



Lower Susquehanna River Watershed (0205010113)

Water Index Number

SR (portion 5)
 SR- 45 thru 78 (selected)
 SR- 53
 SR- 64
 SR- 64-5-Pxx
 SR- 66
 SR- 78-P173

Waterbody Segment

Susquehanna River, Main Stem (0601-0182)
 Minor Tribs to Susquehanna River (0601-0028)
 Park Creek and tribs (0601-0031)
 Little Snake Creek and tribs (0601-0042)
 Clines Pond (0601-0063)
 Snake Creek and tribs (0601-0043)
 Hawkins Pond (0601-0064)

Category

Impaired Seg
 Minor Impacts
 Impaired Seg
 NoKnownImpct
 UnAssessed
 NoKnownImpct
 UnAssessed

Susquehanna River, Main Stem (0601-0182)

Impaired Seg

Waterbody Location Information

Revised: 06/23/2009

Water Index No: SR (portion 5) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/ **Str Class:** A Upper Susquehanna
Waterbody Type: River (High Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 16.7 Miles **Quad Map:** BINGHAMTON EAST (M-17-3) ...
Seg Description: from Binghamton to NY-Pa state line nr Riverside

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Possible
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: Nutrients, Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPHERIC DEPOSITION
Possible: Agriculture

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Water supply uses of this portion of the Susquehanna River are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed and the number of wastewater discharges. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included sampling sites on the Susquehanna River in Conklin (at Sandy Beach Park). Sampling results at the site indicated slightly impacted conditions, but very near the non-impacted range. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream. These results are consistent with previous sampling conducted at this site in 1997 which revealed non-impacted conditions, with a diverse and well-balanced fauna dominated by clean water mayflies. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Source (Drinking) Water Assessment

A source water assessment of Susquehanna River found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. There is also an elevated potential for contamination due to the total amount of wastewater discharged in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Binghamton. (NYSDOH, Source Water Assessment Program, 2005)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the Rock Bottom Dam in Binghamton to the NY-PA state line near Riverside. This reach of the river is Class A from the Rock Bottom Dam to a point one mile upstream of the Conklin-Kirkwood bridge (near Conklin Station) and is designated Class B for the remainder of the reach.

Minor Tribs to Susquehanna River (0601-0028)

MinorImpacts

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR- 45 thru 78 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/ **Str Class:** C Upper Susquehanna
Waterbody Type: River (Low Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 3.0 Miles **Quad Map:** BINGHAMTON WEST (M-17-4) ...
Seg Description: total length of selected tribs fr Binghamton to Pa line

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: SILT/SEDIMENT
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: CONSTRUCTION (resident, comm develop), URBAN/STORM RUNOFF
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in these small tribs to the Susquehanna are thought to be affected by silt/sedimentation from ongoing land development and residential construction project. Sampling has been limited to only a few of the multiple tribs that make up this segment, but results for these streams are considered to be representative of the segment as a whole.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Pierce Creek in Binghamton (at Beldon Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and high levels of enrichment that are sufficient to cause stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by aquatic toxicity. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies during previous (1996) assessment efforts regarding rapid urbanization of the watershed and the resulting deterioration of streambed and banks. The Town of Binghamton does not require stormwater detention basins in new subdivision, which would help the situation. (Broome County WQCC, 1998)

Segment Description

This segment includes the total length of selected/smaller tribs to the Susquehanna River from Chenango River (-44) and the PA state line. Tribs within this segment, including Park Creek (-45), Brandywine Creek (-46), Pierce Creek (-47), Acre Creek (-50), Stratton Mill Creek (-52), Carlin Creek (-57), Riverside Creek (-67) and Trowbridge Creek (-68), are Class C,C(T). Chenango River (-44), Park Creek (-53), Little Snake Creek (-64) and Snake Creek (-66) are listed separately.

Park Creek and tribs (0601-0031)

Impaired Seg

Waterbody Location Information

Revised: 09/10/2009

Water Index No: SR- 53
Hydro Unit Code: 02050101/370 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 0.5 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 7/Broome Co. (4)
Quad Map: BINGHAMTON EAST (M-17-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
RECREATION	Impaired	Known
Habitat/Hydrology	Stressed	Possible
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (odors, floatables), NUTRIENTS (phosphorus), PATHOGENS
Suspected: D.O./Oxygen Demand
Possible: Restricted Passage

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (West Windsor)
Suspected: - - -
Possible: Habitat Modification

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg7
TMDL/303d Status: 1->4b

Resolution Potential: High

Further Details

Overview

Recreational uses (swimming, fishing), aesthetics and aquatic life support are thought to be impaired by raw sewage discharges from failing/inadequate on-site septic systems.

Source Assessment

A subdivision was built with central sewers in mind. However, only septic tanks have been installed and the effluent from these enters a central pipe which flows untreated into a field below the subdivision and into the creek. There are other ongoing septic system problems in the hamlet of West Windsor as well. However the Town of Windsor recently broke ground for a new wastewater treatment plant for the hamlet of West Windsor. This 110,000 gpd plant will serve about 350 homes, about 80% of which have failing on-site systems. (DEC/DOW, Region 7, June 2009)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Park Creek in Binghamton (at Beldon Road) was conducted as part of

the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be satisfactory. The nutrient biotic index and impact source determination indicate some/elevated enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. This sampling indicates that in spite of these impacts, aquatic life support is considered to be fully supported at this site. However known impacts upstream result in impaired uses in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Habitat Assessment

DEC fisheries staff indicated during a previous assessment effort in 2000, that the stream channel and fishery habitat was impacted by past and on-going NYS DOT work on Route 17 (future I-86). This work included several long culverts which restrict fish passage. (DEC/DFWMR, Region 7, October 2000).

Section 303(d) Listing

Park Creek is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for pathogens. However based on the construction of the wastewater treatment plant that is currently underway, it is considered more appropriate to include this waterbody among "category 4b" waters, for which required control measures other than a TMDL are expected to restore uses. As a result, this waterbody will be proposed for delisting in the 2010 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Stanley Hollow Creek (-1), are also Class C.

Little Snake Creek and tribs (0601-0042)

NoKnownImpct

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR- 64
Hydro Unit Code: 02050101/340 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 50.5 Miles **Reg/County:** 7/Broome Co. (4)
Seg Description: entire stream and tribs (within NYS) **Quad Map:** BINGHAMTON EAST (M-17-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Assessment of Little Snake Creek in Brackney, PA, by the Susquehanna River Basin Commission has found non-impacted to slightly impacted conditions in the years from 2002 through 2006. These results reflect an improvement over moderately impaired conditions in 1997, though the 1997 results may have been influenced by low flows. (Assessment of Interstate Streams, SRBC, 2007)

Segment Description

This segment includes the entire stream and all tribs within New York State. The waters of the stream are Class C. Tribs to this reach/segment, including Gratsinger Run (-3), Horton Creek (-4) and Upper Little Snake Creek (-5), are also Class C. Above Upper Little Snake Creek (-5) stream is known as West Fork Little Snake Creek.

Snake Creek and tribs (0601-0043)

NoKnownImpet

Waterbody Location Information

Revised: 09/16/2009

Water Index No:	SR- 66	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/300	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	1.7 Miles	Quad Map:	BINGHAMTON EAST (M-17-3)
Seg Description:	entire stream and tribs (within NYS)		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Snake Creek in Corbettsville, Broome County, (at Route 7A and RR bridge) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted to slightly impacted water quality conditions, indicating good to very good water quality. Water column sampling revealed no parameter of concerns. Sediment screening for acute toxicity indicated no sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of Snake Creek in Corbettsville in 1998 also indicated non-impacted water quality conditions. Filter-feeding caddis were dominant, indicating some enrichment, but the fauna was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Assessment of Snake Creek in Brookdale, PA, by the Susquehanna River Basin Commission in 1998 also found a non-impaired biological community and excellent habitat conditions. The site was designated as a reference site. (Assessment of Interstate Streams, SRBC, May 2007)

Previous Assessment

Concerns were raised in a previous assessment effort in 1998 regarding habitat disturbances from "stone pickers" who gather river stone and rock to sell to landscape companies. Methods of picking varies from hand collection of surface stones to raking up the stream bottom with fork lift-type machinery. A number of complaints have been received about this activity occurring in Snake Creek. Such practices should continue to be monitored. (DEC/DOW, BWAM/WQAS, August 2009)

Segment Description

This segment includes the entire stream and all tribs within New York State. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.