



## Upper Chenango River Watershed (0205010205)

### Water Index Number

SR- 44 (portion 5)  
 SR- 44-71  
 SR- 44-71- 1  
 SR- 44-71- 1-5  
 SR- 44-72  
 SR- 44-72- 8-P129  
 SR- 44-72-17  
 SR- 44-72-24-P136  
 SR- 44-74  
 SR- 44-76-P146  
 SR- 44-78  
 SR- 44-78- 3-P148  
 SR- 44-78-P152  
 SR- 44-79-P153

### Waterbody Segment

Chenango River, Upper, and minor tribs (0602-0165)  
 Pleasant Brook and minor tribs (0602-0071)  
 Cold Spring Brook and minor tribs (0602-0155)  
 South Lebanon Brook and tribs (0602-0156)  
 Sangerfield River and minor tribs (0602-0072)  
 Poolville Pond (0602-0107)  
 Hunt Creek and tribs (0602-0051)  
 Gorton Lake (0602-0040)  
 Stone Mill/Lebanon Brook and tribs (0602-0157)  
 Earlville/Craine Lake (0602-0108)  
 Payne Brook and tribs (0602-0003)  
 Woodman Pond (0602-0048)  
 Lake Moraine (0602-0007)  
 Lebanon Reservoir (0602-0109)

### Category

Impaired Seg  
 Need Verific  
 UnAssessed  
 UnAssessed  
 NoKnownImpct  
 UnAssessed  
 NoKnownImpct  
 Minor Impacts  
 UnAssessed  
 NoKnownImpct  
 Minor Impacts  
 UnAssessed  
 Minor Impacts  
 Minor Impacts

**Water Index Number**

SR- 44-79-P153-1a-P153a  
SR- 44-80-P154  
SR- 44-80-P154-1-P155  
SR- 44-82  
SR- 44-82-P163  
SR- 44-83-P163a  
SR- 44-P110  
SR- 44-P94

**Waterbody Segment**

Seymour Pond (0602-0110)  
[Bradley Brook Reservoir \(0602-0111\)](#)  
[Hatch Lake \(0602-0112\)](#)  
Eaton Brook and tribs (0602-0159)  
[Eaton Brook Reservoir \(0602-0041\)](#)  
Electric Light Pond (0602-0114)  
Mead Pond (0602-0115)  
[Lake Warn \(0602-0116\)](#)

**Category**

UnAssessed  
NoKnownImpct  
NoKnownImpct  
UnAssessed  
NoKnownImpct  
UnAssessed  
UnAssessed  
UnAssessed  
Minor Impacts

# Chenango River, Upper, and minor tribs ( 0602-0165)

Impaired Seg

## Waterbody Location Information

Revised: 09/17/2009

**Water Index No:** SR- 44 (portion 5)      **Drain Basin:** Susquehanna River  
**Hydro Unit Code:** 02050102/020      **Str Class:** C(T)      Chenango River  
**Waterbody Type:** River      **Reg/County:** 7/Madison Co. (27)  
**Waterbody Size:** 86.4 Miles      **Quad Map:** ()  
**Seg Description:** stream and select tribs, above Randallville

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

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Suspected
Aquatic Life	Stressed	Known

### Type of Pollutant(s)

Known: ---  
Suspected: METALS (mercury), Nutrients (nitrite, phosphorus), Silt/Sediment, Unknown Toxicity  
Possible: ---

### Source(s) of Pollutant(s)

Known: ---  
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Municipal (Morrisville WWTP)  
Possible: Urban/Storm Runoff

## 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\*

## Further Details

### Overview

Fish consumption in this portion of the Chenango 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. Aquatic life support in the stream experiences minor impacts and threats due to elevated nutrient levels and sediment loadings. Agricultural and other nonpoint sources are likely sources of these pollutants. Municipal wastewater discharges may also be contributing but this needs to be verified.

### Fish Consumption Advisories

Fish consumption in this portion of the Chenango River 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 Chenango Forks and Norwich. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. 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

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Chenango River in Eagleville, Madison County, (at Hart Road) 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 slightly impacted water quality conditions, indicating generally good water quality. Water column sampling revealed nutrients (nitrite) to be a parameter of concern. Sediment screening for acute toxicity indicated moderate sediment toxicity but no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, 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 significant reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site suggests minor impacts to aquatic life, although the biological community and fishery (including trout), as well as recreational uses, are supported in the stream. (DEC/DOW, BWAR/RIBS, August 2009)

The biological assessments noted above were conducted as part of the RIBS biological screening effort in 2003 though the Intensive Network sampling in 2004. Sampling results for both years 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 levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by nonpoint sources and siltation. (DEC/DOW, BWAM/SBU, September 2009)

### Watershed Management

During the sampling conducted in 2003 and 2004, a cow crossing just upstream of the sampling bridge was considered to be an obvious source of impacts. Livestock had access to the stream for a significant distance upstream. Since that sampling, SUNY Morrisville has taken over management of these lands and have implemented BMP's, such as removing the animal crossing, installing fencing to keep animals off the bank and out of the stream. The number of livestock have also been reduced. These actions are thought to have resulted in significant water quality improvements. Additional monitoring to verify current conditions are now underway. (DEC/DOW, Region 7, September 2009)

### Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Chenango River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Chenango River. (DEC/DOW, BWAM, January 2009)

### Segment Description

This segment includes the portion of the stream and selected/smaller tribs above Payne Brook (-78) in Randallville. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Bradley Brook (-80), Electric Light Stream (-83) and Callahan Brook (-87), are also Class C,C(T). Payne Brook (-78) and Eaton Brook (-82) are listed separately.

# Pleasant Brook and minor tribs ( 0602-0071)

Need Verific

## Waterbody Location Information

Revised: 07/15/2009

<b>Water Index No:</b>	SR- 44-71	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	7/Chenango Co. ( 9)
<b>Waterbody Size:</b>	43.8 Miles	<b>Quad Map:</b>	EARLVILLE (K-18-2) ...
<b>Seg Description:</b>	entire stream and selected tribs		

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

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

### Type of Pollutant(s)

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

### Source(s) of Pollutant(s)

Known: ---  
Suspected: HABITAT MODIFICATION (stream bulldozing)  
Possible: ---

## Resolution/Management Information

<b>Issue Resolvability:</b>	1 (Needs Verification/Study (see STATUS))	
<b>Verification Status:</b>	1 (Waterbody Nominated, Problem Not Verified)	
<b>Lead Agency/Office:</b>	ext/WQCC	<b>Resolution Potential:</b> n/a
<b>TMDL/303d Status:</b>	n/a	

## Further Details

### Overview

Habitat/hydrology in Pleasant Brook may experience impacts due to silt/sedimentation resulting from roadway maintenance practices.

### Water Quality Sampling

Biological (macroinvertebrate) assessment of Pleasant Brook in Sherburne in 1997 passed field screening criteria and were assessed as non-impacted. The sample was diverse, well-balanced. However re-sampling of the stream is recommended in order to confirm water quality conditions. (DEC/DOW, BWAR/SBU, June 2009)

### Previous Assessment

Concerns were raised by DEC Regional staff in previous (2000) assessment regarding roadway maintenance by local municipalities. This maintenance included the bulldozing of areas in the stream to protect roadways. Lower portions of the stream have been destabilized. Initial sampling indicated no significant impacts to water quality, however this sampling was conducted quite some time ago and conditions need to be verified. (DEC/DOW, BWAM/WQAS, June 2009)

### Segment Description

This segment includes the creek and all tribs, except Cold Spring Brook (-1) which is assessed separately. The waters of this segment are primarily Class C, with some designated Class C(T).

# Sangerfield River and minor tribs ( 0602-0072)

NoKnownImpct

## Waterbody Location Information

Revised: 06/26/2009

<b>Water Index No:</b>	SR- 44-72	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	C(T)
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	7/Madison Co. (27) ...
<b>Waterbody Size:</b>	74.5 Miles	<b>Quad Map:</b>	EARLVILLE (K-18-2) ...
<b>Seg Description:</b>	entire stream and selected tribs		

## 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

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

## Further Details

### Water Quality Sampling

A biological (macroinvertebrate) survey/assessment of Sangerfield River in Earlville (at Earlville Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with previous sampling at this site in 1998 (DEC/DOW, BWAM/SBU, January 2009)

### Segment Description

This segment includes the creek and all tribs, except for Hunt Creek (-17) and various lakes which are assessed separately. The waters of this segment are designated Class C and C(T).

# Hunt Creek and tribs ( 0602-0051)

NoKnownImpet

## Waterbody Location Information

Revised: 06/22/2009

**Water Index No:** SR- 44-72-17  
**Hydro Unit Code:** 02050102/020      **Str Class:** C(T)  
**Waterbody Type:** River (Low Flow)      **Reg/County:** 7/Madison Co. (27)  
**Waterbody Size:** 4.1 Miles      **Quad Map:** HUBBARDSVILLE (J-19-4)  
**Seg Description:** entire stream and tribs

## 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

A biological (macroinvertebrate) assessment of Hunt Creek in Hubbardsville (at Route 89) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

### Previous Assessment

Concerns were raised in previous assessments by local agencies (Madison County WQCC, 1998) about impacts from nutrient enrichment and excessive sedimentation related to agricultural activities (livestock access to the stream and lack of riparian vegetation). However the more recent sampling indicates little if any water quality impact to aquatic life in the stream. (DEC/DOW, BWAM, June 2009)

### Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C.

# Gorton Lake ( 0602-0040)

# MinorImpacts

## Waterbody Location Information

Revised: 07/07/2009

**Water Index No:** SR- 44-72-24-P136  
**Hydro Unit Code:** 02050102/020      **Str Class:** B  
**Waterbody Type:** Lake (Mesotrophic)  
**Waterbody Size:** 16.4 Acres  
**Seg Description:** entire lake

**Drain Basin:** Susquehanna River  
Chenango River  
**Reg/County:** 7/Madison Co. (27)  
**Quad Map:** BROOKFIELD (J-19-3)

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

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

### Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation), PROBLEM SPECIES  
Suspected: NUTRIENTS (phosphorus)  
Possible: - - -

### Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION  
Suspected: ON-SITE/SEPTIC SYST  
Possible: - - -

## Resolution/Management Information

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

**Resolution Potential:** Medium

## Further Details

### Overview

Recreational uses (swimming, fishing, boating) in Gorton Lake are thought to experience minor impacts due to algal and aquatic weed growth in the lake and elevated nutrient levels that exacerbate weed and algal growth. Failing and/or inadequate on-site septic systems serving lakeshore residences are suspected sources of nutrients to the reservoir.

### Water Quality Sampling

Gorton Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesoeutrophic, or moderately to highly productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly to moderately colored. (DEC/DOW, BWAM/CSLAP, February 2006)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates

recreational suitability of the lake to be somewhat favorable. The recreational suitability of the lake is described most frequently as "slightly" impacted. The lake itself is most often described as "not quite crystal clear," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface and are cited as limiting recreational uses. Aquatic plants are dominated by primarily native species, although non-native Eurasian milfoil occurs in some areas of the lake and is likely responsible for much of the weed impacts. (DEC/DOW, BWAM/CSLAP, February 2006)

#### Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Source Assessment

The Madison County Health Department and the Town of Brookfield have worked to identify and correct failing and/or inadequate septic systems and many have been replaced. Because of small lot sizes and steep surrounding topography alternative wastewater systems (sand filters or incinerating toilets) may, in some cases, be the only alternative. (Madison County WQCC, 1998)

#### Segment Description

This segment includes the total area of the entire lake.

# Earlville/Craine Lake ( 0602-0108)

NoKnownImpct

## Waterbody Location Information

Revised: 07/08/2009

<b>Water Index No:</b>	SR- 44-76-P146	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	Lake (Unknown Trophic)	<b>Reg/County:</b>	7/Madison Co. (27)
<b>Waterbody Size:</b>	27.4 Acres	<b>Quad Map:</b>	HAMILTON (J-18-3)
<b>Seg Description:</b>	entire lake		

## 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

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

## Further Details

### Water Quality Sampling

Earlville (aka Craine) Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, May 2002)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that rooted aquatic plants are visible but do not typically grow to the lake surface, and are not frequently cited as impacting recreational uses.

(DEC/DOW, BWAM/CSLAP, May 2002)

#### Lake Uses

This lake waterbody is designated class C, suitable for general recreation use and aquatic life support, but not for drinking water supply or as a public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Segment Description

This segment includes the total area of the entire lake.

# Payne Brook and tribs ( 0602-0003)

# MinorImpacts

## Waterbody Location Information

Revised: 07/10/2009

**Water Index No:** SR- 44-78  
**Hydro Unit Code:** 02050102/020      **Str Class:** C  
**Waterbody Type:** River (Low Flow)  
**Waterbody Size:** 35.7 Miles  
**Seg Description:** entire stream and tribs

**Drain Basin:** Susquehanna River  
Chenango River  
**Reg/County:** 7/Madison Co. (27)  
**Quad Map:** HAMILTON (J-18-3) ...

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

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
Recreation	Stressed	Known
Aesthetics	Stressed	Known

### Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)  
Suspected: Aesthetics (sludge deposits)  
Possible: D.O./Oxygen Demand, Pathogens

### Source(s) of Pollutant(s)

Known: ---  
Suspected: AGRICULTURE, MUNICIPAL (Hamilton WWTP)  
Possible: ---

## Resolution/Management Information

**Issue Resolvability:** 1 (Needs Verification/Study (see STATUS))  
**Verification Status:** 3 (Cause Identified, Source Unknown)  
**Lead Agency/Office:** DOW/Reg7  
**TMDL/303d Status:** n/a

**Resolution Potential:** Medium

## Further Details

### Overview

Aquatic life support and recreational uses in Payne Brook are known to experience minor impacts due to nutrient loads from nonpoint sources.

### Water Quality Sampling

A biological (macroinvertebrate) assessment of Payne Brook in Middleport (at Middleport Road) was conducted as part of the RIBS biological screening effort in 2008. 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 suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna is most similar to communities influenced by nonpoint sources. Though sampling in the 1990s suggested a decline in water quality, more recent sampling indicates improvement. Biological sampling found slight impacts in 1997 and moderately impacted conditions in 1998. (DEC/DOW, RIBS/SBU, June 2009)

### Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T),CT(S). Tribs to this reach/segment are Class C,C(T).

# Lake Moraine ( 0602-0007)

# MinorImpacts

## Waterbody Location Information

Revised: 07/06/2009

**Water Index No:** SR- 44-78-P152  
**Hydro Unit Code:** 02050102/020      **Str Class:** B  
**Waterbody Type:** Lake (Mesotrophic)  
**Waterbody Size:** 242.7 Acres  
**Seg Description:** entire lake

**Drain Basin:** Susquehanna River  
Chenango River  
**Reg/County:** 7/Madison Co. (27)  
**Quad Map:** HAMILTON (J-18-3)

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

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Aquatic Life	Threatened	Suspected
Recreation	Stressed	Known

### Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation)  
Suspected: D.O./Oxygen Demand, Nutrients (phosphorus)  
Possible: - - -

### Source(s) of Pollutant(s)

Known: - - -  
Suspected: ON-SITE/SEPTIC SYST, Agriculture  
Possible: - - -

## Resolution/Management Information

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

**Resolution Potential:** Medium

## Further Details

### Overview

Recreational uses (swimming, fishing, boating) in Lake Moraine are known to experience impacts from excessive algal and weed growth. Elevated nutrient levels may contribute to the plant growth. Inadequate on-site wastewater treatment (septic) systems are a suspected source of the impacts. Low dissolved oxygen in deeper parts of the lake may also threaten aquatic life.

### Water Quality Sampling

Lake Moraine has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2000 and continuing through 20006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are somewhat high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, July 2007)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be less favorable in 2006 due primarily to increased weed growth. Conditions are more favorable than was the case in 1990s. The recreational suitability of the lake is described most frequently as "excellent" or "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or as having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface. Aquatic plants are dominated by a mix of native species and non-native Eurasian milfoil and in recent years have been frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, July 2007)

### Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a public water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

### Previous Assessment

Heavy algal blooms and dense aquatic rooted vegetation covering large portions of the lake were identified in previous assessments. Failing and/or inadequate on-site septic systems serving seasonal homes were cited as known sources. The lake management association has instituted a 50% refund program to encourage septic tank pump-outs. Other likely sources include agricultural runoff from cropland and manure spreading. (Madison County WQCC, January 2001)

### Section 303(d) Listing

Lake Moraine is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters.

### Segment Description

This segment includes the total area of the lake.

# Lebanon Reservoir ( 0602-0109)

# MinorImpacts

## Waterbody Location Information

Revised: 07/07/2009

<b>Water Index No:</b>	SR- 44-79-P153	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	B(T)
<b>Waterbody Type:</b>	Lake(R) (Mesotrophic)	<b>Reg/County:</b>	7/Madison Co. (27)
<b>Waterbody Size:</b>	92.4 Acres	<b>Quad Map:</b>	HAMILTON (J-18-3)
<b>Seg Description:</b>	entire lake		

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

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Threatened	Suspected
Recreation	Stressed	Suspected

### Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation), PROBLEM SPECIES  
 Suspected: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus), Acid/Base (pH) (high pH)  
 Possible: ---

### Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION  
 Suspected: ---  
 Possible: AGRICULTURE

## Resolution/Management Information

<b>Issue Resolvability:</b>	1 (Needs Verification/Study (see STATUS))	
<b>Verification Status:</b>	3 (Cause Identified, Source Unknown)	
<b>Lead Agency/Office:</b>	ext/WQCC	<b>Resolution Potential:</b> Medium
<b>TMDL/303d Status:</b>	n/a->B	

## Further Details

### Overview

Recreational uses (swimming, fishing, boating) in Lebanon Reservoir are thought to experience minor impacts due to algal and aquatic weed growth in the lake. Elevated nutrient levels may also exacerbate weed and algal growth. Low dissolved oxygen in deeper areas of the lake may also cause threat to the fishery.

### Water Quality Sampling

Lebanon Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH generally high and at times exceed the state water quality range of 6.5 to 8.5. The lake water is moderately colored but lake color does not appear to limit clarity. (DEC/DOW, BWAM/CSLAP, February 2006)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as "crystal clear," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface and are cited as limiting recreational uses. Aquatic plants are dominated by primarily native species, although non-native Eurasian milfoil occurs in some areas of the lake and is likely responsible for much of the weed impacts. (DEC/DOW, BWAM/CSLAP, February 2006)

### Lake Uses

This lake waterbody is designated class B(T), suitable for use as a public bathing beach and for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

### Section 303(d) Listing

Lebanon Reservoir is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

### Segment Description

This segment includes the total area of the entire lake.

# Bradley Brook Reservoir ( 0602-0111)

NoKnownImpct

## Waterbody Location Information

Revised: 07/08/2009

<b>Water Index No:</b>	SR- 44-80-P154	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	B
<b>Waterbody Type:</b>	Lake(R) (Mesotrophic)	<b>Reg/County:</b>	7/Madison Co. (27)
<b>Waterbody Size:</b>	139.2 Acres	<b>Quad Map:</b>	WEST EATON (J-18-4)
<b>Seg Description:</b>	entire lake		

## 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

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

## Further Details

### Water Quality Sampling

Bradley Brook reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive, despite slightly higher productivity in more recent years. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, September 2002)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, September

2002)

#### Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Segment Description

This segment includes the total area of the entire lake.

# Hatch Lake ( 0602-0112)

NoKnownImpet

## Waterbody Location Information

Revised: 07/08/2009

<b>Water Index No:</b>	SR- 44-80-P154-1-P155	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	B
<b>Waterbody Type:</b>	Lake (Unknown Trophic)	<b>Reg/County:</b>	7/Madison Co. (27)
<b>Waterbody Size:</b>	134.9 Acres	<b>Quad Map:</b>	WEST EATON (J-18-4)
<b>Seg Description:</b>	entire lake		

## 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

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

## Further Details

### Water Quality Sampling

Hatch Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2004. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. The most recent sampling years reflect lower productivity than usual, though this decrease may not be statistically significant. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, October 2005)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants

include native and non-native species and typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, October 2005)

#### Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Segment Description

This segment includes the total area of the entire lake.

# Eaton Brook Reservoir ( 0602-0041)

NoKnownImpct

## Waterbody Location Information

Revised: 07/08/2009

<b>Water Index No:</b>	SR- 44-82-P163	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/020	<b>Str Class:</b>	B
<b>Waterbody Type:</b>	Lake (Unknown Trophic)	<b>Reg/County:</b>	7/Madison Co. (27)
<b>Waterbody Size:</b>	274.6 Acres	<b>Quad Map:</b>	WEST EATON (J-18-4)
<b>Seg Description:</b>	entire reservoir		

## 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

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

## Further Details

### Water Quality Sampling

Eaton Brook Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2000. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. The most recent sampling years reflect lower productivity than usual, though this decrease may not be statistically significant. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, January 2002)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as "crystal clear," an assessment that is mostly consistent with measured water quality characteristics. Assessments have noted that aquatic plants occasionally grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, January

2002)

#### Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Section 303(d) Listing

Eaton Brook Reservoir is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding dissolved oxygen levels, whether any low levels are natural or the result of anthropogenic sources, or the resulting level of fishery impact, if any. However available information suggests no significant impact and based on this assessment the lake is assessed as having no known impacts. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

#### Segment Description

This segment includes the total area of the entire lake.

# Lake Warn ( 0602-0116)

# MinorImpacts

## Waterbody Location Information

Revised: 07/06/2009

<b>Water Index No:</b>	SR- 44-P94	<b>Drain Basin:</b>	Susquehanna River
<b>Hydro Unit Code:</b>	02050102/050	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	Lake (Unknown Trophic)	<b>Reg/County:</b>	7/Chenango Co. ( 9)
<b>Waterbody Size:</b>	30.4 Acres	<b>Quad Map:</b>	BRISBEN (L-18-4)
<b>Seg Description:</b>	entire lake		

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

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

### Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (excessive weed growth)  
Suspected: ---  
Possible: ---

### Source(s) of Pollutant(s)

Known: ---  
Suspected: HABITAT MODIFICATION  
Possible: ---

## Resolution/Management Information

<b>Issue Resolvability:</b>	1 (Needs Verification/Study (see STATUS))	
<b>Verification Status:</b>	3 (Cause Identified, Source Unknown)	
<b>Lead Agency/Office:</b>	ext/WQCC	<b>Resolution Potential:</b> Medium
<b>TMDL/303d Status:</b>	4c->n/a	

## Further Details

### Overview

Recreational uses (swimming, fishing, boating) in Warn Lake are thought to experience minor impacts due to algal and aquatic weed growth in the lake.

### Water Quality Sampling

Lake Warn has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 through 1995 and from 2001 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. In recent years productivity in the lake has increased, but this is thought to be a result of weather patterns. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements regularly exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, October 2007)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates

recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface but not densely. Aquatic plants are dominated by a mix of native and non-native species. Historically dense weed growth was probably due to the Eurasian watermilfoil, and it is likely that recent (since the mid-1990s) reductions in aquatic plant coverage may be due to grass carp stocking that occurred at that time, or due to lily control with herbicides more recently. Although surface weed coverage is still noted, "excessive weed growth" has not been identified as impacting recreational uses in recent years. have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, October 2007)

#### Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation and aquatic life support, but not for drinking water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

#### Segment Description

This segment includes the total area of the entire lake.