East Branch Tioughnioga River Watershed
(0205010201)

<table>
<thead>
<tr>
<th>Water Index Number</th>
<th>Waterbody Segment</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR- 44-14-59</td>
<td>East Branch Tioughnioga, Low, and tribs (0602-0020)</td>
<td>NoKnownImpct</td>
</tr>
<tr>
<td>SR- 44-14-59</td>
<td>East Branch Tioughnioga, Upp, and tribs (0602-0132)</td>
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</tr>
<tr>
<td>SR- 44-14-59-9</td>
<td>Tioughnioga Creek and tribs (0602-0133)</td>
<td>Minor Impacts</td>
</tr>
<tr>
<td>SR- 44-14-59-11-P51</td>
<td>Cheningo Creek and tribs (0602-0058)</td>
<td>UnAssessed</td>
</tr>
<tr>
<td>SR- 44-14-59-25</td>
<td>Labrador Pond (0602-0084)</td>
<td>UnAssessed</td>
</tr>
<tr>
<td>SR- 44-14-59-25-2</td>
<td>Tioughnioga Cr West Br and minor tribs (0602-0059)</td>
<td>Need Verific</td>
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<tr>
<td>SR- 44-14-59-25-P55</td>
<td>Fabius Brook and tribs (0602-0026)</td>
<td>NoKnownImpct</td>
</tr>
<tr>
<td>SR- 44-14-59-34-P56</td>
<td>Carpenter Pond (0602-0085)</td>
<td>UnAssessed</td>
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<tr>
<td></td>
<td>DeRuyter Reservoir (0602-0086)</td>
<td>Minor Impacts</td>
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</tbody>
</table>
East Branch Tioughnioga, Low, and tribs (0602-0020) NoKnownImpct

Waterbody Location Information

| Water Index No:      | SR- 44-14-59                        |
| Hydro Unit Code:     | 02050102/080                        |
| Drain Basin:         | Susquehanna River                   |
| Str Class:           | C(T)                                |
| Waterbody Type:      | River (Low Flow)                    |
| Reg/County:          | 7/Cortland Co. (12)                 |
| Waterbody Size:      | 23.4 Miles                          |
| Quad Map:            | HOMER (K-16-1)                      |
| Seg Description:     | stream and selected tribs from mouth to East Homer |

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Problem Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO USE IMPAIRMNT</td>
<td></td>
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</tbody>
</table>

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
TMDL/303d Status: n/a
Resolution Potential: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of East Branch Tioughnioga River in Cortland (at Route 81) 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 result reflect an improvement in water quality from conditions noted in sampling at this site in 1998. That sampling found slightly impacted water quality from nonpoint sources. While impacts from nonpoint sources should continue to be monitored, such impact do not currently appear to have any significant effect on the stream. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to/including Albright Creek (-4) in East Homer. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Albright Creek (-4), are Class C,C(T),C(TS). Upper East Branch Tioughnioga River is listed separately.
## Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>SR-44-14-59</th>
<th>Drain Basin:</th>
<th>Susquehanna River</th>
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<tr>
<td>Hydro Unit Code:</td>
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<td>Str Class:</td>
<td>C</td>
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<tr>
<td>Waterbody Type:</td>
<td>River</td>
<td>Reg/County:</td>
<td>7/Cortland Co. (12)</td>
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<td>Waterbody Size:</td>
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<td>Quad Map:</td>
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<tr>
<td>Seg Description:</td>
<td>stream and selected tribs from East Homer to Tripoli</td>
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## Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Problem Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO USE IMPAIRMNT</td>
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<td></td>
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</table>

### Type of Pollutant(s)

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

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

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

## Resolution/Management Information

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

## Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of East Branch Tioughnioga River in Crains Mills (at Crains Mills 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 insiginificant 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 conditions with evidence of some nonpoint source influences. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of Labrador Creek, a trib to East Branch Tioughnioga, in Truxton (at Labrador Street) was also 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 insiginificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to natural conditions with
evidence of some nonpoint source and silt/sedimentation influences. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above Albright Creek (-4) in East Homer to the Middle/West Branch Tioghioga Creek confluence in Cuyler. The waters of this portion of the stream are Class C,C(T),C(TS). Tribs to this reach/segment, including Haights Creek (-6), Trout Brook (-7), Kenney Brook (-10), Labrador Creek (-11), Morgan Hill Creek (-15) and Maxon Creek (-22), are Class C,C(T),C(TS). Cheningo Creek (-9), East Branch Tioughnioga Creek (-25), Middle Branch Tioughnioga Creek and Lower East Branch Tioughnioga River are listed separately.
**Observation Details**

**Overview**
Aquatic life support in portions of Tioughnioga Creek and its tributaries is thought to experience minor impacts due to nutrient loadings and algal growth due to agricultural nonpoint sources.

**Water Quality Sampling**
Biological (macroinvertebrate) assessments of East Branch Tioughnioga Creek in DeRuyter (at Mechanic Street) and Middle Branch Tioughnioga Creek in DeRuyter (at Middle Lake Road) were conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions in the Middle Branch and non-impacted conditions in the East Branch.

In the Middle Branch 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 levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to have similarities to various communities types and is somewhat inconclusive. Field observations noted that cattle have access to the stream and the sample was noticeably...
enriched. The nutrient levels in conjunction with a lack of canopy cover likely produce a substantial algal population and dissolved oxygen fluctuations that contribute to a slightly degraded community. (DEC/DOW, BWAM/SBU, September 2009)

In the East Branch the 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 considered to be fully supported at both sites. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description
This segment includes the entire stream and all tribs above its mouth at the confluence of the West Branch Tioughnioga Creek (-25) in Cuyler. The waters of the stream are Class C(TS). Tribs to this reach/segment, including Hills Creek (-28), East Branch (-32), DeRuyter Outlet (-34) and Pleasant Creek (-37), are also/primarily Class C,C(T). Above the East Branch confluence, the stream is known as the Middle Branch. West Branch Tioughnioga Creek (-25) is listed separately.
Tioughnioga Cr West Br and minor tribs (0602-0059) Need Verific

Waterbody Location Information

Water Index No: SR- 44-14-59-25
Hydro Unit Code: 02050102/080 Str Class: C(T)
Waterbody Type: River
Waterbody Size: 26.2 Miles
Seg Description: entire stream and selected tribs

Drain Basin: Susquehanna River
Str Class: Chenango River
Reg/County: 7/Onondaga Co. (34) ...
Quad Map: DE RUYTER (J-17-4) ...

Water Quality Problem/Issue Information

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

Type of Pollutant(s)
Known: - - -
Suspected: SILT/SEDIMENT, Nutrients
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: AGRICULTURE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: n/a
Resolution Potential: Medium

Further Details

Overview
All uses in West Branch Tioughnioga Creek are fully supported and there are currently no significant water quality impacts to the stream. However threats to water quality, primarily agricultural activities and practices, have been identified. Cortland County has identified this stream as a priority for water quality protection efforts and implementation of agricultural BMPs.

Water Quality Sampling
A biological (macroinvertebrate) assessment of the West Branch Tioughnioga Creek in Keeney (at West Keeney Settlement 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 good. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to natural communities with some slight evidence of influences from silt/sedimentation. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)
Source Assessment
Concerns have been raised by local agencies regarding impacts due nutrient loads and silt/sedimentation from agricultural nonpoint source activities. Local assessment of agricultural operations indicate the need for BMP implementation. The loss and removal of riparian vegetation also contributes to thermal stresses and streambank erosion. Although available sampling results indicate no current water quality impacts, efforts to address these potential sources should continue. The county has identified the area for emphasis regarding agricultural BMP implementation. (Cortland County WQCC, April 1999)

Segment Description
This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T). Fabius Brook (-2) is listed separately.
Fabius Brook and tribs (0602-0026)  NoKnownImpct

Waterbody Location Information

| Water Index No: | SR-44-14-59-25-2 |
| Hydro Unit Code: | 02050102/080 |
| Waterbody Type: | River (Low Flow) |
| Waterbody Size: | 36.0 Miles |
| Seg Description: | entire stream and tribs |

Drain Basin: Susquehanna River
Str Class: C(T)
Reg/County: 7/Onondaga Co. (34)
Quad Map: DE RUYTER (J-17-4)...

Water Quality Problem/Issue Information

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
TMDL/303d Status: n/a
Resolution Potential: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Fabius Brook in Fabius (at Parker 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 good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural conditions with evidence of some nonpoint source influences. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment
Concerns were raised by local agencies during previous (1999) assessments regarding impacts due to thermal stress resulting from various agricultural nonpoint source activities. Such activities could threaten this high quality trout stream. Channelization for field drainage and the loss and removal of riparian vegetation might contribute to warming of trout waters in the watershed. Volunteer (student) monitoring through the "Project Watershed" program has been initiated. Although available sampling results indicate no water quality impacts, these habitat concerns should continued to be monitored. (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(T). Tribs to this reach/segment are Class C,C(T).
DeRuyter Reservoir (0602-0086)  

**Waterbody Location Information**  
Revised: 07/07/2009  

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>SR-44-14-59-34-P56</th>
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<th>Susquehanna River</th>
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<tr>
<td>Waterbody Type:</td>
<td>Lake(R) (Mesotrophic)</td>
<td>Reg/County:</td>
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<td>Waterbody Size:</td>
<td>554.2 Acres</td>
<td>Quad Map:</td>
<td>DE RUYTER (J-17-4)</td>
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<td>Seg Description:</td>
<td>entire lake</td>
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**Water Quality Problem/Issue Information**  
(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Problem Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
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</table>

Type of Pollutant(s)
- Known: ALGAL/WEED GROWTH (excessive weed growth)
- Suspected: NUTRIENTS (phosphorus)
- Possible: - - -

Source(s) of Pollutant(s)
- Known: - - -
- Suspected: - - -
- Possible: AGRICULTURE

**Resolution/Management Information**

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

Resolution Potential: Medium

**Further Details**

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

Water Quality Sampling
DeRuyter Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1992 and continuing 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. Conditions in 2005 suggested lower productivity (mesoligotrophic), but that assessment may have been driven by favorable weather conditions. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses, though they were somewhat higher in 2006. Corresponding transparency measurements 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 weakly to moderately colored. (DEC/DOW, BWAM/CSLAP, February 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 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 occasionally grow to the lake surface but not densely. Aquatic plants are dominated by a mix of native and non-native (Eurasian milfoil) species. Although surface weed coverage is occasionally noted, "excessive weed growth" is not frequently identified as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, February 2007)

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.

Section 303d Listing
DeRuyter Reservoir was delisted from the NYS Section 303(d) List of Impaired Waters during the development of the 2008 List. The lake was included on Part 3a of the List as a Water Requiring Verification of Impairment, however updated assessment of the lake suggested that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description
This segment includes the total area of the entire lake.