



Lake George – La Chute (0415040802)

| | | |
|-------------------------------------|--|--------------|
| C-101 | Ticonderoga Creek (1006-0017) | MinorImpacts |
| C-101- 1 | Trout Brook and tribs (1006-0018) | NoKnownImpct |
| C-101- 1-P354a | Haymeadow Pond (1006-0019) | NoKnownImpct |
| C-101-P367 | Lake George (1006-0016) | Impaired Seg |
| C-101-P367- 1 thru 26 | Tribs to L.George, East Shore (1006-0020) | Impaired Seg |
| C-101-P367- 1-P369,-10-P371 | Mud Lake, Sheltered Lake, more (1006-0025) | UnAssessed |
| C-101-P367-27 thru 31 | Tribs to L.George, Southeast Shore (1006-0021) | NoKnownImpct |
| C-101-P367-32 thru 40 | Tribs to L.George, Village of L George (1006-0008) | Impaired Seg |
| C-101-P367-38-P377 | Hidden Lake (1006-0026) | NoKnownImpct |
| C-101-P367-41 | English Brook and tribs (1006-0032) | Impaired Seg |
| C-101-P367-42 thru 48 | Tribs to L.George, Town of Lake George(1006-0004) | NoKnownImpct |
| C-101-P367-49 thru 73 (selected) | Tribs to L.George, Town of Bolton (1006-0022) | NoKnownImpct |
| C-101-P367-53,56 | Huddle/Finkle Brooks and tribs (1006-0003) | Impaired Seg |
| C-101-P367-53-P379 | Trout Lake (1006-0027) | NoKnownImpct |
| C-101-P367-56-P381 | Edgecomb Pond (1006-0028) | NoKnownImpct |
| C-101-P367-59 | Indian Brook and tribs(1006-0002) | Impaired Seg |
| C-101-P367-59..P382 thru P393 (sel) | Minor Lakes in L.George (NW) Wshd(1006-0029) | NoKnownImpct |
| C-101-P367-65 | Northwest Bay Brook and tribs (1006-0023) | NoKnownImpct |
| C-101-P367-74 thru 89 (selected) | Tribs to L.George, Town of Hague (1006-0024) | NoKnownImpct |
| C-101-P367-83-P394 | Jabe Pond (1006-0030) | NoKnownImpct |
| C-101-P367-86 | Hague Brook and tribs (1006-0006) | Impaired Seg |
| C-101-P367..P395a,P395 | Wintergreen Lake, North Lake(1006-0031) | NoKnownImpct |

Ticonderoga Creek (1006-0017)

MinorImpacts

Waterbody Location Information

Revised: 06/01/2009

Water Index No: C-101
Hydro Unit Code: 02010001/200 **Str Class:** D
Waterbody Type: River
Waterbody Size: 3.2 Miles
Seg Description: entire stream

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Essex Co. (16)
Quad Map: TICONDEROGA (F-27-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|----------|-----------------------|
| Recreation | Stressed | Suspected |
| Aesthetics | Stressed | Known |

Type of Pollutant(s)

Known: AESTHETICS (trash, debris)
Suspected: - - -
Possible: Nutrients, Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF, Private/Comm/Inst
Possible: - - -

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: n/a

Resolution Potential: Medium

Further Details

Overview

Recreational uses (fishing, swimming, etc) and aesthetics in the LaChute/Ticonderoga Creek are thought to be affected by runoff from surrounding village and discharges from residential and commercial on-site septic systems in Ticonderoga.

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Ticonderoga Creek in Ticonderoga, Essex County, (at Elk Drive) 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. Biological (macroinvertebrate) sampling results reveal slightly to non-impacted conditions, indicating good water quality. Water column sampling found no contaminants to be parameter(s) of concern. Macroinvertebrates collected at this site and chemically analyzed for selected metals and PAHs found no contaminants to be present at concentrations above the established guidance values. Sediment screening for acute toxicity indicated possible toxicity to be present. Analysis of sediments found elevated concentrations of PAHs that exceed probable effects levels and other metals that exceed the threshold effects concentration. Toxicity testing of the water column also showed no significant mortality or reproductive impacts. Based on the consensus of these established assessment methods, overall water quality at this site shows that in spite of some concerns regarding contaminants in the sediments that should continue to be monitored, aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality

impacts to recreational uses. These findings are consistent with results of RIBS sampling conducted at this site in 1993-94 and 1997-98. (DEC/DOW, BWAM/RIBS, May 2009).

A biological (macroinvertebrate) assessment of LaChute/Ticonderoga Creek in Ticonderoga was also conducted in 1998. Sampling results indicated slightly impacted water quality conditions; similar assessments for this site were noted in 1987 and 1994. Non-impacted conditions were noted in 1993. No obvious causes of impairment are evident. The results may reflect the natural influence of the upstream impoundment (Lake George) which creates an abundance of plankton and would contribute to samples skewed toward intolerant to facultative mayflies and stoneflies. (DEC/DOW, BWAR/SBU, January 2000)

Segment Description

This segment includes the entire stream and selected/smaller tribs from the mouth to Lake George. The waters of the stream are Class D. Tribs to this reach/segment are also Class D. Trout Brook (-1) is listed separately.

Trout Brook and tribs (1006-0018)

NoKnownImpct

Waterbody Location Information

Revised: 04/21/2009

Water Index No: C-101- 1
Hydro Unit Code: 02010001/200 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 45.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Essex Co. (16)
Quad Map: TICONDEROGA (F-27-4) ...

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 Trout Brook in Ticonderoga (at Lord Howe Street) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. Some replacement of sensitive ubiquitous species by more tolerant species was noted although the sample included a balanced distribution of all expected species. In spite of these minor impacts, aquatic life is considered to be fully supported in the stream. The community composition and nutrient biotic evaluation suggests low levels of nutrient enrichment. Impact source determination found a community that is most similar to natural communities. (DEC/DOW, BWAM/SBU, January 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, including Chilson Brook (-1), are also Class C(T).

Haymeadow Pond (1006-0019)

NoKnownImpct

Waterbody Location Information

Revised: 10/04/2000

| | | | |
|-------------------------|----------------|---------------------|---------------------|
| Water Index No: | C-101- 1-P354a | Drain Basin: | Lake Champlain |
| Hydro Unit Code: | 02010001/200 | Str Class: | C(T) |
| Waterbody Type: | Lake | | Champlain-Lk.George |
| Waterbody Size: | 16.0 Acres | Reg/County: | 5/Essex Co. (16) |
| Seg Description: | entire lake | Quad Map: | GRAPHITE (F-26-3) |

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

Monitoring of Haymeadow Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Segment Description

This segment includes the total area of Haymeadow Pond (P354a).

Lake George (1006-0016)

Impaired

Waterbody Location Information

Revised: 6/11/2009

Water Index No: C-101-P367
Hydro Unit Code: Lake George-La Chute (0415040802)
Water Type/Size: Lake/Reservoir 28523.1 Acres
Description: entire lake

Water Class: AA-spl
Drainage Basin: Lake Champlain
Reg/County: 5/Warren (57)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

| Uses Evaluated | Severity | Confidence |
|----------------------|------------|------------|
| Water Supply | Threatened | Known |
| Public Bathing | Unassessed | - |
| Recreation | Impaired | Known |
| Aquatic Life | Unassessed | - |
| Fish Consumption | Unassessed | - |
| Conditions Evaluated | | |
| Habitat/Hydrology | Fair | |
| Aesthetics | Unassessed | |

Type of Pollutant(s)

Known: PROBLEM SPECIES (MILFOIL, ZEBRA MUSSELS), SILT/SEDIMENT
Suspected: Restricted Passage
Unconfirmed: Pathogens

Source(s) of Pollutant(s)

Known: DEICING (STOR/APPL), Roadbank Erosion, STREAMBANK EROSION, URBAN/STORM RUNOFF
Suspected: On-Site/Septic Syst, Municipal (Village of Lake George WWTP)
Unconfirmed: Construction

Management Information

Management Status: Strategy Implementation Scheduled or Underway
Lead Agency/Office: DOW/Reg5
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Recreational uses and habitat/hydrology in Lake George have been listed as impaired by silt/sediment and problem species (invasive plants). Urban/storm runoff, streambank erosion and road deicing practices have been identified as sources of silt/sediment in the lake. Invasive aquatic plants (Eurasian milfoil, in particular) have been cited as restricting recreation. Threats from zebra mussels are also a concern. Navigation buoys are used to restrict areas of the lake to recreational boating due to tributary stream deltas and large milfoil beds. Other threats include impacts from failing and/or inadequate on-site septic system and the overall level of development along the lake shore, particularly at the southern end of the lake.

Lake George has been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and, as such, may be subject to special protections.

Water Quality Sampling:

Lake George has been sampled (at multiple locations) as part of the NYSDEC Citizen Statewide Lake Assessment

Program (CSLAP) beginning in 2004 and continuing through the present. 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 oligotrophic, or unproductive. Lake productivity appears to increase from south to north. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements easily 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 slightly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, April 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 at all but one site. The recreational suitability of the lake is described most frequently as "could not be nicer" for most sites. The lake itself is most often described as "crystal clear" at these sites. At the southernmost site these assessments reflected recreational suitability as being "excellent" to "slightly" impacted for recreational uses. The lake at this site was most often described as "not quite crystal clear" or "having definite algal greenness" despite water quality conditions similar to those at the other sites. Aquatic weed growth was noted as a problem at only one (again, the southernmost) of six sites. Recreational assessments cited "excessive weed growth" as limiting uses, although surface weed growth was not observed during the sampling. Aquatic plants include invasive species (Eurasian milfoil) and have been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, April 2007)

Lake Uses:

This lake waterbody is designated class AA–special, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. The Class AA–special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. 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 (Drinking) Water Assessment:

A source water assessment of Lake George found a moderate susceptibility to contamination for this source of drinking water. This level of susceptibility is typical of many water supplies that experience no impacts to water supply use and reflects the need to protect the resource. 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 multiple users. (NYSDOH, Source Water Assessment Program, 2005)

Source Assessment:

Sediment loadings to the lake from streambank erosion, winter road sanding (and salting) and construction activities in the lake watershed also affect uses. Areas of roadbank erosion have been inventoried through the Warren County Critical Area Treatment Seeding Program. Significant sedimentation deltas have formed at the mouths of many tributary segments, the largest of these being Hague, Indian, Finkle, English, West and Foster Brooks, and to lesser extent East and Prospect Mountain Brooks (Bathymetric Mapping of Selected Delta Areas of Lake George, Eichler et al, Darrin Freshwater Institute, 1999). These deltas impede recreational boat navigation and present opportunities for the establishment of non–native aquatic vegetation. Local efforts to reduce sediment loads to the lake are underway for several tribs. See also various Lake George Tributary segments. (Warren County WQSC, June 2000)

While the lake fishery is considered good, fishery habitat in the lake is affected by sediment as well. Sand applied to roads during the winter and sediment from erosion runs off into tributary streams (and eventually the lake) during spring snowmelt and other high flow events. Once in the streams and lake, sand and silt fills in gravel spawning beds, decreasing salmonid spawning success, limiting macroinvertebrate production and increasing winter mortality of fish and invertebrates due to loss of escape cover from the effects of anchor ice. Percent embeddedness has been determined to show a reliable correlation to restriction of trout/salmon spawning habitat. Additionally, fish migration and spawning is

known to be restricted by the sediment deltas at the mouths of numerous lake tribs. The DEC Region 5 Fisheries Unit plans continued field investigations of the lake and tribs to monitor the extent of propagation impairment. (DEC/DFWMR, Region 5, April 2000)

In other parts of the lake inadequate and/or failing on-site septic systems serving homes along the lake shore are thought to be contributing nutrient and pathogen contamination to the lake. Numerous summer cottages as well as year-round residences coupled with poor site conditions (small lots, inadequate soils) and poorly designed systems appear to be the major problems. Sanitary surveys by the Lake George Park Commission have confirmed the discharge of inadequately treated wastewater to the lake. Even where systems do not discharge to the lake directly, movement of nutrients via groundwater seep is a concern. A likely source of impairment is the Village of Lake George Wastewater Treatment Plant. (Essex County WQCC, June 2000)

Watershed Management:

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

There are a number of citizen advocacy groups focused on the protection of the water resources of Lake George. The Lake George Association (LGA) is comprised of year-round and seasonal residents, members of the business community and local government representatives. Its stated mission is one of advocacy, education and broad-based community involvement. The LGA advocates a reasoned approach to management of the Lake George watershed to ensure long-term stability of water quality and of the watershed's environmental and economic viability. (<http://www.lakegeorgeassociation.org>)

The Fund for Lake George pursues its mission through support for long-term scientific research on the lake, advocacy for new protections, and partnerships with other organizations and local governments. The Fund supports long-term scientific research on the water quality of Lake George through a partnership with the RPI Darrin Freshwater Institute. This results in a science-based approach to the protection of Lake George water quality and the overall health of the Lake George watershed. (<http://www.fundforlakegeorge.org>)

The Lake George Land Conservancy is a land trust that advocates progressive conservation strategies and works with landowners, government officials, conservation partners, volunteers, and supporters to protect water quality of Lake George and to permanently preserve the natural, scenic and recreational resources of the Lake George region. To date, more than 1,300 concerned individuals have helped LGLC and its partners protect more than 48,500 feet of shoreline and 12,530 acres of land around Lake George. (Lake George Land Conservancy, June 2009, <http://www.lglc.org>)

Previous Studies:

A number of water quality studies have been conducted on Lake George; many of which have focused on urban runoff. These include an extensive USEPA National Urban Runoff Program study (Lake George Urban Runoff Study, Sutherland et al, 1983), a more recent stormwater runoff study by NYS Park Management and Research Institute and NYSDEC (Feasibility of Reducing the Impacts of Runoff in Developed Areas of Lake George Park, Hyatt et al, 1995), various RPI Freshwater Institute studies, Darrin Freshwater Institute studies and investigations sponsored by the Warren County Office of Lake George Affairs. An update of the Lake George Watershed Plan has recently been completed. (Warren County WQSC and Essex County WQCC, June 2000)

The lake was the focus of a Phase II Clean Lakes Project in 1989–1993. This effort sought to address various water quality issues including nuisance aquatic vegetation control, stormwater management, environmental monitoring. The project also included a public participation component. (DEC/DOW, Lake Services, 1999)

Section 303(d) Listing:

Lake George is included on the NYS 2008 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 address impairments due to silt/sediment. This listing is closely related to similar listings for a number of tributary segments to the lake. This

waterbody was first listed on the 2002 Section 303(d) List.

Segment Description:

This segment includes the total area of Lake George (P367).

Tribs to L.George, East Shore (1006-0020)

Impaired Seg

Waterbody Location Information

Revised: 06/18/2009

Water Index No: C-101-P367- 1 thru 26
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl
Waterbody Type: River
Waterbody Size: 63.7 Miles
Seg Description: total length of selected tribs

Drain Basin: Lake Champlain
Reg/County: Champlain-Lk.George
Quad Map: 5/Washington Co. (58)
SHELVING ROCK (G-26-3) ...

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Water Supply | Threatened | Possible |
| Recreation | Stressed | Possible |
| HABITAT/HYDROLOGY | Impaired | Known |

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: Restricted Passage
Possible: Other Pollutants (various)

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION
Suspected: Deicing (stor/appl), Roadbank Erosion
Possible: Other Source (various)

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Resolution Potential: High

Further Details

Overview

Fishery habitat and recreational uses in some of the tribs along the east shore of Lake George are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Habitat/Hydrology Impacts

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses (swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAM, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Previous Assessments

In Foster Brook (-11) 200 feet of streambank was washed out during the January 1996 flooding. The wash-out was repaired and channel restoration completed under the USDA Emergency Watershed Protection Program. (Washington County WQCC, March 2000)

Particular tribs affected by high sediment loads include Sunset Brook (-10) where a delta at its mouth extends over 100 feet into the lake at the county beach area. A local sand pit had been cited as a possible contributor to sediment in this trib. However Mineral Resources staff visited the mine and determined that significant sand and sediment loads from the operation is not likely. (DEC/DMR, January 2001)

Section 303d Listing

These Tribs to Lake George are included on the NYS 2008 Section 303(d) List of Impaired Waters. The tribs are 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 silt/sediment. A draft TMDL for similarly impacted tribs to Lake George identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description

This segment includes the total length of all tribs to Lake George along its eastern shore in Washington County. Tribs within this segment, including Sunset Brook (-10) and Foster Brook (-11), are Class AA-special.

Tribs to L.George, Southeast Shore (1006-0021)

NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No: C-101-P367-27 thru 31
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl
Waterbody Type: River
Waterbody Size: 32.6 Miles
Seg Description: total length of selected tribs

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Warren Co. (57)
Quad Map: LAKE GEORGE (H-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|------------|-----------------------|
| Water Supply | Threatened | Possible |

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS (various)

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE (various)

Resolution/Management Information

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

Resolution Potential: High

Further Details

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAM, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Segment Description

This segment includes the total length of all tribs to Lake George along its southeastern shore in Warren County, between the Warren-Washington County line and the Village of Lake George. Tribs within this segment are Class AA-special.

Tribs to L.George, Village of L George (1006-0008)

Impaired

Waterbody Location Information

Revised: 6/18/2009

| | | | |
|-------------------------|-----------------------------------|------------------------|----------------|
| Water Index No: | C-101-P367-32 thru 40 | Water Class: | AA-spcl |
| Hydro Unit Code: | Lake George-La Chute (0415040802) | Drainage Basin: | Lake Champlain |
| Water Type/Size: | River/Stream 20 Miles | Reg/County: | 5/Warren (57) |
| Description: | total length of selected tribs | | |

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

| Uses Evaluated | Severity | Confidence |
|-----------------------------|------------|-------------|
| Water Supply | Threatened | Unconfirmed |
| Public Bathing | Unassessed | - |
| Recreation | Stressed | Suspected |
| Aquatic Life | Unassessed | - |
| Fish Consumption | Unassessed | - |
| Conditions Evaluated | | |
| Habitat/Hydrology | Poor | |
| Aesthetics | Unassessed | |

Type of Pollutant(s)

| | |
|--------------|--------------------|
| Known: | SILT/SEDIMENT |
| Suspected: | Restricted Passage |
| Unconfirmed: | Pathogens |

Source(s) of Pollutant(s)

| | |
|--------------|--|
| Known: | STREAMBANK EROSION, URBAN/STORM RUNOFF |
| Suspected: | Deicing (stor/appl), Roadbank Erosion, Municipal (Village of Lake George WWTP) |
| Unconfirmed: | Private/Comm/Inst Discharges |

Management Information

| | |
|----------------------------|---|
| Management Status: | Strategy Implementation Scheduled or Underway |
| Lead Agency/Office: | ext/WQCC |
| IR/305(b) Code: | Impaired Water Requiring a TMDL (IR Category 5) |

Further Details

Overview

Fishery habitat and recreational uses in these tribs to Lake George are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Habitat/Hydrology Impacts:

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. The most significant trib deltas include those at the mouths of English, West and East Brooks. (Bathymetric Mapping of Selected Delta Areas of Lake George, Eichler et al, Darrin Freshwater Institute, 1999). Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses (swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means

to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

Water Quality Sampling:

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of West Brook in Lake George, Warren County, (at Gage 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. Biological (macroinvertebrate) sampling results reveal non-impacted conditions, indicating very good water quality. Water column sampling found no parameters of concern. Macroinvertebrates collected at this site and chemically analyzed for selected metals and PAHs found no contaminants to be present at a concentration above the established guidance value. Sediment screening for acute toxicity indicated possible toxicity, but analysis of sediments found no contaminants above the threshold effects concentration. Based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to result in toxicity to sediment-dwelling organisms. Chronic toxicity testing using water from this location elevated mortality and reproductive effects on the test organism in one of the three tests performed; the other test showed no significant mortality or reproductive effects. Based on the consensus of these established assessment methods, overall water quality at this site shows that in spite of some concerns that should continue to be monitored, 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, BWAM/RIBS, May 2009).

A 1999 biological (macroinvertebrate) survey of West Brook (from near the mouth to above the I-87 crossing) found generally good water quality, ranging from non-impacted upstream to slightly impacted conditions downstream. Road runoff, groundwater contributions, and differences in habitat and land use appear to account for the faunal differences seen. A groundwater seep downstream of the Lake George (V) WWTP contributes small amounts of nutrients to the stream. The downstream site was also sampled in 1998 and was assessed as moderately impacted, although very close to the range of slight impact. (West Brook Biological Assessment Report, Bode et al, DEC/DOW, BWAR/SBU, March 2000)

A number of other water quality studies have been focused on urban runoff, stormwater, and other inputs to Lake George. These include an extensive USEPA National Urban Runoff Program study (Lake George Urban Runoff Study, Sutherland et al, 1983), a more recent stormwater runoff study by NYS Park Management and Research Institute and NYSDEC (Feasibility of Reducing the Impacts of Runoff in Developed Areas of Lake George Park, Hyatt et al, 1995), various RPI Freshwater Institute studies, and investigations sponsored by the Warren County Office of Lake George Affairs. (Warren County WQSC and Essex County WQCC, June 2000)

A study conducted for the Lake George Association by the Darrin Fresh Water Institute sampled sediment in deltas at the mouth of numerous tribs to the lake. The study found measurable quantities of various metals and other substances expected in roadway runoff. (Analysis of Sedimentary Metals Associated with Stormwater Runoff in the Lake George Basin, Eichler et al, DFWI, 1997)

Special Protection:

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAM, December 2008)

Watershed Management:

A number of lake/watershed restoration and upland control efforts are underway or have been completed. Two former water supply reservoirs (Gage Brook and Orebed) were dredged to serve as sedimentation basins for West Brook. Detention/infiltration basins have also been installed at Exit 22 of the I-87 Northway, and at the Lake George High School bus garage and gymnasium. Additional nonpoint source controls are needed and are being considered. (DEC/DOW, Region 5, June 2009)

A constructed wetland project is underway to address stormwater runoff from the Canada Street/Route 9 corridor in the West Brook watershed. This project – The West Brook Conservation Initiative – aims to transform the former Gaslight Village property into an environmental park, which will include the restoration of a 4.5 acre constructed wetland to capture stormwater to remove sediment and nutrients before entering Lake George. The initiative is a collaborative effort

between the FUND for Lake George, the Lake George Land Conservancy and the Lake George Association, along with other partners including NYS DOT. Design of the project is well underway with construction anticipated to begin in 2010. (FUND, LGLC and LGA , June 2009)

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Previous Assessments:

Warren County DPW excavates silt load from the head of the Beach Road culvert annually. In addition to roadway runoff, urban runoff and storm sewers are also sources of the sediment. Heavy sediment load transport and deposition at the tributary mouths also restricts recreational boating and navigation in the lake. An expanding deltas also reduces native plant diversity and encourages growth of Eurasian milfoil. The deltas at East Brook (-37), West Brook (-38) and other tribs are being studied by the Lake George Association for possible dredging/removal. Roadbank erosion and runoff from a school athletic field, which enters the stream via drains under the field, are also sources affecting this trib. (Warren County WQSC, June 2000)

Source (Drinking) Water Assessment:

The source water intake for the Village of Lake George is located in Lake George not far from these tribs at a depth of 35 feet. A source water assessment of Lake George found a moderate susceptibility to contamination for this source of drinking water. This level of susceptibility is typical of many water supplies that experience no impacts to water supply use and reflects the need to protect the resource. 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. (NYSDOH, Source Water Assessment Program, 2005)

Section 303d Listing:

These Tribs to Lake George are included on the NYS 2008 Section 303(d) List of Impaired Waters. The tribs are 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 silt/sediment. A draft TMDL for similarly impacted tribs to Lake George identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description:

This segment includes the total length of all tribs to Lake George along its southern shore in Lake George Village. Tribs within this segment, including East Brook (-37), West Brook (-38), Prospect Mountain Brook (-39) and Marine Village (-40), are Class AA-special.

Hidden Lake (1006-0026)

NoKnownImpct

Waterbody Location Information

Revised: 10/05/2000

Water Index No: C-101-P367-38-P377
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: Lake (Oligotrophic)
Waterbody Size: 20.0 Acres
Seg Description: entire lake

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Warren Co. (57)
Quad Map: LAKE GEORGE (H-26-1)

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
TMDL/303d Status: n/a

Resolution Potential: n/a

Further Details

Water Quality Sampling

Monitoring of Hidden Lake was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Segment Description

This segment includes the total area of Hidden Lake (P377) as well as smaller Lower Hidden Lake (P376).

English Brook and tribs (1006-0032)

Impaired Seg

Waterbody Location Information

Revised: 06/18/2009

Water Index No: C-101-P367-41
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: River
Waterbody Size: 15.0 Miles
Seg Description: entire stream and tribs

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Warren Co. (57)
Quad Map: LAKE GEORGE (H-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Water Supply | Threatened | Possible |
| Recreation | Stressed | Suspected |
| HABITAT/HYDROLOGY | Impaired | Known |

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: Restricted Passage
Possible: Pathogens

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION, URBAN/STORM RUNOFF
Suspected: Deicing (stor/appl), Roadbank Erosion
Possible: Private/Comm/Inst

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Resolution Potential: High

Further Details

Overview

Fishery habitat and recreational uses in English Brook are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Habitat/Hydrology Impacts

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. The most significant trib deltas include those at the mouths of English Brook. (Bathymetric Mapping of Selected Delta Areas of Lake George, Eichler et al, Darrin Freshwater Institute, 1999). Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses (swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

Water Quality Sampling

Aquatic life support in some tributaries is considered to be stressed by nonpoint runoff contributions and nutrient enrichment. Biological (macroinvertebrate) sampling conducted on English Brook in 1998 in Lake George Village (at Route 9) found slightly impacted water quality. Impact Source Determination indicated nonpoint source nutrient enrichment. Mayflies, stoneflies, and caddisflies were numerous at this site, and the enrichment was considered minor. (DEC/DOW, BWAR/SBU, June 1999)

A number of other water quality studies have been focused on urban runoff, stormwater, and other inputs to Lake George. These include an extensive USEPA National Urban Runoff Program study (Lake George Urban Runoff Study, Sutherland et al, 1983), a more recent stormwater runoff study by NYS Park Management and Research Institute and NYSDEC (Feasibility of Reducing the Impacts of Runoff in Developed Areas of Lake George Park, Hyatt et al, 1995), various RPI Freshwater Institute studies, and investigations sponsored by the Warren County Office of Lake George Affairs. (Warren County WQSC and Essex County WQCC, June 2000)

A study conducted for the Lake George Association by the Darrin Fresh Water Institute sampled sediment in deltas at the mouth of numerous tribs to the lake. The study found measurable quantities of various metals and other substances expected in roadway runoff. (Analysis of Sedimentary Metals Associated with Stormwater Runoff in the Lake George Basin, Eichler et al, DFWI, 1997)

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAR, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Previous Assessments

Warren County DPW excavates silt load from the head of the Beach Road culvert annually. In addition to roadway runoff, urban runoff and storm sewers are also sources of the sediment. Heavy sediment load transport and deposition at the tributary mouths also restricts recreational boating and navigation in the lake. An expanding deltas also reduces native plant diversity and encourages growth of Eurasian milfoil. The delta at English Brook (-41) and other tribs are being studied by the Lake George Association for possible dredging/removal. (Warren County WQSC, June 2000)

Source (Drinking) Water Assessment

The source water intake for the Village of Lake George is located in Lake George not far from this trib at a depth of 35 feet. A source water assessment of Lake George found a moderate susceptibility to contamination for this source of drinking water. This level of susceptibility is typical of many water supplies that experience no impacts to water supply use and reflects the need to protect the resource. 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. (NYSDOH, Source Water Assessment Program, 2005)

Section 303d Listing

Tribs to Lake George, including English Brook, are included on the NYS 2008 Section 303(d) List of Impaired Waters. The tribs are 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 silt/sediment. A draft TMDL for similarly impacted tribs to Lake George identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class AA-special. Tribs to this reach/segment are also Class AA-special.

Tribs to L.George, Town of Lake George (1006-0004) NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No: C-101-P367-42 thru 48
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl
Waterbody Type: River (Low Flow) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 5.7 Miles **Quad Map:** LAKE GEORGE (H-26-1)
Seg Description: total length of selected tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|------------|-----------------------|
| Water Supply | Threatened | Possible |

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS (various)

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE (various)

Resolution/Management Information

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

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Smith Brook in Diamond Point (at Route 9) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. The sample was dominated by clean-water species and was 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 sample revealed no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAM, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The

process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Previous Assessment

Smith Brook (-47) is the most significant trib within this segment and has been specifically cited due to road sanding practices and the steep terrain of County Route 35. Failing and/or inadequate on-site septic systems serving homes along the stream are also of concern and a possible source of impact. (Warren County WQSC, June 2000)

Segment Description

This segment includes the total length of all tribs to Lake George along its western shore in the Town of Lake George. Tribs within this segment, including Smith Brook (-47), are Class AA-special.

Tribs to L.George, Town of Bolton (1006-0022)

NoKnownImpct

Waterbody Location Information

Revised: 06/29/2009

Water Index No: C-101-P367-49 thru 73 (selected) **Drain Basin:** Lake Champlain
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl Champlain-Lk.George
Waterbody Type: River **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 21.9 Miles **Quad Map:** BOLTON LANDING (G-26-4) ...
Seg Description: total length of selected tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|------------|-----------------------|
| Water Supply | Threatened | Possible |

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS (various)

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE (various)

Resolution/Management Information

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

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Stewart Brook in Bolton Landing (above Goodman Avenue) was conducted in 1998. The macroinvertebrate fauna was dominated by midges, although mayflies, stoneflies, and caddisflies were also numerous. Overall water quality was assessed as non-impacted, based on the indices. (DEC/DOW, BWAR/SBU, January 2000)

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAM, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well

as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Previous Assessment

Impacts to Stewart Brook (-55) from silt/sedimentation, turbidity and discoloration have been previously reported as concerns. A storm sewer outfall at Brook Street and Goodman Avenue conveyed continuous flow, even during long periods of dry weather. The continuous flow and the proximity of the pipe (500 feet) to the leaching beds of the Bolton WWTP suggest that the pipe was capturing treated wastewater leachate from the ground and conveying it to the stream. The town added tertiary sand filters back in the early 2000s. While the storm sewer continues to capture groundwater flow, the improved treatment at the plant has addressed the water quality concerns in the stream. (DEC/DOW, Region 5, June 2009)

Segment Description

This segment includes the total length of all tribs to Lake George along its western shore in the Town of Bolton. Tribs within this segment, including Edmunds Brook (-49) and Stewart Brook (-55), are Class AA-special. Huddle Brook (-53) and Finkle Brook (-56) are listed separately.

Huddle/Finkle Brooks and tribs (1006-0003)

Impaired Seg

Waterbody Location Information

Revised: 06/17/2009

Water Index No: C-101-P367-53,56
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl
Waterbody Type: River (Low Flow) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 18.9 Miles **Quad Map:** BOLTON LANDING (G-26-4)
Seg Description: total length of both streams and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Water Supply | Threatened | Possible |
| Recreation | Stressed | Suspected |
| HABITAT/HYDROLOGY | Impaired | Known |

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: Restricted Passage
Possible: Other Pollutants (various), Pathogens

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION, Urban/Storm Runoff
Suspected: Deicing (stor/appl), Roadbank Erosion
Possible: On-Site/Septic Syst, Other Source (various)

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Resolution Potential: High

Further Details

Overview

Fishery habitat and recreational uses in Huddle and Finkle Brooks are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Habitat/Hydrology Impacts

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses (swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Finkle Brook at Bolton Landing (at Horicon Avenue) was conducted as part

of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. The sample was dominated by clean-water species and was 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 sample revealed no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of Huddle Brook in Bolton Landing (at Route 9) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. The community is somewhat altered from natural conditions. Some sensitive species have been lost and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna were determined to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicates 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(, and there are no other apparent water quality impacts to designated uses). (DEC/DOW, BWAM/SBU, January 2009)

A late 1990s study conducted for the Lake George Association by the Darrin Fresh Water Institute sampled sediment in deltas at the mouth of Finkle Brook and other tribs to the lake. The study found measurable quantities of various metals and other substances expected in roadway runoff. (Analysis of Sedimentary Metals Associated with Stormwater Runoff in the Lake George Basin, Eichler et al, DFWI, 1997)

Special Protection

The waters of this segment (like all tribs to Lake George, as well as the lake itself) have been designated Class AA-special, suitable for use as a drinking water supply. Consequently, these waters are considered highly valued resources which would be included on the DEC/DOW Priority Waterbodies List as Threatened waters, even in the absence of identified water quality impacts. (DEC/DOW, BWAR, December 2000)

Watershed Management

Local agencies have implemented a number of stream improvement projects in the Finkle Brook watershed. The Warren County SWCD completed work on the Artist Falls sedimentation basin to capture sand and sediment before it is carried into Lake George and deposited in the trib delta. The Town of Bolton has also conducted stream improvements along Finkle Brook using EPF funding. All appropriate upland sediment controls are now in place throughout the watershed. Local focus has turned toward discussion of the dredging of the sediment delta in Lake George at the mouth of Finkle Brook. A Generic EIS has been issued for the dredging of Lake George trib sediment deltas. (Warren County WQSC and DEC/DOW, Region 5, June 2009)

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Section 303d Listing

Huddle and Finkle Brooks are included on the NYS 2008 Section 303(d) List of Impaired Waters. The tribs are 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 silt/sediment. A 2005 draft TMDL for Finkle Brook identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description

This segment includes the total length of both Huddle (-53) and Finkle (-56) Brooks and their tribs. The waters of these streams are Class AA-Special. Tribs within this segment are also Class AA-Special.

Trout Lake (1006-0027)

NoKnownImpct

Waterbody Location Information

Revised: 01/09/2001

Water Index No: C-101-P367-53-P379
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: Lake (Unknown Trophic) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 257.6 Acres **Quad Map:** BOLTON LANDING (G-26-4)
Seg Description: 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

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

Trout Lake was included in the 1992 USEPA Environmental Monitoring and Assessment Program (EMAP) effort; results of this study found no evidence of water quality impairment. (DEC/DOW, BWM/Lake Services, December 2000)

Monitoring of Trout Lake was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Source (Drinking) Water Assessment

A source water assessment of Trout Lake found no noteworthy risks to source water quality. 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 Camp Walden.

(NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the total area of Trout Lake (P379).

Edgecomb Pond (1006-0028)

NoKnownImpct

Waterbody Location Information

Revised: 10/05/2000

Water Index No: C-101-P367-56-P381
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: Lake (Mesotrophic)
Waterbody Size: 35.4 Acres
Seg Description: entire lake

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Warren Co. (57)
Quad Map: BOLTON LANDING (G-26-4)

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
TMDL/303d Status: n/a

Resolution Potential: n/a

Further Details

Water Quality Sampling

Monitoring of Edgecomb Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Source (Drinking) Water Assessment

A source water assessment of Edgecomb Pond found this drinking water source does not have an elevated susceptibility to contamination. There are no regulated facilities within this watershed and the corresponding land cover does not pose any substantial risks to the source water quality. 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 Bolton Water District. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the total area of Edgecomb Pond (P381).

Indian Brook and tribs (1006-0002)

Impaired Seg

Waterbody Location Information

Revised: 06/17/2009

Water Index No: C-101-P367-59
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: River (Low Flow) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 29.5 Miles **Quad Map:** BOLTON LANDING (G-26-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Water Supply | Threatened | Possible |
| Recreation | Stressed | Suspected |
| HABITAT/HYDROLOGY | Impaired | Known |

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: Restricted Passage
Possible: Other Pollutants (various)

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION
Suspected: Deicing (stor/appl) (road sanding), Roadbank Erosion, Urban/Storm Runoff
Possible: Other Source (various), Silviculture

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** High
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview

Fishery habitat and recreational uses in Indian Brook are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Indian Brook at North Bolton (at Route 9N) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. The sample was dominated by clean-water species and was 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 sample revealed no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Habitat/Hydrology Impacts

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses

(swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

A 1998-99 study of Indian Brook (Conceptual Design of Upstream Improvements in Stormwater Management, Myers, 1999) conducted for the Lake George Association highlighted a concern regarding the growth of the sediment delta at the mouth of the brook. Aerial photos taken in 1997 show the fan-shaped delta extending 300 feet into the lake. The study identifies three principal sources of sediment load: overall streambank erosion, road sanding practices, and soil loss/erosion from three specific areas. Stream restoration to prevent or minimize erosion along the brook and installation of controls to collect and remove sediment from the stream were recommended. (Warren County WQSC, June 2000)

Special Protection

The waters of this segment (like all tribs to Lake George, as well as the lake itself) have been designated Class AA-special, suitable for use as a drinking water supply. Consequently, these waters are considered highly valued resources which would be included on the DEC/DOW Priority Waterbodies List as Threatened waters, even in the absence of identified water quality impacts. (DEC/DOW, BWAR, December 2000)

Watershed Management

Local agencies have implemented a number of stream improvement projects in the Indian Brook watershed and additional restoration activities are continuing. A Generic EIS has been issued for the dredging of Lake George trib sediment deltas. The current focus of activities in the watershed is the completion of appropriate upland sediment controls. Once these are complete, consideration of dredging of the delta would be a future focus. (Warren County WQSC and DEC/DOW, Region 5, June 2009)

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Section 303d Listing

Indian Brook is included on the NYS 2008 Section 303(d) List of Impaired Waters. The tribs are 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 silt/sediment. A 2005 draft TMDL for similarly impacted tribs to Lake George identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class AA-special. Tribs to this reach/segment are also Class AA-special.

Minor Lakes in L.George (NW) Wshed (1006-0029)

NoKnownImpct

Waterbody Location Information

Revised: 10/05/2000

Water Index No: C-101-P367-59..P382 thru P393 (sel) **Drain Basin:** Lake Champlain
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl Champlain-Lk.George
Waterbody Type: Lake **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 143.5 Acres **Quad Map:** BOLTON LANDING (G-26-4) ...
Seg Description: total area of selected lakes

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

Monitoring of a number of ponds within this segment was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. Data for Wing Pond (P382), Pole Hill Pond (P383), Indian Pond (P384), Long Pond (P385), Island Pond (P386), Round Pond (P390) and Duck Pond (P391) revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Segment Description

This segment includes the total area of all selected/smaller lakes/ponds within the Upper Putnam Creek watershed. Lakes within this segment, including Wing Pond (P382), Pole Hill Pond (P383), Indian Pond (P384), Long Pond (P385), Island Pond (P386), Pine Lake (P388), Round Pond (P390) and Duck Pond (P391) as well as Brown Pond (P383a), Spectacle Pond (P393) and unnamed ponds (P387, P389a), are Class AA-Special.

Northwest Bay Brook and tribs (1006-0023)

NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No: C-101-P367-65
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl
Waterbody Type: River
Waterbody Size: 70.7 Miles
Seg Description: entire stream and tribs

Drain Basin: Lake Champlain
Reg/County: 5/Warren Co. (57)
Quad Map: SILVER BAY (G-26-2) ...

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|------------|-----------------------|
| Water Supply | Threatened | Possible |

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS (various)

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE (various)

Resolution/Management Information

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

Resolution Potential: High

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Northwest Bay Brook in North Bolton (at Route 9N) was conducted in 1998. The sample passed the field screening criteria, indicating non-impacted water quality conditions and was not retained. (DEC/DOW, BWAR/SBU, January 2000)

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAR, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George

Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class AA-special. Tribs to this reach/segment are also Class AA-special.

Tribs to L.George, Town of Hague (1006-0024)

NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No: C-101-P367-74 thru 89 (selected) **Drain Basin:** Lake Champlain
Hydro Unit Code: 02010001/190 **Str Class:** AAspcl Champlain-Lk.George
Waterbody Type: River **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 32.7 Miles **Quad Map:** BOLTON LANDING (G-26-4)
Seg Description: total length of selected tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|------------|-----------------------|
| Water Supply | Threatened | Possible |

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS (various)

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE (various)

Resolution/Management Information

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

Further Details

Special Protection

The waters of this segment (like all tribs to Lake George) have been designated a Class AA-special water, suitable for use as a drinking water supply. The Class AA-special designation also means there shall be no discharge or disposal of sewage, industrial wastes, or other wastes into these waters. As a result of this designation, the lake is considered a highly valued resource and is subject to special protections which may result in an assessment of threatened (possible) for drinking water use. (DEC/DOW, BWAR, December 2008)

Watershed Management

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Segment Description

This segment includes the total length of selected smaller tribs to Lake George along its western shore within the Town of Hague. Tribs within this segment, including Jabe Pond Brook (-83) are Class AA-special. Hague Brook (-86) is listed

separately.

Jabe Pond (1006-0030)

NoKnownImpct

Waterbody Location Information

Revised: 10/05/2000

Water Index No: C-101-P367-83-P394
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: Lake (Unknown Trophic) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 147.5 Acres **Quad Map:** BOLTON LANDING (G-26-4)
Seg Description: 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

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

Monitoring of Jabe Pond was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Segment Description

This segment includes the total area of Jabe Pond (P394) as well as smaller Little Jabe Pond (P394a).

Hague Brook and tribs (1006-0006)

Impaired Seg

Waterbody Location Information

Revised: 06/17/2009

Water Index No: C-101-P367-86
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: River (Low Flow) **Reg/County:** 5/Warren Co. (57)
Waterbody Size: 17.9 Miles **Quad Map:** GRAPHITE (F-26-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Water Supply | Threatened | Possible |
| Recreation | Stressed | Suspected |
| HABITAT/HYDROLOGY | Impaired | Known |

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: Restricted Passage
Possible: Pathogens

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION, Urban/Storm Runoff
Suspected: Deicing (stor/appl), Roadbank Erosion
Possible: - - -

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Resolution Potential: High

Further Details

Overview

Fishery habitat and recreational uses in Hague Brook are restricted by excessive sediment loads. Various nonpoint sources, as well as natural sediment runoff from steep gradient streams, are the source of the sediment.

Habitat/Hydrology Impacts

Fast-flowing, high gradient streams carry considerable bed load during snowmelt and other high flow events. The sediment is deposited at stream mouths creating large deltas that restrict fish migration and spawning. Additionally, the large delta areas diminish recreation (swimming, fishing, boating) in the lake (see also Lake George segment). The restricted flow at the trib mouths can also impact stream hydrology, and contribute to flooding concerns. Various recreational uses (swimming, fishing) in the streams may also be affected. Sources of additional sediment in the tribs includes streambank and roadbank erosion, winter road sanding practices, and construction activities (primarily residential) in the watershed. Because of the inter-relationship between the sediment loads from the tributaries and the impact of the resulting lake deltas on recreation/fish habitat in the lake itself as well as the tribs, a lake watershed approach would be the most effective means to address the silt/sedimentation issues in the tribs. (DEC/DOW and FWMR, Region 5, June 2000)

A 1998-99 study of Hague Brook (Conceptual Design of Upstream Improvements in Stormwater Management, Myers, 1999) conducted for the Lake George Association highlighted a concern regarding the growth of the sediment delta at the

mouth of the brook. Aerial photos taken in 1997 show the fan-shaped delta extending 300 feet into the lake, continuing growth of the delta along the lake shore. The study identifies three principal sources of sediment load: overall streambank erosion, road sanding practices, and soil loss/erosion from three specific areas. Stream restoration to prevent or minimize erosion along the brook and installation of controls to collect and remove sediment from the stream are recommended. (Warren County WQSC, June 2000)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Hague Brook at Hague (at Route 9N) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. The sample was dominated by clean-water species and was 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 sample revealed no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A late 1990s study conducted for the Lake George Association by the Darrin Fresh Water Institute sampled sediment in deltas at the mouth of Finkle Brook and other tributes to the lake. The study found measurable quantities of various metals and other substances expected in roadway runoff. (Analysis of Sedimentary Metals Associated with Stormwater Runoff in the Lake George Basin, Eichler et al, DFWI, 1997)

A number of other water quality studies and monitoring efforts have been conducted on Hague Brook and Lake George waters. These include Preliminary Design of Upstream Improvements Associated with Stormwater Remediation, Hague Brook Project (Myers, 1999), Final Report for the Lake George Phase II Clean Lakes Project (Sutherland, 1999), Feasibility of Reducing the Impacts of Stormwater Runoff in Developed Areas of the Lake George Park (Hyatt et al, 1995), Final Report: Lake George Urban Runoff Study (Sutherland et al, 1983), and Unpublished Discharge and Water Chemistry Data for Hague Brook (Sutherland et al, 1992-2000)

Special Protection

The waters of this segment (like all tributes to Lake George, as well as the lake itself) have been designated Class AA-special, suitable for use as a drinking water supply. Consequently, these waters are considered highly valued resources which would be included on the DEC/DOW Priority Waterbodies List as Threatened waters, even in the absence of identified water quality impacts. (DEC/DOW, BWAR, December 2000)

Watershed Management

Local agencies have implemented a number of stream improvement projects in the Hague Brook watershed. Construction of the Hague Brook Sediment Pond and Darrin Sediment Basin (on a small tribute adjacent to Hague Brook) were completed using EPF funding. All appropriate upland sediment controls are now in place throughout the watershed. Local focus has turned toward discussion of the dredging of the sediment delta in Lake George at the mouth of Hague Brook. A Generic EIS has been issued for the dredging of Lake George tribute sediment deltas. (Warren County WQSC and DEC/DOW, Region 5, June 2009)

The Lake George Park Commission is currently undertaking the formulation of new regulations on stream corridor management and watershed protection to better protect the water quality of Lake George. More than 25 stakeholder organizations participated through representatives in a public planning effort and series of four workshop meetings. The process produced a literature review, conceptual framework and significant public comment. A Final Generic EIS as well as Draft Stream Corridor Management Regulations are currently available for public review and comment. (Lake George Park Commission, June 2009, <http://www.lgpc.state.ny.us>)

Section 303d Listing

Hague Brook is included on the NYS 2008 Section 303(d) List of Impaired Waters. The tributes are 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 silt/sediment. A 2005 draft TMDL for similarly impacted tributes to Lake George identified the need to dredge sediment deltas in order to fully restore recreational uses. However this non-traditional approach was not considered by EPA to meet the requirements of a TMDL. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class AA-special. Tribs to this reach/segment are also Class AA-special.

Wintergreen Lake, North Lake (1006-0031)

NoKnownImpct

Waterbody Location Information

Revised: 10/05/2000

Water Index No: C-101-P367..P395a,P395
Hydro Unit Code: 02010001/190 **Str Class:** AAspc1
Waterbody Type: Lake
Waterbody Size: 92.8 Acres
Seg Description: total area of both lakes

Drain Basin: Lake Champlain
Champlain-Lk.George
Reg/County: 5/Warren Co. (57)
Quad Map: SILVER BAY (G-26-2) ...

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
TMDL/303d Status: n/a

Resolution Potential: n/a

Further Details

Water Quality Sampling

Monitoring of Wintergreen Lake was included in the Adirondack Lake Survey Corporation (ALSC) lake monitoring and assessment effort conducted in the mid-1980s (1984-86). Generally these were one-time samples analyzed for variety of parameters, including total phosphorus, pH and water color. These data revealed no indication of impacts to aquatic life support or recreational use at the time. Because the data is limited to single samples and collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC, DOW, BWAM/WQAS, January 2009 and ALSC, 1984-86)

Segment Description

This segment includes the total area of Wintergreen Lake (P395a) and North Pond (P395).