring optimal riffle frequency and minimal channel alteration and embeddedness. Measured water quality parameters were all within acceptable limits.