



Fishkill Creek (0202000803)

Water Index Number

H- 92-P331
H- 94
H- 94
H- 94
H- 94- 3-P337
H- 94- 4
H- 94- 6-P340
H- 94- P333
H- 94-P338b
H- 94-P341a
H- 95
H- 95
H- 95
H- 95- 2
H- 95- 2-P345
H- 95- 5
H- 95- 5- 2
H- 95- 5- 2-P345k
H- 95- 5- 3-P345a

Waterbody Name

Melzing Reservoir (1301-0183)
Quassaic Creek, Lower, and minor tribs(1301-0079)
Quassaic Creek, Middle, and tribs (1301-0184)
Quassaic Creek, Upper, and tribs (1301-0185)
Crystal Lake (1301-0186)
Gidneytown Creek and tribs (1301-0187)
Orange Lake (1301-0008)
Muchattoes Lake (1301-0188)
Glenwood Lake (1301-0189)
Chadwick Lake (1301-0190)
Fishkill Creek, Lower, and tribs (1304-0003)
Fishkill Creek, Middle, and minor tribs (1304-0010)
Fishkill Creek, Upper, and minor tribs (1304-0011)
Dry Brook, Upper, and tribs (1304-0012)
Beacon Reservoir (1304-0013)
Clove Creek and tribs (1304-0014)
Hell Hollow Creek, Upper, and tribs (1304-0015)
Lake Valhalla (1304-0016)
Beacon/Cargill Reservoir (1304-0017)

Category

UnAssessed
MinorImpacts
UnAssessed
UnAssessed
UnAssessed
UnAssessed
Impaired Seg
UnAssessed
UnAssessed
NoKnownImpact
MinorImpacts
UnAssessed
UnAssessed
UnAssessed
UnAssessed
UnAssessed
NoKnownImpact
UnAssessed
UnAssessed
UnAssessed

| | | |
|----------------------------|---|---------------------|
| H- 95- 5- 3a-P345i | Barrett Pond (1304-0018) | UnAssessed |
| H- 95- 5- 6-P345cc | Jordan Pond (1304-0019) | UnAssessed |
| H- 95- 5c..P345kkk,P345lll | Brickerhoff Pond, Sharp Reservoir (1304-0020) | UnAssessed |
| H- 95-10 | Sprout Creek, Lower, and tribs (1304-0021) | NoKnownImpct |
| H- 95-10 | Sprout Creek, Upper, and tribs (1304-0022) | NoKnownImpct |
| H- 95-10- 1b-P345g | Hillside Lake (1304-0001) | Impaired Seg |
| H- 95-10- 2 | Jackson Creek and tribs (1304-0023) | NoKnownImpct |
| H- 95-10-10-P348o | Tyrell Lake (1304-0024) | UnAssessed |
| H- 95-11a-P345y | Lake Walton (1304-0025) | UnAssessed |
| H- 95-12a-P349 | Penneywater Pond (1304-0026) | UnAssessed |
| H- 95-13 | Wickopee Creek/Shenendoah Brook and trib (1304-0027) | UnAssessed |
| H- 95-14 | Sylvan Lake Outlet and tribs (1304-0028) | UnAssessed |
| H- 95-14-P354 | Sylvan Lake (1304-0029) | MinorImpacts |
| H- 95-19 | Whaley Lake Brook and tribs (1304-0030) | NoKnownImpct |
| H- 95-19- 3 | Gardner Hollow Brook, Upper, and tribs (1304-0031) | UnAssessed |
| H- 95-19- 4- 4a-P351n | Nuclear Lake (1304-0032) | UnAssessed |
| H- 95-19-P353,P354 | Whaley Lake, Little Whaley Lake (1304-0033) | NoKnownImpct |
| H- 95-P356,P357,P358a,P359 | Furnace, McKinney, Christie, Pray Ponds (1304-0034) | UnAssessed |

revealed moderate to severely impacted communities attributed to toxic influences. Some of these impacts were noted above the CSO area. Because of unidentified toxic sources, the intermittent nature of the CSO discharges and the tidal influences along this reach of the creek, it was not possible to determine the relative contributions of various pollutant sources. The City of Newburgh is currently developing a Long-Term Control Plan to address CSO discharges and resulting impacts on Quassaic Creek and other receiving waters. (DEC/DOW, BWAM/SBU, Quassaic Creek Biological Assessment, June 1987 and DEC/DOW, BWP, March 2008)

Additionally, current volunteer monitoring of the creek by local groups (Newburgh School District) also indicate areas of significant impact remain. (Orange County SWCD, December 1999)

Section 303(d) Listing

Quassaic Creek is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The stream is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. Depending on the progress regarding the CSO LTCP, this waterbody should be considered for delisting in the 2010 Section 303(d) List cycle. (DEC/DOW, BWAM, March 2008)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to Chadwick Lake in Cronomer Valley. The waters of this portion of the stream are Class C. Tribs to this reach/segment are also Class C. Gidneytown Creek (-4) and Middle/Upper Quassaic Creek are listed separately.

Orange Lake (1301-0008)

Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 94- 6-P340
Hydro Unit Code: 02020008/080 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 411.8 Acres
Seg Description: entire lake
Drain Basin: Lower Hudson River
Reg/County: 3/Orange Co. (36)
Quad Map: NEWBURGH (O-24-3)

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

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|----------|-----------------------|
| Aquatic Life | Stressed | Possible |
| RECREATION | Impaired | Known |
| Aesthetics | Stressed | Known |

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), Algal/Weed Growth (algal bloom, vegetation)
Suspected: - - -
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg3
TMDL/303d Status: n/a->1*,4c* **Resolution Potential:** Medium

Further Details

Overview

Recreational uses in Orange Lake are considered to be impaired due to aquatic weed and algal growth and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to these impairments.

Water Quality Sampling

Orange Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1994 through 1998; it was sampled most recently in 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive, based on low water transparency, and high nutrient (primarily phosphorus) and algae levels. Phosphorus levels in the lake consistently exceed (and often significantly exceed) the state phosphorus guidance value indicating impacted/stressed recreational uses. Corresponding transparency measurements occasionally fail to meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately to highly colored, however color only is thought to influence transparency only when algae levels are low. (DEC/DOW, BWAM/CSLAP, January 2006)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment (2005) indicates recreational suitability of the lake to be somewhat unfavorable. The recreational suitability of the lake is described most frequently as "slightly" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants do not typically grow to the lake surface, although this assessment might not reflect impacts from curly-leaf pondweed which usually occurs during the spring. (DEC/DOW, BWAM/CSLAP, January 2006)

Lake Uses

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

Previous Assessment

The recreational uses and aesthetics in Orange Lake are restricted by algal blooms and excessive aquatic vegetation. A suspected source of nutrients feeding the lake include inadequate and/or failing on-site septic systems serving residences along the lake and lawn chemical/fertilizer usage. (DOW/Reg3, June 1999)

Section 303(d) Listing

Orange Lake not is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. However this updated assessment suggests it is appropriate to include this waterbody on the 2010 List. It is recommended that a listing for phosphorus be added to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Fishkill Creek, Lower, and tribs (1304-0003)

MinorImpacts

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H- 95
Hydro Unit Code: 02020008/070 **Str Class:** C
Waterbody Type: River
Waterbody Size: 17.4 Miles
Seg Description: entire stream and tribs, from mouth to Brickerhoff

Drain Basin: Lower Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: WAPPINGERS FALLS (O-25-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|----------|-----------------------|
| Aquatic Life | Stressed | Suspected |

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: UNKNOWN TOXICITY, Pathogens
Possible: Metals, Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: MUNICIPAL, OTHER SANITARY DISCH, URBAN/STORM RUNOFF, Agriculture
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg3
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic Life support in this portion of Fishkill Creek is thought to experience minor impacts due to nutrient enrichment from primarily nonpoint sources. Toxic municipal/industrial inputs have also been identified a possible contributors to the impacts.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Fishkill Creek in Beacon (at Main Street) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by tolerant filter-feeding caddisflies. Impact Source Determination indicated both nonpoint source nutrient enrichment and possible toxic inputs from municipal/industrial sources as the primary stressors on the stream. Similar results were noted in sampling conducted in 1997, 98 and 99. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, December 2004) (DEC/DOW, BWAM/SBU, December 2004)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to a point 8.3 miles above the mouth, above Clove Creek (-5) near Brickerhoff. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Lower Dry Brook (-2), are Class C. Upper Dry Brook (-2), Clove Creek (-5) and

Middle/Upper Fishkill Creek are listed separately.

Clove Creek and tribs (1304-0014)

NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H- 95- 5
Hydro Unit Code: **Str Class:** C(TS)*
Waterbody Type: River
Waterbody Size: 35.6 Miles
Seg Description: entire stream and tribs
Drain Basin: Lower Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: WAPPINGERS FALLS (O-25-4)

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

A biological (macroinvertebrate) assessment of Clove Creek near Fishkill (at Mill Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The fauna was diverse and all screening criteria for waters having no known impacts were met. The field assessment was verified by laboratory-sorting of the sample to family level. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(TS). Tribs to this reach/segment, including Lower Hell Hollow Creek (-2), Trout Creek (-3) and Stephens Brook (-4), are primarily Class C,C(T); a small portion of Upper Trout Creek is Class A(T). Upper Hell Hollow Brook is listed separately.

Sprout Creek, Lower, and tribs (1304-0021)

NoKnownImpct

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H-95-10
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 18.3 Miles
Seg Description: stream and tribs, from mouth to Noxon
Drain Basin: Lower Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: HOPEWELL JUNCTION (O-25-3)

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

Further Details

Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Sprout Creek in Swartoutville, Dutchess County, (at Route 82) was conducted in 2003. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions. diverse fauna of mayflies, stoneflies and caddisflies was present. Water column sampling revealed only iron to be a parameters of concern. However, this substance is considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed some PAHs and pesticides degradation products to be exceeding the Threshold Effects level - levels at which adverse impacts occasionally occur. Toxicity testing of the water column showed no significant mortality or reproductive impacts. Based on the consensus of these established assessment methods, overall water quality at this site is considered to be fully supportive of the aquatic life and recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Sprout Creek (at Todd Hill Road) was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results also indicated slightly impacted water quality conditions. Communities were dominated by filter-feeding caddisflies and nonpoint source nutrient enrichment was identified as the primary source of inputs. However, nutrient biotic evaluation determined these effects on the fauna to be minor. 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, December 2004)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Jackson Creek (-2) near Noxon. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C. Jackson Creek and Upper Sprout Creek are listed separately.

Sprout Creek, Upper, and tribs (1304-0022)

NoKnownImpact

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H- 95-10
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 68.2 Miles
Seg Description: stream and tribs, above Noxon
Drain Basin: Lower Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: PLEASANT VALLEY (O-25-2)

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

A biological (macroinvertebrate) assessment of Sprout Creek in Freedom Plains (at Todd Hill Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Communities were dominated by filter-feeding caddisflies and nonpoint source nutrient enrichment was identified as the primary source of inputs. However, nutrient biotic evaluation determined these effects on the fauna to be minor. 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, December 2004)

Segment Description

This segment includes the portion of the stream and all tribs above Jackson Creek (-2) near Noxon. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Pond Gut (-10) and Willow Brook (-13), are Class C. Jackson Creek and Lower Sprout Creek are listed separately.

Hillside Lake (1304-0001)

Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

| | | | | |
|-------------------------|--------------------|---------------------|----------------------------|----------------------|
| Water Index No: | H- 95-10- 1b-P345g | Drain Basin: | Lower Hudson River | |
| Hydro Unit Code: | 02020008/070 | Str Class: | B | Low Hudson-Wappinger |
| Waterbody Type: | Lake | Reg/County: | 3/Dutchess Co. (14) | |
| Waterbody Size: | 25.9 Acres | Quad Map: | HOPEWELL JUNCTION (O-25-3) | |
| Seg Description: | entire lake | | | |

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

| Use(s) Impacted | Severity | Problem Documentation |
|-----------------|----------|-----------------------|
| Public Bathing | Stressed | Known |
| Aquatic Life | Stressed | Possible |
| RECREATION | Impaired | Known |
| Aesthetics | Stressed | Known |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: AGRICULTURE, ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

| | | |
|-----------------------------|--|-------------------------------------|
| Issue Resolvability: | 1 (Needs Verification/Study (see STATUS)) | |
| Verification Status: | 4 (Source Identified, Strategy Needed) | |
| Lead Agency/Office: | DEC/Reg3 | Resolution Potential: Medium |
| TMDL/303d Status: | 1 (Individual Waterbody Impairment Requiring a TMDL) | |

Further Details

Overview

Recreational uses in Hillside Lake are considered to be impaired due to algal growth, nutrients and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. On-site (septic) systems are thought to be sources of these pollutants. Nonpoint impacts from urban/stormwater runoff and agricultural activities may also be contributing sources.

Water Quality Sampling

Hillside Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) but not since 1996. Data from that sampling indicate that the lake is best characterized as eutrophic, or highly productive, based on low water transparency, and high nutrient (primarily phosphorus) and algae levels. Phosphorus levels in the lake consistently exceed (and often significantly exceed) the state phosphorus guidance value indicating impacted/stressed recreational uses. Corresponding transparency measurements do not meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, 1996)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment (2005) indicates recreational suitability of the lake to be very unfavorable. The recreational suitability of the lake is described most frequently as "substantially" impacted for most recreational uses. The lake itself is most often described as not supporting recreational uses ("recreation impossible"). Assessments have noted that aquatic plants grow to the lake surface and are very dense. (DEC/DOW, BWAM/CSLAP, 1996)

Lake Uses

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

Section 303(d) Listing

Hillside Lake is currently 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 with Impairment Requiring TMDL Development due to phosphorus. (DEC/DOW, BWAM/WQAS, May 2008)

Sylvan Lake (1304-0029)

Impaired Seg

Waterbody Location Information

Revised: 03/10/2010

| | | | |
|-------------------------|----------------------|---------------------|---------------------------|
| Water Index No: | H- 95-14-P354 | Drain Basin: | Lower Hudson River |
| Hydro Unit Code: | 02020008/070 | Str Class: | B(T) Low Hudson-Wappinger |
| Waterbody Type: | Lake (Mesoeutrophic) | Reg/County: | 3/Dutchess Co. (14) |
| Waterbody Size: | 113.3 Acres | Quad Map: | POUGHQUAG (O-26-4) |
| Seg Description: | entire lake | | |

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

| Use(s) Impacted | Severity | Problem Documentation |
|-------------------|------------|-----------------------|
| Public Bathing | Stressed | Known |
| AQUATIC LIFE | Impaired | Known |
| Recreation | Stressed | Known |
| Habitat/Hydrology | Threatened | Known |

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, Nutrients (phosphorus)
Suspected: ---
Possible: Pathogens

Source(s) of Pollutant(s)

Known: ---
Suspected: ON-SITE/SEPTIC SYST, PRIVATE/COMM/INST (Springhill), Other Source (waterfowl)
Possible: ---

Resolution/Management Information

| | | |
|-----------------------------|--|-------------------------------------|
| Issue Resolvability: | 1 (Needs Verification/Study (see STATUS)) | |
| Verification Status: | 3 (Cause Identified, Source Unknown) | |
| Lead Agency/Office: | DEC/Reg3 | Resolution Potential: Medium |
| TMDL/303d Status: | 3b (Waterbody Requiring Verification of Cause/Pollutant) | |

Further Details

Overview

Aquatic life support in Sylvan Lake is considered impaired due to impacts on cold water fishery from periods and expanding areas of low dissolved oxygen in the lake. Although decreasing D.O. with depth is typical in thermally stratified lakes, the steady and significant increase in the hypoxic zone of the lake in recent years suggest other factors may be influencing conditions. Recreational uses (swimming, fishing) in the lake are considered to be stressed. Nutrient loadings result in mesotrophic - trending toward eutrophic - conditions, which also contribute to the low dissolved oxygen. Excessive aquatic vegetation in the lake shallows has been raised as a concern by local users/land owners. Impacts from inadequate/failing on-site septic systems are the suspected source of nutrients. Resident Canadian Geese frequent the lake and are also a likely contributing source.

Water Quality Sampling

Sylvan Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) sampling effort, a component

of the Rotating Intensive Basin Studies (RIBS) Program, in 2008. Nutrient, chlorophyll and clarity measurements taken at that time revealed (the lake was best characterized as mesoeutrophic, of moderately to highly productive. Lake clarity and phosphorus levels in the lake indicate mesotrophic conditions, while chlorophyll levels are typical of eutrophic lakes. Dissolved oxygen levels in the lake during the summer fell to about 4-5 mg/l at depths ranging from 3 to 6 meters, creating a relatively narrow band of sufficiently cold and oxygenated water to support trout. These results were generally consistent with conditions reported in a previous (2003) survey. The recreational suitability of the lake was judged to be favorable, with the lake itself described as "not quite crystal clear" and "excellent" for most uses. Aquatic plants grow to the lake surface in some areas and plant density is reported to be heavy at times. It is not clear whether local complaints regarding weed growth are associated with invasives (Eurasian milfoil) or native plants. (DEC/DOW, BWAM/RIBS, January 2010)

A survey was conducted in 2003 that found the lake to be strongly stratified with a relatively warm epilimnion extending from the surface to a depth of about 15 feet. However at depths of about 32 feet the D.O. dropped to below 5 ppm, leaving a relatively narrow zone capable of supporting trout. These findings coupled with those of previous surveys also reflect a steady and dramatic reduction of the trout zone from 102 feet (in 1936) to 45 feet (in 1961) to 38 feet (in 1981) to only 12 feet (in 2003). More recent sampling in 2006 found improved conditions, but this remains a formerly oligotrophic lake that is now clearly mesotrophic with conditions that some years approach eutrophic. Increases in aquatic vegetation filling the shallows of the lake were also noted. (DEC/DFWMR, Region 3, September 2003)

Source Assessment

The lake has no significant tributaries waters, a watershed of only 518 acres, and an estimated hydraulic retention time of 7.33 years. These conditions and the fact that about one-half of the watershed is developed with a mix of homes, cottages, camps and condominiums suggests that local sources, primarily on-site septic systems and lawn runoff, are the primary causes of the impacts. A residential development on the lake is served by a treatment facility that has been the subject of a NYSDEC consent order to address discharges without a permit. Though this facility is a subsurface discharge, there is concern that sewage finds its way to the lake. The Dutchess County Health Department is also involved because of Health Code violations. Large numbers of resident Canadian geese are also found at the lake and are a likely contributing source of nutrients. (DEC/DOW, Region 3, August 2006)

Jackson Creek and tribs (1304-0023)

NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H- 95-10- 2 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Dutchess Co. (14)
Waterbody Size: 30.1 Miles **Quad Map:** PLEASANT VALLEY (O-25-2)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

| Use(s) Impacted | Severity | Problem Documentation |
|------------------|----------|-----------------------|
| NO USE IMPAIRMNT | | |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Jackson Creek near Lagrangeville (at Route 33) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. although the substrate was less than ideal (gravel) the fauna was dominated by clean-water mayflies. (DEC/DOW, BWAM/SBU, December 2004)

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

Whaley Lake Brook and tribs (1304-0030)

NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H-95-19
Hydro Unit Code: Str Class: C(T)
Waterbody Type: River
Waterbody Size: 24.8 Miles
Seg Description: entire stream and tribs
Drain Basin: Lower Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: POUGHQUAG (O-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

A biological (macroinvertebrate) assessment of Whaley Lake Stream in Poughquag (at Route 7) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The fauna was diverse, well-balanced and included many clean-water mayflies, stoneflies and caddisflies. Some indication of silt and nutrient inputs were noted but these impacts are minor. Aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts.]. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Lower Gardner Hollow Brook (-3), are primarily Class C,C(T). Upper Gardner Hollow Brook is listed separately.

Lake Uses

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