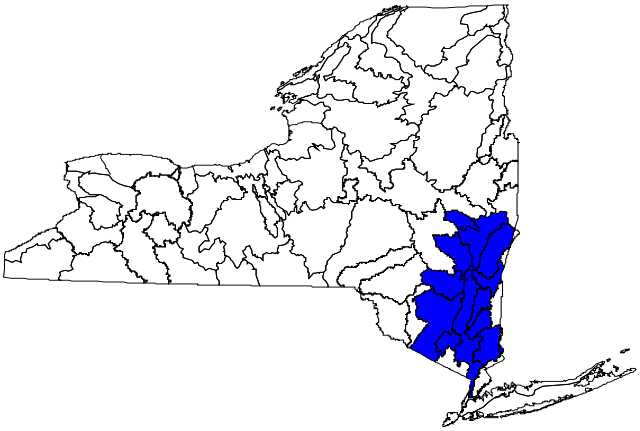
Bureau of Watershed Assessment and Management
Division of Water
NYS Department of Environmental Conservation

The Lower Hudson River Basin Waterbody Inventory and Priority Waterbodies List

Encompassing all or portions of
Albany, Bronx, Columbia, Dutchess, Greene,
New York, Orange, Putnam, Rensselaer,
Rockland, Schenectady, Schoharie,
Sullivan, Ulster and Westchester Counties



August 2008

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The Waterbody Inventory and Priority Waterbodies List

In order to fulfill certain requirements of the Federal Clean Water Act, the New York State Department of Environmental Conservation (NYSDEC) must provide regular, periodic assessments of the quality of the water resources in the state, and their ability to support specific uses. These assessments reflect monitoring and water quality information drawn from a number of programs and sources, both within and outside NYSDEC. This information has been compiled by NYSDEC Division of Water and merged into an inventory database of all waterbodies in New York State. The database is used to record current water quality information, characterize known and/or suspected water quality problems and issues, and track progress toward their resolution. This inventory of water quality information is the division's Waterbody Inventory/Priority Waterbodies List (WI/PWL).

In addition to providing a baseline assessment of water quality, the Waterbody Inventory/Priority Waterbodies List supports program management within the Division of Water in other ways. For example:

A Focus for Division Program Activities
Because of limited resources, various division programs (monitoring, compliance, restoration and protection activities, grant funding, etc) need to address those specific water quality issues – both statewide problems (e.g., stormwater, toxic/contaminated sediment) and site/waterbody-specific concerns – where program efforts will have the greatest impact.

A Consistent and Objective Inventory
WI/PWL assessments of water quality problems and issues are used in the development of program-specific priority ranking/scoring systems and efforts.

A Record of Water Quality History
Because the WI/PWL provides information for specific waterbodies, staff can easily respond to questions – from both within and outside the division (including the public) – concerning what is known about the water quality of specific rivers, lakes and watersheds.

A Measure of Progress
The WI/PWL also aids in the tracking of progress by division programs and other efforts toward improving the water resources of the state.

Comprehensive Assessment Strategy

The Waterbody Inventory/Priority Waterbodies List is a key component of the Division of Water's larger *Comprehensive Assessment Strategy*. This strategy is designed to integrate a variety of division activities into a more coordinated and comprehensive water quality program. The specific goals of the *Comprehensive Assessment Strategy* are to provide a:

- thorough (appropriate to available resources) monitoring of state waters;
- complete evaluation and consideration of all available monitoring data;
- comprehensive assessment of the quality of all waters in the state; and
- coordinated approach to improving and protecting these water resources.

Implementation of the *Comprehensive Assessment Strategy* relies on a rotating drainage basin approach. This approach focuses water quality monitoring and assessment activities on a portion of the state for a designated period of time, and then turns attention to other parts of the state. New York State's use of the rotating basin approach enables the updating of the WI/PWL in two or three of its seventeen drainage basins (about 20% of the state) each year. This schedule allows for a comprehensive reassessment of the water quality throughout the entire state over a five-year cycle (see Figure 1).

Statewide Waters Monitoring Program

Prior to the updating of the WI/PWL, the division conducts a two-year monitoring effort in the targeted drainage basins. These basin studies – conducted within the Division of Water's Statewide Waters Monitoring Program – involve a variety of sampling activities conducted by the division, other NYSDEC programs, and water quality partners outside NYSDEC.

The first year of these basin studies focuses on the review of existing water quality information and the incorporation of monitoring efforts being conducted by other basin/watershed partners. Division monitoring activities in the first year are generally limited to *biological screening*. Biological screening relies on the use of resident biological communities as indicators of water quality. The primary biological communities are fish, macroinvertebrates (aquatic insects) and algae. Of these, macroinvertebrates have proven the most appropriate for screening water quality at a large number of sites in a reasonable amount of time.

The second year of the basin studies involves more intensive chemical and biological monitoring. This includes water chemistry sampling at selected sites, sediment chemistry/toxicity sampling, multiple site surveys along specific river reaches, and other site- or problem-specific monitoring investigations.

Water Quality Assessments: Updating the WI/PWL

At the conclusion of the monitoring effort in a basin, the water quality data are evaluated to assess the ability of the waterbodies to support specific water uses (water supply, public bathing, aquatic life, secondary recreation, etc). As was the case with the monitoring effort, the evaluation and assessment of data and subsequent updating of WI/PWL information incorporates input from division/department staff and outside partners as well. WI/PWL assessment workshops are conducted for NYSDEC regional staff and watershed partners within each targeted basin, and participants are encouraged to submit assessment worksheets for waterbodies for which they have information. This information – along with Statewide Waters Monitoring Program assessment information – is compiled and distributed to participants for review and comment before the Final WI/PWL Assessment Report is issued.

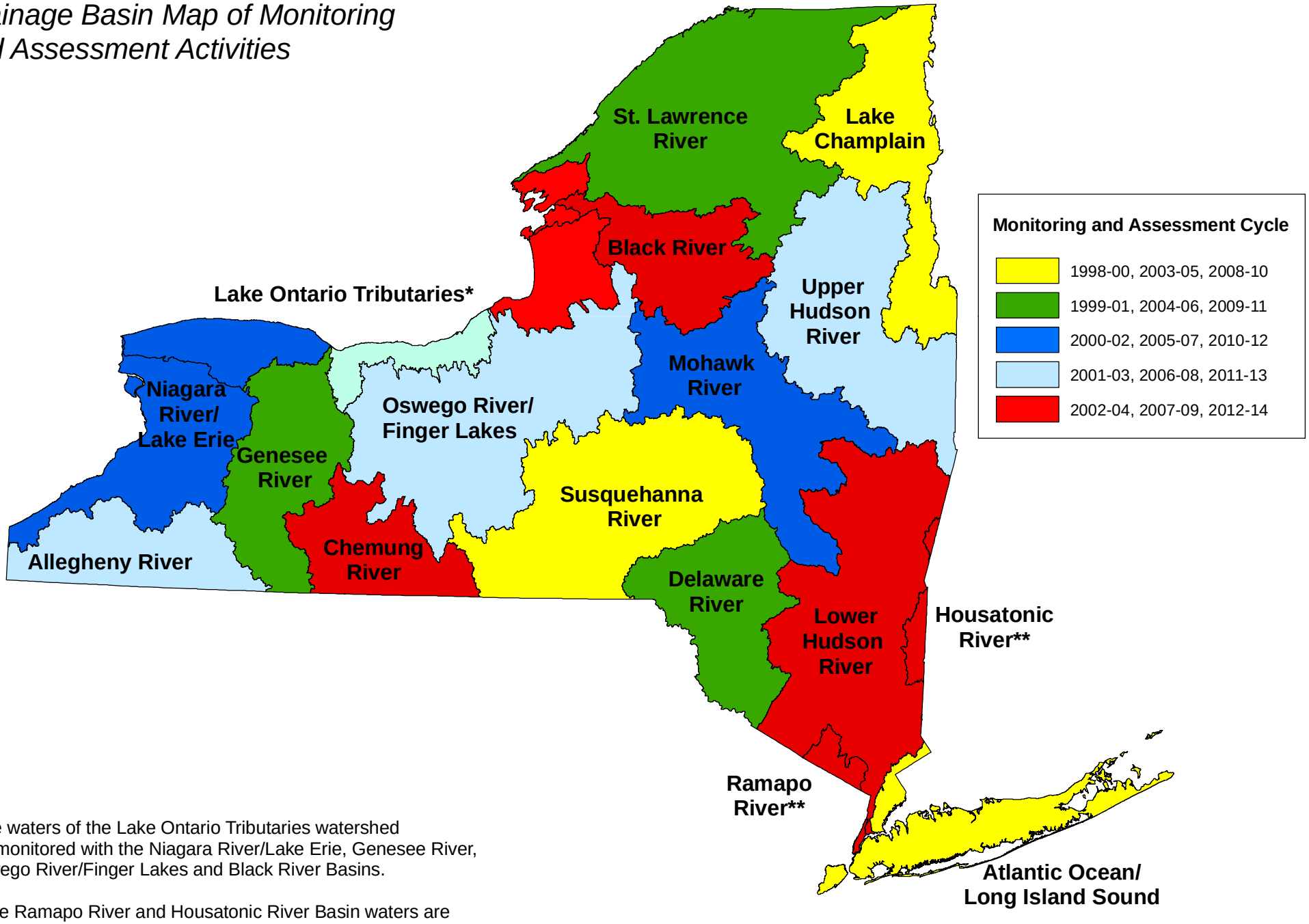
An Expanded *Waterbody Inventory*

Upon its inception in 1983 and through the mid-1990s, the Priority Waterbodies List was limited to recording information for only those waters with known or suspected water quality problems. The expansion of the database to include *all* waters in the state, including those with good and unknown water quality, is a fairly recent effort. However, while this expanded waterbodies database provides more complete water quality information, for program management purposes the division must also be able to cull a subset of "*priority*" waterbodies from the inventory of all waters on which the division should spend resources. In other words, there is a need for both a comprehensive *Waterbody Inventory* of water quality information for all waters in the state and a subset of this inventory that is limited to segments with well documented, potentially resolvable, higher priority problems and issues. This subset of the Waterbody Inventory is the *Priority Waterbodies List*.

Figure 1

Comprehensive Assessment Strategy

Drainage Basin Map of Monitoring and Assessment Activities



*The waters of the Lake Ontario Tributaries watershed are monitored with the Niagara River/Lake Erie, Genesee River, Oswego River/Finger Lakes and Black River Basins.

**The Ramapo River and Housatonic River Basin waters are monitored with the Lower Hudson River basin.

In order to achieve these multiple objectives, segments in the larger comprehensive Waterbody Inventory are segregated into one of six (6) *Water Quality Assessment Categories*. These are outlined below.

WI/PWL Waterbody Assessment Categories

Impaired Waters: These are waterbodies with well documented water quality problems that result in *precluded* or *impaired* uses (waters with *stressed* or *threatened* uses are not included in this category). This category includes *High* and *Medium Resolvability* segments where the Division considers the expenditure of additional resources to improve water quality to be worthwhile given public interest and/or the expectation that a measurable improvement can be achieved; and *Low Resolvability* segments with persistent/intractable problems on which the Division is not likely to spend any significant resources (e.g., segments affected by atmospheric deposition, etc.).

Waters with Minor Impacts: These are waterbodies where less severe water quality impacts are apparent but uses are still considered fully supported. These segments correspond to waters listed as having *stressed* uses.

Threatened Waterbodies: These are waterbodies for which uses are not restricted and no water quality problems exist but where specific land use or other changes in the surrounding watershed are known or strongly suspected of threatening water quality. Also included in this category are waterbodies where the support of a specific and/or distinctive use make the waterbody more susceptible to water quality threats.

Waterbodies with Impacts Needing Verification: These are segments that are thought to have water quality problems or impacts but for which there is not sufficient or definitive documentation. These segments require additional monitoring to determine whether uses are restricted.

Waterbodies Having No Known Impacts: These are segments where monitoring data and information indicate that there are no restrictions to overall uses, although minor impacts to component indicators (such as biological assessments) may be present.

UnAssessed Waterbodies: These are segments where there is insufficient water quality information available to assess the support of designated uses.

Taken together, *Impaired Waters*, *Waters with Minor Impacts* and *Threatened Waterbodies* comprise the Division of Water Priority Waterbodies List (PWL). These segments are the focus of remedial/corrective and resource protection activities by the division and its water quality partners.

***Waterbodies with Impacts Needing Verification, Waterbodies Having No Known Impacts* and *UnAssessed Waterbodies* are tracked on the comprehensive Waterbody Inventory, but are not considered to be included among waters on the Priority Waterbodies List.** For these waters, additional monitoring and assessment activities to document possible or potential future impacts, causes and sources are more appropriate than remedial/corrective action or resource protection efforts.

Maintaining a comprehensive Waterbody Inventory allows division staff to easily respond to questions – from both within and outside NYSDEC – concerning the water quality of specific rivers, lakes and watersheds. By segregating the database in the manner described above, the Division can also identify specific priorities where the coordination of limited resources can most effectively address water quality problems.

The Lower Hudson River Basin

Basin Description

The Lower Hudson River Basin makes up about forty percent of the larger Hudson/Mohawk River Basin, which also includes the Upper Hudson and Mohawk River Basins and is one of the largest drainage areas on the eastern seaboard of the United States. Taken together, these three basins drain over 12,800 square miles (including one-quarter of New York State), covering much of eastern New York State and small portions of New Jersey, Connecticut, Massachusetts and Vermont. The Lower Hudson River Drainage Basin, which includes all the waters that drain into the Hudson below the Federal Dam in Troy, covers 4,982 square miles. The main stem of the Lower Hudson River is not actually a river, but rather a tidal estuary for its entire 153 mile length from the Battery at the southern tip of Manhattan to the Troy Dam. The drainage area of the of the Lower Hudson includes much of Westchester, Putnam, Orange, Dutchess, Ulster, Columbia, Greene, Albany and Rensselaer Counties; and parts of New York (Manhattan), Bronx, Rockland, Sullivan, Schoharie and Schenectady Counties.

The Lower Hudson River Basin is arguably the most diverse of any major drainage basin in the state. It encompasses portions of New York City as well as other urban centers, highly populated and developed suburbs, rural and agricultural areas, and largely unpopulated forested lands including much of the 700,000 acre Catskill Park. The economy of the basin is equally diverse with virtually every economic sector – including service, financial, manufacturing, agricultural, tourism/recreational – well represented. The majority of the total basin population of 3,887,321 (2000) is concentrated in the southern portion of the basin in New York City and surrounding suburbs, and in other urban/suburban areas located along the river. In addition to portions of the New York City boroughs of Manhattan (1,437,195, total) and the Bronx (1,332,650, total), other population centers include Yonkers (190,086), Albany (95,658, portion), Troy (49,170, portion) Poughkeepsie (29,871), Newburgh (28,259), Middletown (25,388) Ossining (24,010), Kingston (23,456) and Peekskill (22,441).

There are about 8,861 miles of rivers and streams in the basin and over 1,400 lakes and ponds. Many of the ponds are too small to be individually assessed, but 324 significant* lake, pond and reservoir waterbody segments (covering 37,676 acres) are included in the Lower Hudson Basin Waterbody Inventory. In addition the Hudson River accounts for 78,322 acres of estuary waters in the basin. The largest river watershed in the basin is the Rondout River Watershed with about 1,584 miles of streams or 18% of the basin total; this watershed includes 976 miles of stream in the Wallkill River drainage. Other large tributary watersheds in the basin include the Stockport/Kinderhook Creek Watershed (1,077 miles of stream, 12%), the Catskill Creek Watershed (927 miles, 10%), the Esopus Creek Watershed (631 miles, 7%) and the Croton River Watershed (607 miles, 7%). Of the lakes/reservoirs, the largest are Ashokan Reservoir (8,060 acres, or 21% of the basin lake acres), Rondout Reservoir (2,024 acres, 5%), New Croton Reservoir (1,949 acres, 5%), Alcove Reservoir (1,363 acres, 4%), Cross River Reservoir (899 acres, 2%) and Muscoot/Upper New Croton Reservoir (770 acres, 6%). Five of these six reservoirs (as well as ten of the sixteen largest lakes/reservoirs in the state) are part of the New York City Water Supply System. The reservoirs of the New York City system make up 46% of the lake reservoir acres in the state.

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* *Significant Lakes* are lakes of 6.4 acres (0.01 square miles) or larger and are included the New York State Lakes Gazeteer.

Water Quality Issues and Problems

The sources of water quality impacts in the Lower Hudson River are as diverse as the watershed area. Municipal wastewater, urban runoff, contaminated sediments from past industrial activities, agricultural impacts, inadequate on-site septic system treatment and streambank erosion are just some of contributors to basin waters quality issues. Many of these sources are fairly common concerns in watersheds that are highly populated. Beyond the urban areas, increasing development and urban sprawl create additional stresses. Even in more rural parts of the basin, lakes and streams experience impacts from agricultural activity and atmospheric deposition.

In addition to addressing existing sources and restoring impacted waters, there is also widespread interest and support for protecting the highly valued water resources of the Lower Hudson Basin. The Hudson River itself is the focus of considerable attention not only due to its water resource value, but its uniqueness as an estuary, the fishery and wildlife it supports, and its historical and cultural significance. Similar protections are supported for upland waters that flow through wilderness and recreational areas like the Catskill Park and that feed the numerous drinking water supply reservoirs in the basin.

Hudson River PCBs/Other Fish Consumption Advisories

Fish consumption in a number notable waters in the Lower Hudson Basin is impaired due to various toxic pollutants that result in NYS Department of Health fish consumption health advisories. The most significant of these advisories are those that apply to the main stem of the Hudson River itself. These advisories recommend limiting consumption of many species (and eating none of other species) because of elevated levels of PCBs and other contaminants. The contamination is considered to be the result of past industrial discharges, particularly PCB discharges in the Upper Hudson River (for more information, see the Upper Hudson River WI/PWL Report). These restrictions have severely affected what had at one time been thriving commercial fishing industries.

Significant past industrial contamination has also resulted in advisories for Nassau (Rensselaer County) and Kinderhook (Columbia County) Lakes. Consumption of American eel from the Saw Mill River (Westchester County) is restricted due to contamination by past use of the pesticide chlordane. A number of other lakes and reservoirs have advisories in place due to atmospheric deposition of mercury, which has become a regional issue among northeastern states.

Declining Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Declines in American eel, smelt and blueback herring have also been reported. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of by-catch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species.

Urban/Industrial/CSO Runoff

Various recreational uses, aquatic life use support, and aesthetics in stretches of the urban waterways throughout the basin are significantly restricted by pollutants from various industrial, municipal, and commercial sources. The most significantly affected of these waterbodies are located in the New York City metropolitan area and the Albany Pool at the head of the estuary. Urban storm runoff transports a variety of pollutants and debris into the waterways. In addition, combined sewer overflows (CSOs) convey pollutants to the Hudson River and its urban tributaries during wet-weather periods. Contaminated sediments, inactive hazardous waste sites and other impacts attributed to past/historic discharges also limit waterbody uses.

Swimmable Hudson River

In spite of continuing water quality issues, improvement in Hudson River water quality since the 1970s has been significant. In response, there has been a rise in recreational use and growing public interest for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use, publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, NYSDEC Hudson River Estuary Program and Division of Water are focusing on four primary areas of water quality impact: 1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with the Phase II Stormwater permit program, and 4) continued support of a vessel No Discharge Zone in the Hudson.

Commercial Development/Suburban Sprawl

Impacts on aquatic life and other uses due to increasing commercial and suburban residential development is of particular concern in the Lower Hudson Basin. Such development and the accompanying expansion of impervious surfaces results in more nonpoint runoff and increasing loadings of silt, nutrients and chlorides and increases stream flows and velocities, leading to unstable stream channels, erosion and degraded habitat. The cumulative effect of additional residential wastewater impacts – be they individual on-site systems, cluster systems or smaller municipal facilities – also contribute to minor impacts where previously there were none. A recent study of water quality trends over a thirty-year period found that nearly two-thirds of the locations in New York State where water quality measurably declined are attributable to previously non-impacted sites that now exhibit minor impacts (NYSDEC, Bode et al., 2004). In three-quarters of those instances the impact was due to nonpoint source nutrient enrichment of the stream.

A typical example of this water quality decline has occurred in Woodbury Creek in Orange County. Biological surveys of the creek were conducted in 1987, 2004 and 2005. Survey results show declines in water quality at multiple sites between previous and more recent sampling. The sampling indicated two causes of impacts: increased nutrient enrichment and an abundance of algae, most pronounced downstream of wastewater treatment facilities serving new residential developments; and significantly increased chloride levels attributable to runoff from shopping malls in the drainage headwaters.

Lake Eutrophication and Recreational Use Impacts

Eutrophication is a natural process that occurs as a lake ages and is not necessarily indicative of man-made pollution. However when human activities (e.g., shoreline erosion, urban/agricultrual runoff, wastewater discharges or septic seepage) accelerate this process, it is known as cultural eutrophication. Such accelerated changes can alter plant and animal life within the lake, shoreline and surrounding watershed, and decrease the water quality and recreational value of a lake. The population growth and preponderance of small lakes in the Lower Hudson Basin result in the frequent occurrence of such impacts on recreational uses of basin lakes.

Protection of New York City Water Supply Reservoirs

New York City maintains a system of reservoirs in the Hudson and Delaware Basins to provide drinking water to the millions of people who live and work in the city. The Ashokan and Rondout Reservoirs are the two Lower Hudson Basin reservoirs in the Catskill/Delaware System, which provides 90% of the New York City water supply. The Croton System, which provides the other 10%, is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton and Catskill/Delaware Systems. To that end a Watershed Agreement is in place between New York City Department of Environmental Protection (NYCDEP) and the watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the Croton Watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings.

Hudson River Estuary Program

To further restore and protect the waters of the Hudson River, NYSDEC established the Hudson River Estuary Program in 1987 to provide a holistic (watershed) approach to management of the ecosystem. The Hudson River Estuary Program leads a unique regional partnership of agencies, organizations and the public to restore the Hudson in ways that support the quality of life so valued by Hudson Valley residents. The program focuses on conservation of natural resources, promotion of full public use and enjoyment of the river; and reducing pollution that affects the ability to use and enjoy the river. The Estuary Program implements the Hudson River Estuary Action Agenda through numerous partners in government, non-profit and business sectors, and concerned citizens. The program is built on sound science and principles of ecosystem-based management. It is guided by the Hudson River Estuary Advisory Committee, which includes representatives of the commercial fishing industry, recreational anglers, utility companies, local government, educators, researchers, conservationists and other river users. This facilitates working with many representatives of the public toward common goals.

Groundwater Resources

Although groundwater resources are not specifically tracked through the WI/PWL, they are considered *Priority Waters* nonetheless. Groundwater provides drinking water for about one-third of the population of New York State and is the source of base flow for most rivers and streams in the state. Management and protection of both the quantity and quality of this resource is critical for protecting public health and is also a key element of surface water quality and wetland management efforts. In the Lower Hudson River Basin, the more significant threats to groundwater resources include inactive hazardous waste sites and industrial discharges, pesticide application, chemical spills, animal feeding operations and inadequate on-site wastewater treatment systems. The impact of increasing groundwater withdrawals in order to support growing development and population and resulting discharges and higher stream flow is an emerging issue that merits additional investigation.

Lower Hudson River Basin Water Quality Assessment

The series of charts presented on the following pages provides an overall assessment of water quality conditions in the entire Lower Hudson River Basin. For each waterbody type (rivers/streams, lakes/reservoirs and estuary waters) the first chart shows the percentage of the miles/acres of waters in the basin that fall into the various water quality assessment categories. The **red** portion of the first pie indicates the percentage of waters characterized as *Not Supporting Uses*. The **purple** portion represents segments with *Minor Impacts/Threats*. Taken together, these categories of waters comprise the *Priority Waterbodies* for that waterbody type. The percentage of miles/acres for the other water quality assessment categories – waterbodies having *No Known Impacts*, *UnAssessed Waters*, and waterbodies with *Impacts Needing Verification* – are shown in **blue**, **light blue**, and **green** respectively.

The second pie chart shows the severity of the most significant use impact or restriction for waters in the two categories that comprise the Priority Waterbodies. The levels of severity are:

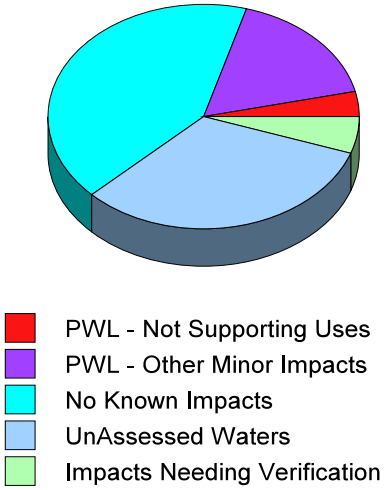
Precluded: waters do not support appropriate uses;
Impaired: waters frequently do not support appropriate uses;
Stressed: waters support appropriate uses, but other water quality impacts are apparent; and
Threatened: waters support uses and have no impacts, but activities threaten future use support.

More detailed descriptions of these levels of severity are outlined in *Appendix A - Assessment Methodology*.

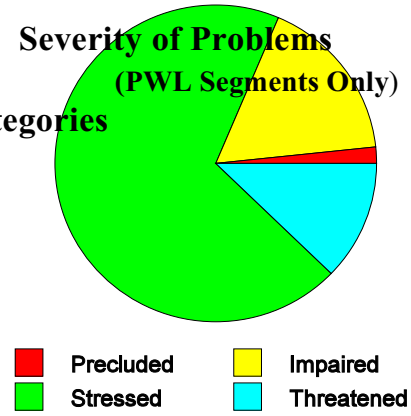
The bar charts indicate the pollutant sources that are most frequently cited as major contributors to the water quality impacts for Priority Waterbodies in the Lower Hudson River Basin. The charts reflect the percentage of miles/acres of the total waterbody area on the Priority Waterbodies List where a particular source is listed as a major contributor to the water quality impact. For each source, the color shading of the bar indicates the severity level (*Precluded*, *Impaired*, *Stressed*, *Threatened*) of the most significant water use impact to the waterbody.

Rivers/Streams

Water Quality Assessment Categories
(for ALL Waters in the Basin)



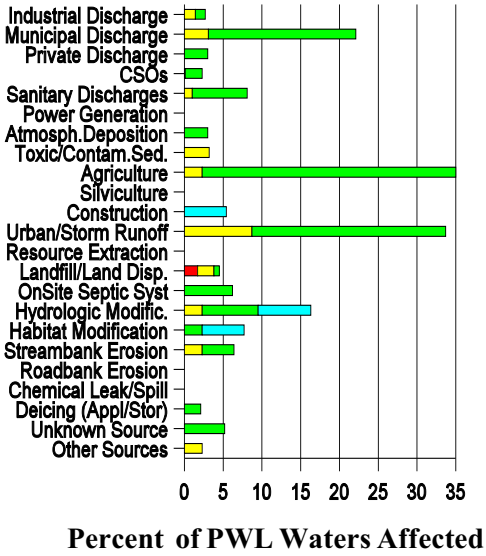
Severity of Problems
(PWL Segments Only)



Lower Hudson Basin

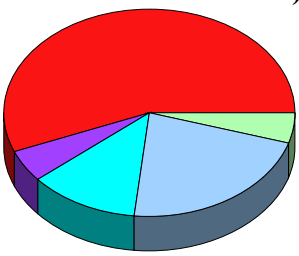
Total River Miles:	8,861
Total PWL Miles:	1,820

Major Sources of Impact
(PWL Segments Only)



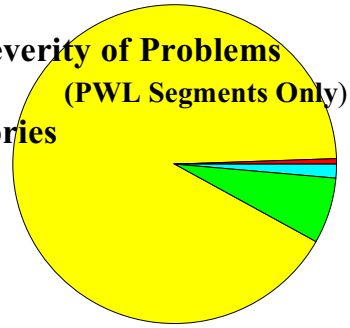
Lakes/Reservoirs

Water Quality Assessment Categories
(for ALL Waters in the Basin)



- PWL - Not Supporting Uses
- PWL - Other Minor Impacts
- No Known Impacts
- UnAssessed Waters
- Impacts Needing Verification

Severity of Problems
(PWL Segments Only)

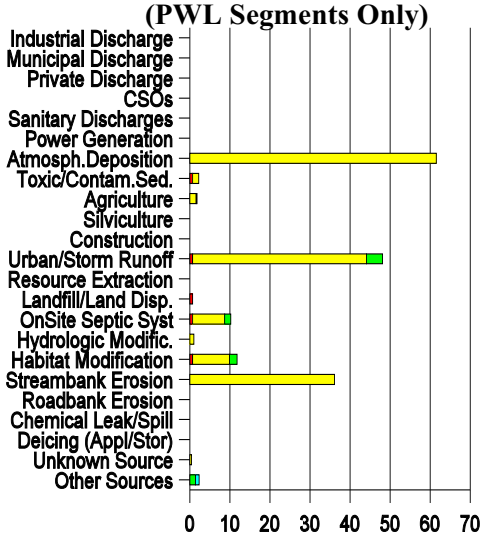


- Precluded
- Impaired
- Stressed
- Threatened

Lower Hudson Basin

Total Lake Acres:	37,676
Total PWL Acres:	23,027

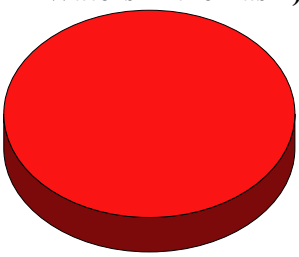
Major Sources of Impact
(PWL Segments Only)



Percent of PWL Waters Affected

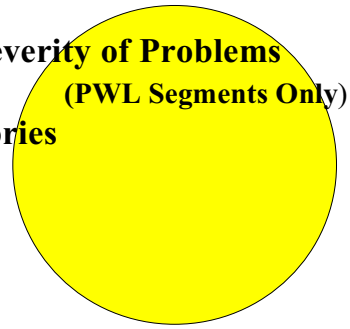
Estuary Waters

Water Quality Assessment Categories
(for ALL Waters in the Basin)



- PWL - Not Supporting Uses
- PWL - Other Minor Impacts
- No Known Impacts
- UnAssessed Waters
- Impacts Needing Verification

Severity of Problems
(PWL Segments Only)

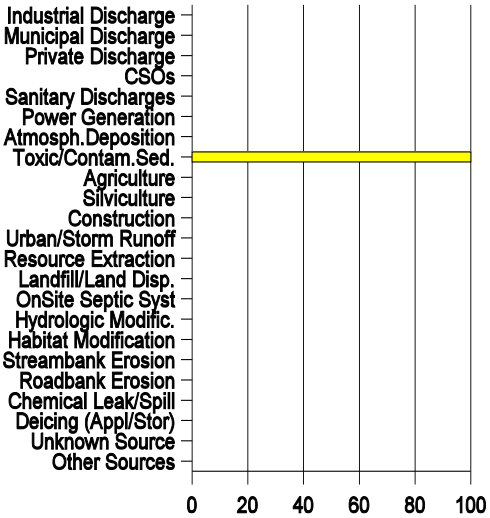


- Precluded
- Impaired
- Stressed
- Threatened

Lower Hudson Basin

Total Estuary Acres:	78,322
Total PWL Acres:	78,322

Major Sources of Impact
(PWL Segments Only)



Percent of PWL Waters Affected

Basin Water Quality Summary

About twenty percent (21%, or 1,890 miles) of the 8,861 river miles in the Lower Hudson River Basin are included on the Priority Waterbodies List as either not supporting uses or having minor impacts or threats to water quality. The large majority (82%) of these Priority Waterbody Listed river miles are considered *Stressed* or *Threatened* waters that fully support appropriate uses but have minor impacts/threats to uses. Only about four percent (4%) of all basin river miles are *Impaired* and do not fully support appropriate uses.

Fifty-six (56) of the 324 separate lake segments in the basin are included on the PWL as having either impaired uses or minor impacts/threats to uses. However these 56 impaired/impacted lakes include a number of larger lakes and represent over sixty percent (61%) of the total lake acres in the basin. For 39 of these lakes (totaling 21,192 acres, or 56% of basin lake acres) the impacts are such that fish consumption, recreational uses and/or aquatic life support are not fully supported. Over two-thirds (70%) of the impaired lake acres are the result of fish consumption advisories, primarily due to the atmospheric deposition of mercury.

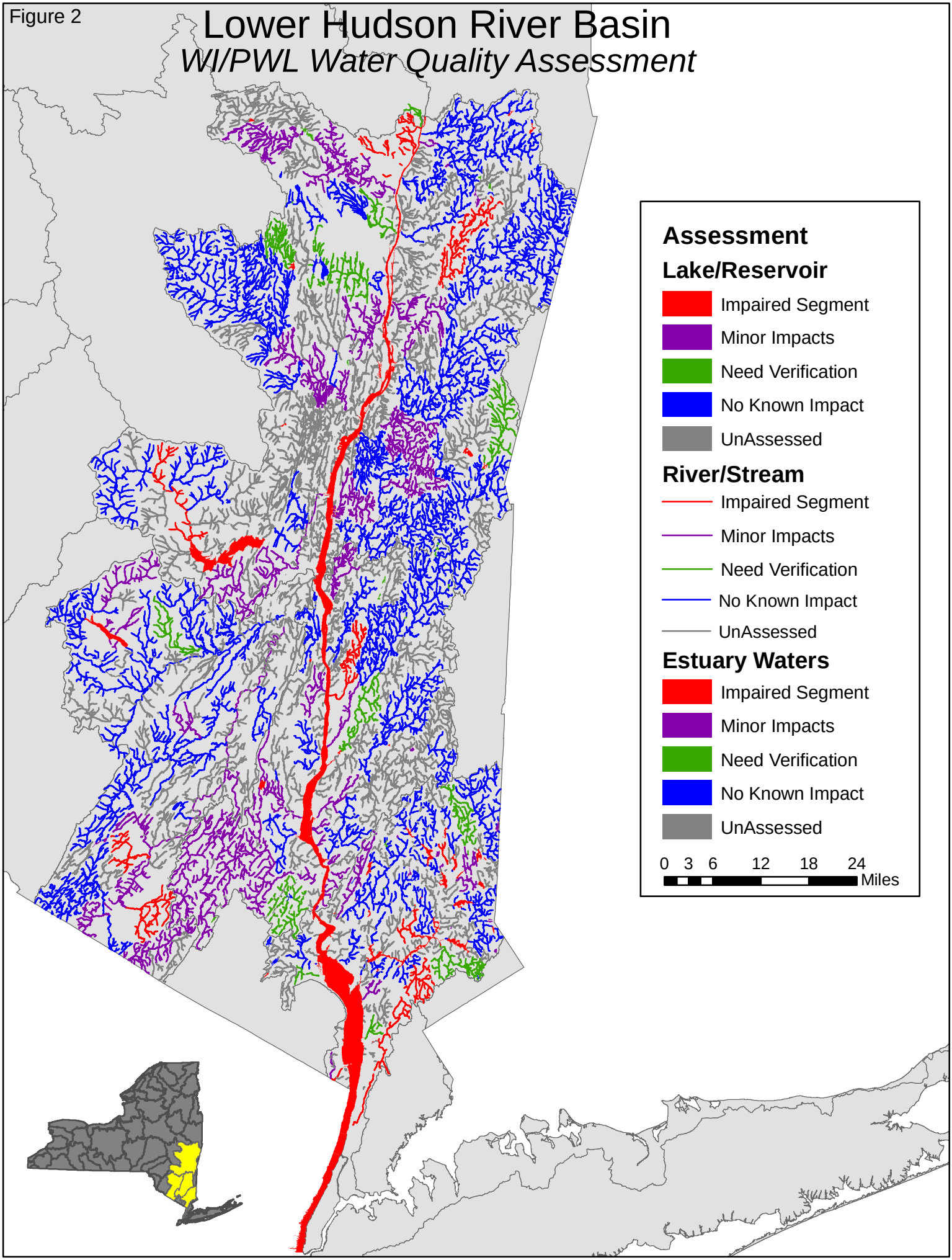
All of the estuary waters of the Hudson River are impaired due to fish consumption advisories that extend from the Battery at the southern tip of Manhattan to the Troy Dam. These advisories are the result of past industrial discharges, particularly PCB discharges in the Upper Hudson River.

In addition to atmospheric deposition and toxic/contaminated sediments related to past industrial discharges (noted above), the most frequently cited sources affecting water quality in the basin are urban/stormwater runoff, agricultural activity and municipal wastewater discharges. These sources reflect the diverse character of the basin which has densely populated urban centers, sprawling suburban developments and considerable rural agricultural areas. The multiple sources of impact to rivers in the stream also highlight the variety of water quality issues in the basin.

Figure 2

Lower Hudson River Basin

WI/PWL Water Quality Assessment



The Lower Hudson River Basin Waterbody Inventory/Priority Waterbodies List

This compilation of water quality information includes individual waterbody *Data Sheets* describing the water quality conditions in the Lower Hudson River Basin of New York State. Causes (pollutants) and sources of water quality problems for those waterbodies with known or suspected impacts are also outlined.

The data sheets are presented in hydrologic order, beginning with the most downstream waters and continuing upstream through the basin. Waterbody data sheets are grouped by US Geological Survey Hydrologic Unit Code (HUC) basin and presented as separate sections of this report (see Figure 3). A Waterbody Inventory of the specific waterbody segments in each watershed is included at the beginning of each watershed section.

Data sheets are included for each waterbody that has been assessed; i.e., waterbodies listed as *Impaired Waters* (Not Supporting Uses), Waters with *Minor Impacts*, *Threatened Waters,* waters with water quality impacts ***Need Verification***, or waterbodies with *No Known Impact*. *UnAssessed* waterbodies are included in the Waterbody Inventory for each watershed, but because they have not been assessed data sheets for these waters have not been included.

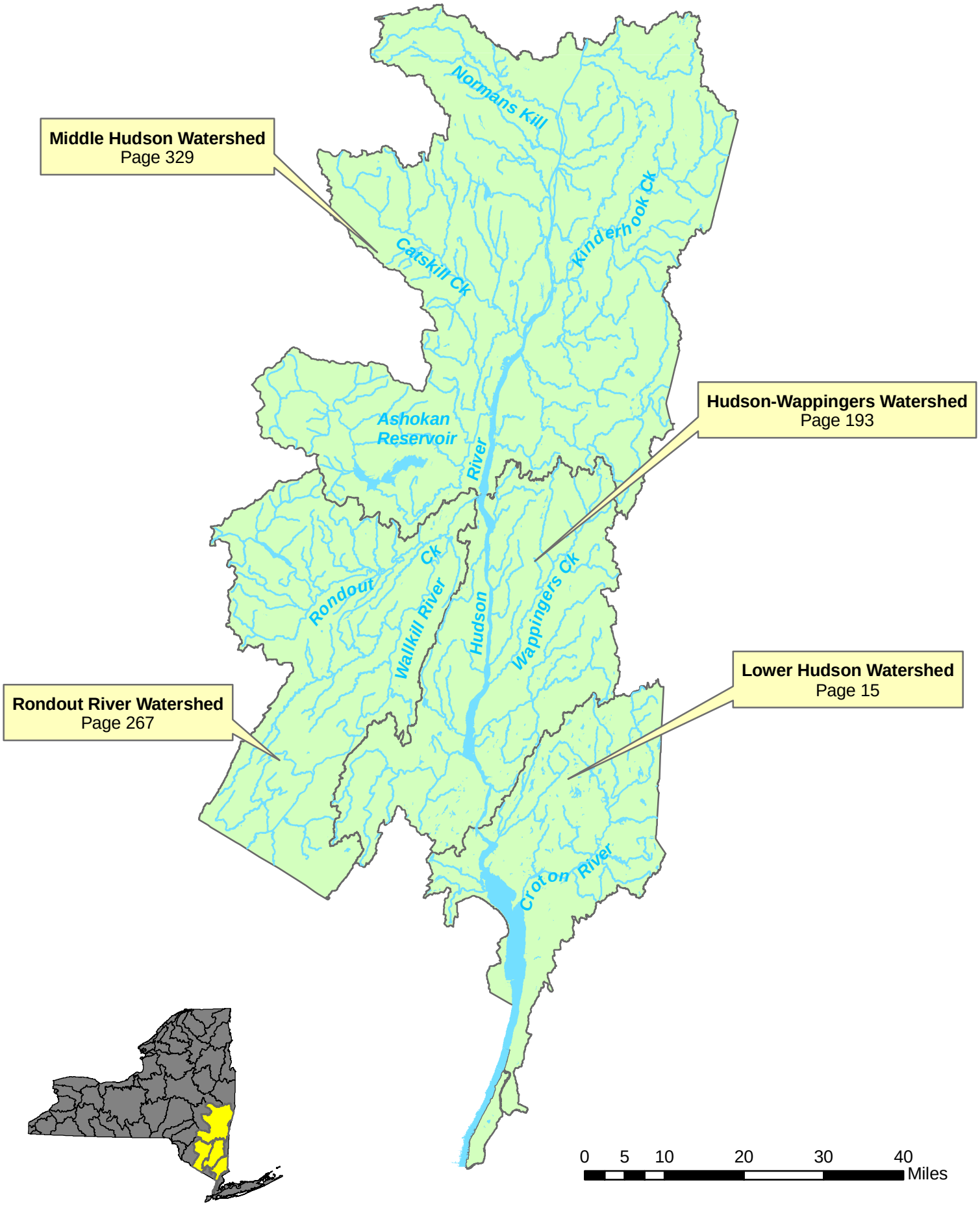
The information outlined on the data sheets includes *Waterbody Location Information*, *Water Quality Problem/Issue Information*, *Resolution/Management Information* and *Further Details*. See *Appendix B – Waterbody Inventory Data Sheet Background Information* for more details about the data sheets.

Note that the assessments in this report reflect the best available water quality information at the time of publication. Water quality information may be added or modified subsequent to the preparation of this edition of the Waterbody Inventory and Priority Waterbodies List. When information is updated, the data sheet for the corresponding waterbody segment is issued with the date of revision. More recently revised data sheets supercede the corresponding waterbody information in this listing.

Following the individual waterbody data sheets in the watershed sections, a *Summary Listing of Priority Waters* provides a brief overview of all *Priority Waterbodies*, i.e., waterbodies listed as *Impaired Waters* (Not Supporting Uses), Waters with *Minor Impacts* and *Threatened Waters*.

Indices of waterbody data sheets by both county and alphabetically by segment name are included as Appendix C and D, respectively.

Lower Hudson River Drainage Basin Watersheds



Waterbody Inventory
for
Lower Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Lower Hudson, Main Stem, Battery to Bear Mountain Bridge		
H (portion 1)	Hudson River (Class I) (1301-0006)	**Impaired Seg**
H (portion 2a)	Hudson River (Class SB), portion (1301-0005)	**Impaired Seg**
H (portion 2b)	Hudson River (Class SB), portion (1301-0094)	**Impaired Seg**
Tribs to Lower Hudson, Battery to Croton River		
H- 4	Saw Mill River, Lower, and tribs (1301-0007)	**Impaired Seg**
H- 4	Saw Mill River, Middle, and tribs (1301-0100)	**Impaired Seg**
H- 4	Saw Mill River, Upper, and tribs (1301-0101)	**Impaired Seg**
H- 4-17-P15b	Tarrytown Reservoir (1301-0102)	UnAssessed
H- 4-P12	Woodlands Lake (1301-0103)	UnAssessed
H- 7 thru 18, EOH	Minor Tribs to East of Hudson (1301-0104)	UnAssessed
H- 8 thru 12, WOH	Minor Tribs to West of Hudson (1301-0105)	UnAssessed
H- 13	Sparkill Creek, Lower (1301-0088)	**Impaired Seg**
H- 13	Sparkill Creek, Upper, and minor tribs (1301-0106)	**MinorImpacts**
H- 13- 2 thru 3	Minor Tribs to Lower Sparkill Creek (1301-0107)	UnAssessed
H- 13- 6 thru 13	Minor Tribs to Upper Sparkill Creek (1301-0108)	UnAssessed
H- 20	Pocantico River, Lower, and tribs (1301-0109)	**Need Verific**
H- 20	Pocantico River, Middle, and tribs (1301-0110)	UnAssessed
H- 20	Pocantico River, Upper, and tribs (1301-0111)	UnAssessed
H- 20- 9- 2a-P32a	Hardscrabble Lake (1301-0112)	UnAssessed
H- 20-11a-P32a	Campfire Lake (1301-0113)	UnAssessed
H- 20-P30	Pocantico Lake (1301-0114)	UnAssessed
H- 20-P33	Echo Lake (1301-0115)	UnAssessed
H- 21 thru 23, WOH	Minor Tribs to West of Hudson (1301-0116)	UnAssessed
H- 24 thru 27, EOH	Minor Tribs to East of Hudson (1301-0117)	UnAssessed
H- 28	Sing Sing Creek and tribs (1301-0118)	**MinorImpacts**
New Croton/Muscoot Reservoir Watershed, northwestern		
H- 31 (portion 1)	Croton River, Lower, Main Stem (1302-0064)	**NoKnownImpct**
H- 31 (portion 2)	Croton River, Lower, Main Stem (1302-0065)	**NoKnownImpct**
H- 31- 1 thru 6	Minor Tribs to Lower Croton River (1302-0066)	UnAssessed
H- 31- 2-P42b	Indian Brook Reservoir (1302-0067)	UnAssessed
H- 31-P44 (portion 1)	New Croton Reservoir (1302-0010)	**Impaired Seg**
H- 31-P44 (portion 2)	Muscoot/Upper New Croton Reservoir (1302-0042)	**Impaired Seg**
H- 31-P44- 1 thru 1a	Minor Tribs to New Croton Reservoir (1302-0068)	UnAssessed
H- 31-P44- 1-P45a/P45b	Twin Lakes (1302-0069)	UnAssessed
H- 31-P44- 1a-P45	Collaberg Pond (1302-0070)	UnAssessed
H- 31-P44- 1a..P45c/P45d	Dream and Blue Lakes (1302-0071)	UnAssessed

...Lower Hudson River Watershed

Water Index Number	Waterbody Segment	Category
New Croton/Muscoot Reservoir Watershed, northwestern (con't)		
H- 31-P44- 2	Hunter Brook, Lower, and tribs (1302-0047)	**NoKnownImpct**
H- 31-P44- 2	Hunter Brook, Upper, and tribs (1302-0048)	**NoKnownImpct**
H- 31-P44- 2-P49a	Mill Pond (1302-0072)	UnAssessed
H- 31-P44- 2-P49a- 2	Unnamed Trib to Mill Pond/Hunter Brook (1302-0073)	UnAssessed
H- 31-P44- 2a thru 13	Minor Tribs to New Croton Reservoir (1302-0074)	UnAssessed
H- 31-P44-14	Muscoot River, Lower, and minor tribs (1302-0049)	**Impaired Seg**
H- 31-P44-14	Muscoot River, Upper, and tribs (1302-0050)	**NoKnownImpct**
H- 31-P44-14- 1	Hallocks Mill Brook, Upper, and tribs (1302-0052)	UnAssessed
H- 31-P44-14- 1- 6- 1- 1-P47a	Sparkle Lake (1302-0076)	UnAssessed
H- 31-P44-14- 1-P48	Crom Pond (1302-0077)	UnAssessed
H- 31-P44-14- 1-P48- 3-P49	Mohansic Lake (1302-0078)	UnAssessed
H- 31-P44-14- 4-P51	Secor Lake (1302-0079)	UnAssessed
H- 31-P44-14- 7-P52	Kirk Lake (1302-0080)	**MinorImpacts**
H- 31-P44-14- 7-P52- and 4-P51-	Tribs of Secor and Kirk Lakes (1302-0081)	UnAssessed
H- 31-P44-14-P50	Amawalk Reservoir (1302-0044)	**Impaired Seg**
H- 31-P44-14-P50-	Minor Tribs to Amawalk Reservoir (1302-0082)	UnAssessed
H- 31-P44-14-P50- 2- P50a	Lake Shenorock (1302-0083)	**Impaired Seg**
H- 31-P44-14-P53	Lake Mahopac (1302-0007)	**NoKnownImpct**
H- 31-P44-14-P53- 1	Tribs of Lake Mahopac (1302-0084)	UnAssessed
H- 31-P44-14-P53- 1-P54	Wixon Lake (1302-0085)	UnAssessed
H- 31-P44-15 thru 16a	Minor Tribs to New Croton Reservoir (1302-0086)	**NoKnownImpct**
H- 31-P44-17	Plum Brook, Lower, and tribs (1302-0087)	**NoKnownImpct**
H- 31-P44-17	Plum Brook, Upper, and tribs (1302-0088)	**NoKnownImpct**
H- 31-P44-17- 5-P57a	Lake Lincolndale (1302-0089)	**Impaired Seg**
H- 31-P44-17- 6a-P57c	Teakettle Sprout Lake (1302-0090)	UnAssessed
H- 31-P44-18 thru 22	Minor Tribs to New Croton Reservoir (1302-0091)	UnAssessed
West Branch Croton River/Croton Falls Reservoir Watershed		
H- 31-P44-23 (portion 1)	West Branch Croton R, Lower, Main Stem (1302-0092)	UnAssessed
H- 31-P44-23 (portion 2)/P59	Croton Falls Reservoir (1302-0026)	**Impaired Seg**
H- 31-P44-23 (portion 3)	West Branch Croton R, Middle, and tribs (1302-0093)	**NoKnownImpct**
H- 31-P44-23 (portion 4)/P67	West Branch Reservoir (1302-0022)	**Impaired Seg**
H- 31-P44-23 (portion 5)	West Branch Croton R, Middle, and tribs (1302-0094)	**NoKnownImpct**
H- 31-P44-23 (portion 6)/P76	Boyd Corners Reservoir (1302-0045)	**Impaired Seg**
H- 31-P44-23 (portion 7)	West Branch Croton R, Upper, and tribs (1302-0095)	**NoKnownImpct**
H- 31-P44-23 (portion 8)/P76j	Sagamore Lake (1302-0096)	**NoKnownImpct**
H- 31-P44-23 (portion 8)/P76j-	Tribs to Sagamore Lake (1302-0097)	UnAssessed
H- 31-P44-23-P59- 1 thru 2	Minor Tribs to Croton Falls Reservoir (1302-0098)	UnAssessed
H- 31-P44-23-P59- 2	Mud Pond Brook and tribs (1302-0099)	UnAssessed
H- 31-P44-23-P59- 2- 4- P59b	Lake Casse (1302-0100)	UnAssessed
H- 31-P44-23-P59- 2-P60	Mud Pond (1302-0101)	UnAssessed
H- 31-P44-23-P59- 3	Lake Gilead Outlet (1302-0102)	UnAssessed
H- 31-P44-23-P59- 3-P61	Lake Gilead (1302-0024)	**MinorImpacts**
H- 31-P44-23-P59- 4 thru 10	Minor Tribs to Croton Falls Reservoir (1302-0001)	**Impaired Seg**
H- 31-P44-23-P59- 5-P61a	Palmer Lake (1302-0103)	UnAssessed

...Lower Hudson River Watershed

Water Index Number	Waterbody Segment	Category
West Branch Croton River/Croton Falls Reservoir Watershed (con't)		
H- 31-P44-23-P59- 6 (portion 1)	Middle Branch Croton R, Lower (1302-0104)	**NoKnownImpct**
H- 31-P44-23-P59- 6 (portion 2)/P62	Middle Branch Reservoir (1302-0009)	**Impaired Seg**
H- 31-P44-23-P59- 6 (portion 3)	Middle Branch Croton R, Middle, and trib (1302-0105)	**NoKnownImpct**
H- 31-P44-23-P59- 6 (portion 4)	Middle Branch Croton R, Upper, and tribs (1302-0106)	**NoKnownImpct**
H- 31-P44-23-P59- 6-P62-	Minor Tribs to Middle Branch Reseroir (1302-0107)	UnAssessed
H- 31-P44-23-P59- 6-P62..P62a	Lake Carmel (1302-0006)	**Impaired Seg**
H- 31-P44-23-P59- 6-P62..P62a-	Minor Tribs to Lake Carmel (1302-0108)	UnAssessed
H- 31-P44-23-P59- 6-P62..P63	Stump Pond (1302-0109)	UnAssessed
H- 31-P44-23-P59- 6-P62..P63-	Tribs to Stump Pond (1302-0110)	UnAssessed
H- 31-P44-23-P59- 6-P62..P64a	Ballard Lake (1302-0111)	UnAssessed
H- 31-P44-23-P59- 6-P62..P65,P65a	Browns Pond, Dutchess Lake (1302-0112)	UnAssessed
H- 31-P44-23..P67-	Minor Tribs to West Branch Reservoir (1302-0113)	**NoKnownImpct**
H- 31-P44-23..P67..P69toP	Long Pond, Dixon Lake, Lockwood Pond (1302-0114)	UnAssessed
H- 31-P44-23..P67..P71	Barrett Pond (1302-0115)	UnAssessed
H- 31-P44-23..P67..P72	Pine Pond (1302-0116)	UnAssessed
H- 31-P44-23..P67..P73	Dean Pond (1302-0117)	UnAssessed
H- 31-P44-23..P67..P74	Lake Gleneida (1302-0025)	**MinorImpacts**
H- 31-P44-23..P75	China Pond (1302-0118)	UnAssessed
H- 31-P44-23..P75a	Clear Pool (1302-0119)	UnAssessed
H- 31-P44-23..P76..P76a/e	Leetown Pond, Lake Winham, L.Buck Mt.Pd. (1302-0120)	UnAssessed
H- 31-P44-23..P76..P77c	Seven Hills Lake (1302-0121)	UnAssessed
H- 31-P44-23..P79	White Pond (1302-0122)	UnAssessed
H- 31-P44-23..P80	Black Pond (1302-0123)	UnAssessed
East Branch Croton River/Diverting and East Branch Reservoirs Watershed		
H- 31-P44-24 (portion 1)	East Branch Croton, Lower (1302-0124)	UnAssessed
H- 31-P44-24 (portion 2)/P83	Diverting Reservoir (1302-0046)	**Impaired Seg**
H- 31-P44-24 (portion 3)	East Branch Croton, Middle, and tribs (1302-0055)	**Threatened**
H- 31-P44-24 (portion 4)/P89	East Branch Reservoir (1302-0040)	**Impaired Seg**
H- 31-P44-24 (portion 5)	East Branch Croton, Upp, and tribs (1302-0056)	**NoKnownImpct**
H- 31-P44-24 (portion 6)	East Branch Croton, Upp, and minor tribs (1302-0057)	**NoKnownImpct**
H- 31-P44-24- 1	Holly Stream and tribs (1302-0125)	**MinorImpacts**
H- 31-P44-24- 3-P85	Lake Tonetta (1302-0014)	**Need Verific**
H- 31-P44-24- 9-P86	Bog Brook Reservoir (1302-0041)	**Impaired Seg**
H- 31-P44-24- 9-P86-	Tribs to Bog Brook Reservoir (1302-0126)	UnAssessed
H- 31-P44-24- P89-	Tribs to East Branch Reservoir (1302-0127)	UnAssessed
H- 31-P44-24- P89- 7-P92	Haines Pond (1302-0128)	UnAssessed
H- 31-P44-24- P89-10-P93	Peach Lake (1302-0004)	**Impaired Seg**
H- 31-P44-24-17-P93a,P93b	Lost Lake, Putnam Lake (1302-0053)	**MinorImpacts**
H- 31-P44-24-18-P89d	Lake Charles (1302-0129)	UnAssessed
H- 31-P44-24-19-P94	Little Pond (1302-0130)	UnAssessed
H- 31-P44-24-25	Muddy Brook and tribs (1302-0011)	**Need Verific**
H- 31-P44-24-25- 1-P89j,P89k	Denton Lake, Solomon/Westminster Lake (1302-0131)	UnAssessed
H- 31-P44-24-25..P97c thru P99b	Mendel P, Wonder L, Ice P, Brewster P (1302-0132)	UnAssessed
H- 31-P44-24-35-P89u	Ray Lake (1302-0133)	UnAssessed

...Lower Hudson River Watershed

Water Index Number	Waterbody Segment	Category
New Croton/Muscoot Reservoir Watershed, southeastern		
H- 31-P44-25 thru 33	Minor Tribs to New Croton Reservoir (1302-0134)	UnAssessed
H- 31-P44-26	Titicus River, Lower (1302-0034)	UnAssessed
H- 31-P44-26/P103	Titicus Reservoir (1302-0035)	**Impaired Seg**
H- 31-P44-26/P103-	Tribs to Titicus Reservoir (1302-0135)	**NoKnownImpct**
H- 31-P44-31- 3-P107a	Lake Katonah (1302-0136)	**MinorImpacts**
H- 31-P44-35	Cross River, Lower (1302-0137)	**NoKnownImpct**
H- 31-P44-35-P109	Cross River Reservoir (1302-0005)	**Impaired Seg**
H- 31-P44-35-P109-	Minor Tribs to Cross River Reservoir (1302-0138)	UnAssessed
H- 31-P44-35-P109- 6	Upper Cross/Waccabuc River and tribs (1302-0139)	**NoKnownImpct**
H- 31-P44-35-P109- 6- 7-P114	Lake Kitchawan (1302-0002)	**MinorImpacts**
H- 31-P44-35-P109- 6-13-P115a	Truesdale Lake (1302-0054)	**Impaired Seg**
H- 31-P44-35-P109- 6-P117	Lake Waccabuc (1302-0140)	**NoKnownImpct**
H- 31-P44-35-P109- 6..P118,P119	Lake Oscaleta, Lake Rippowam (1302-0141)	**MinorImpacts**
H- 31-P44-35-P109-11-P120	Pea Pond (1302-0142)	UnAssessed
H- 31-P44-36	Stone Hill River, Lower, and tribs (1302-0059)	**Need Verific**
H- 31-P44-36	Stone Hill River, Upper, and tribs (1302-0143)	UnAssessed
H- 31-P44-36-11-P122a	Blue Heron Lake (1302-0144)	**NoKnownImpct**
H- 31-P44-36-P124h	Gilmore Pond (1302-0145)	UnAssessed
H- 31-P44-37 thru 42	Minor Tribs to New Croton Reservoir (1302-0146)	UnAssessed
H- 31-P44-43	Kisco River, Lower, and tribs (1302-0060)	**NoKnownImpct**
H- 31-P44-43	Kisco River, Upper, and tribs (1302-0061)	**Impaired Seg**
H- 31-P44-43-P127	Howlands Lake (1302-0147)	UnAssessed
H- 31-P44-44 thru 55	Minor Tribs to New Croton Reservoir (1302-0148)	**NoKnownImpct**
H- 31-P44-51-P128e	Journeys End Lake (1302-0149)	UnAssessed
H- 31-P44-54-P128a	Teatown Lake (1302-0150)	**Impaired Seg**
H- 31-P44-54-P128i,P128j	Vernay Lake, Shadow Lake (1302-0151)	UnAssessed
H- 31-P44-55- 1-P128n	Frankerest Pond (1302-0152)	UnAssessed
Lake Tiorati Brook Watershed		
H- 43	Lake Tiorati Brook, Low, and minor tribs (1301-0062)	**NoKnownImpct**
H- 43	Lake Tiorati Brook, Upper, and tribs (1301-0119)	UnAssessed
H- 43- 1	Miniscenongo Creek and minor tribs (1301-0089)	**Need Verific**
H- 43- 1-10	South Br Minisceongo Creek and tribs (1301-0090)	UnAssessed
H- 43- 1-11	North Br Minisceongo Cr, Low, and tribs (1301-0120)	UnAssessed
H- 43- 1-11	North Br Minisceongo Cr, Upp, and tribs (1301-0121)	UnAssessed
H- 43- 1-11- 5	Upper Horse Chock Brook and tribs (1301-0122)	UnAssessed
H- 43- 1-11- 9-P150d	Breakneck Pond (1301-0123)	**Impaired Seg**
H- 43- 1-11-P150c	Lake Welch (1301-0124)	**NoKnownImpct**
H- 43- 1-P146	Garnerville Reservoir (1301-0125)	UnAssessed
H- 43- 4-P150i	Lake Tompkins (1301-0126)	**NoKnownImpct**
H- 43- 6-P150k	Upper Pound Swamp (1301-0127)	UnAssessed
H- 43-1- 11- 5-P150a,P150b,P150j	First, Second and Third Reservoirs (1301-0128)	UnAssessed
H- 43-P152	Lake Tiorati (1301-0129)	**NoKnownImpct**

...Lower Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Tribs to Lower Hudson, Croton/Lake Tiorati Brook to Peekskill Hollow Creek		
H- 44	Furnace Brook and tribs (1301-0130)	**NoKnownImpct**
H- 44- 6-P156	Dickerson Pond (1301-0131)	UnAssessed
H- 44-P155	Furnace Brook Pond (1301-0132)	UnAssessed
H- 46 thru 59, EOH (selected)	Minor Tribs to East of Hudson (1301-0133)	UnAssessed
H- 48 thru 60, WOH (selected)	Minor Tribs to West of Hudson (1301-0134)	UnAssessed
H- 48a-P159a	Lake Boyce (1301-0135)	UnAssessed
H- 49a-P160	Lake Meahagh (1301-0053)	**Impaired Seg**
H- 51	Dickey Brook, Upper, and tribs (1301-0136)	UnAssessed
H- 51-P161e/P161g	Lounsbury, Peterson Ponds (1301-0137)	UnAssessed
Peekskill Hollow Creek Watershed		
H- 55	Peekskill Hollow Cr, Low, and mnr tribs (1301-0049)	**NoKnownImpct**
H- 55	Peekskill Hollow Cr, Middle, and tribs (1301-0138)	**NoKnownImpct**
H- 55	Peekskill Hollow Cr, Upper, and tribs (1301-0139)	**NoKnownImpct**
H- 55- 1-P165	Wallace Pond (1301-0140)	**Impaired Seg**
H- 55- 2	Canopus Creek and tribs (1301-0141)	**MinorImpacts**
H- 55- 2- 3-P166	Lake Celeste (1301-0142)	**Need Verific**
H- 55- 2- 4-P167	Indian Lake (1301-0143)	**NoKnownImpct**
H- 55- 2-P165b	Cortlandt Lake (1301-0144)	UnAssessed
H- 55- 2-P168a/P168b	Canopus Lake, Pelton Lake (1301-0145)	UnAssessed
H- 55- 6-P170a	Gregory Pond (1301-0146)	UnAssessed
H- 55- 7-P171	Lake Peekskill (1301-0147)	**MinorImpacts**
H- 55- 8-P175	Oscawana Lake (1301-0035)	**Impaired Seg**
H- 55- 8-P175..P176,P177	Mud Lake, Clear Lake (1301-0148)	UnAssessed
H- 55-11-P179	Lake Mohegan (1301-0149)	**Impaired Seg**
H- 55-12-P181	Barger Pond (1301-0091)	**Need Verific**
H- 55-12-P182	Oceola Lake (1301-0150)	UnAssessed
H- 55-16-P183	Bryant Pond (1301-0151)	UnAssessed
H- 55-17	Wiccopee Brook and tribs (1301-0152)	UnAssessed
H- 55-17-P183a	Wiccopee Reservoir (1301-0153)	UnAssessed
H- 55-17-P183a-	Tribs to Wiccopee Reservoir (1301-0154)	UnAssessed
H- 55-17-P183a..P183c	Stillwater Pond (1301-0155)	UnAssessed
H- 55-18-P183a	Roaring Brook Lake (1301-0037)	**Need Verific**
H- 55-20-P183d	Lake Ossi (1301-0156)	**MinorImpacts**
H- 55-P183e	Lake Tibet (1301-0034)	**MinorImpacts**
Tribs to Lower Hudson, Peekskill Hollow Creek to Bear Mountain Bridge		
H- 56-P165e	Dickiebusch Lake (1301-0157)	UnAssessed
H- 59-P165f	Brocey Pond (1301-0158)	UnAssessed
H- 60-P184	Hessian Lake (1301-0159)	UnAssessed

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Hudson River (Class I) (1301-0006) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No: H (portion 1) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/ **Str Class:** I Lower Hudson River
Waterbody Type: Estuary **Reg/County:** 2/New York Co. (31)
Waterbody Size: 6751.0 Acres **Quad Map:** CENTRAL PARK (R-25-4)
Seg Description: from mouth at Battery Park to Harlem River

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)
Known: METALS (cadmium), PRIORITY ORGANICS (PCBs), Aesthetics (floatables), Pathogens
Suspected: Problem Species, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)
Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: Municipal

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

Fish Consumption Advisories
Fish consumption in the Lower Hudson is impaired due to a NYSDOH health advisory that recommends eating no gizzard shad, channel catfish or white catfish, and no more than one meal per month of American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white perch because of elevated levels of PCBs. Advisories along this lower reach are also in place for blue crab that

recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Toxics/CARP

Ongoing efforts to address the widespread contamination by PCBs, dioxin and other toxic chemicals in New York Harbor and the Hudson River include the Contamination Assessment and Reduction Project (CARP), a landmark monitoring effort bringing together federal, state and non-government partners in a determined effort to reduce contamination within the NY/NJ Harbor Estuary, particularly as it relates to dredged material management. CARP has identified and quantified major sources of contaminants of concern to the NY/NJ Harbor and Hudson Estuary. A series of numerical models have also been developed and calibrated to simulate movement of contaminants through the estuary and to predict the concentrations of these contaminants in water, sediment, and biota in future years under a variety of scenarios. The CARP data and modeling products are being used to identify which contaminants require load reductions (through Total Maximum Daily Loads) to meet appropriate water quality criteria and to develop sediment remediation strategies in connection with the U.S. Army Corps of Engineers' Hudson-Raritan Comprehensive Restoration Program and the Harbor Estuary Program's Regional Sediment Management strategy. (USEPA/HEP and Hudson River Foundation and DEC/DOW, BWAM/Priority Waters Research, May 2008)

Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of bycatch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species. (NYSDEC/DFWMR, Hudson River Fisheries, May 2008)

Water Quality Sampling

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Urban Impacts

Surrounded by the intensely developed New York City metropolitan area, the lower reach of the Hudson River is impacted by a variety of other contaminant sources. These sources include combined sewer overflows and urban runoff, and municipal wastewater treatment plant (WWTP) discharges. A ban on swimming imposed by the NYC Department of Health remains in effect for the Hudson up to Riverdale (at the Bronx/Westchester County line). The ban is considered by NYC DOH to be an appropriate precaution in light of continuing impacts, particularly wet-weather discharges from city combined sewer overflows. (NYC DOH, February 2000)

Combined sewer overflows (CSOs), which route a combination of storm water and sanitary wastewater around limited

capacity plants and directly into receiving waters during wet weather events, can have a significant impact on the estuary waters. In addition to raw sewage, CSOs convey accumulated oils, metals, and other contaminants from streets, roofs, industrial sites into the waters. CSOs are primarily responsible for intermittent violation of bacteriological standards and wet-weather advisories, the presence of floatable materials, some toxicity, and nuisance conditions within/adjacent to tidal tributaries due to sediment mounds and associated sediment oxygen demand. A comprehensive citywide CSO Abatement Program is underway to address the 480 CSO outfalls. Abatement activities include implementation of EPA mandated "Nine Minimum Controls" to reduce floatables in the short-term and other floatables control devices at the outfalls over the long-term. Construction of equalization tanks that capture the excess wastewater and store it for treatment at city plants are also planned. Additional CSO control efforts in New Jersey are also being discussed. (DEC/DOW, Region 2, May 2008)

Hudson River Estuary Program

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Segment Description

Estuary area taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs.

Hudson River (Class SB), portion (1301-0005) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No: H (portion 2a) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/ **Str Class:** SB Lower Hudson River
Waterbody Type: Estuary **Reg/County:** 2/Bronx Co. (3)
Waterbody Size: 1662.0 Acres **Quad Map:** YONKERS (R-25-1)
Seg Description: from Harlem River to Riverdale (Westch/Bronx Co line)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)
Known: METALS (cadmium), PRIORITY ORGANICS (PCBs), Aesthetics (floatables)
Suspected: Pathogens, Problem Species, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)
Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

Fish Consumption Advisories
Fish consumption in the Lower Hudson is impaired due to a NYSDOH health advisory that recommends eating no gizzard shad, channel catfish or white catfish, and no more than one meal per month of American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white

perch because of elevated levels of PCBs. Advisories along this lower reach are also in place for blue crab that recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Toxics/CARP

Ongoing efforts to address the widespread contamination by PCBs, dioxin and other toxic chemicals in New York Harbor and the Hudson River include the Contamination Assessment and Reduction Project (CARP), a landmark monitoring effort bringing together federal, state and non-government partners in a determined effort to reduce contamination within the NY/NJ Harbor Estuary, particularly as it relates to dredged material management. CARP has identified and quantified major sources of contaminants of concern to the NY/NJ Harbor and Hudson Estuary. A series of numerical models have also been developed and calibrated to simulate movement of contaminants through the estuary and to predict the concentrations of these contaminants in water, sediment, and biota in future years under a variety of scenarios. The CARP data and modeling products are being used to identify which contaminants require load reductions (through Total Maximum Daily Loads) to meet appropriate water quality criteria and to develop sediment remediation strategies in connection with the U.S. Army Corps of Engineers' Hudson-Raritan Comprehensive Restoration Program and the Harbor Estuary Program's Regional Sediment Management strategy. (USEPA/HEP and Hudson River Foundation and DEC/DOW, BWAM/Priority Waters Research, May 2008)

Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of bycatch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species. (NYSDEC/DFWMR, Hudson River Fisheries, May 2008)

Water Quality Sampling

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Swimmable Hudson

In response to the improvement in Hudson River water quality since the 1970s, there has been a rise in recreational use and a public call for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, the NYSDEC Hudson River Estuary Program: and Division of Water are focusing on four primary areas of water quality impact

1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with Phase II Stormwater permit program, and

4) continued support of a vessel No Discharge Zone in the Hudson. (DEC/HREP and DEC/DOW, BWAM, May 2008)

Bacteriological Monitoring

A bacteriological sampling effort was conducted by Lamont-Doherty Earth Observatory of Columbia University in 2006-07. The aim of this collaborative project between Columbia University an the Hudson Riverkeeper was to evaluate the need for large-scale monitoring of the Hudson Estuary, evaluate spatial and temporal trends in the data to identify patterns that could inform restoration and protection efforts and enhance predictive capabilities, and increase sampling coverage in areas with little previous monitoring (i.e., north of New York City). This increase in coverage will also be valuable in providing a baseline measurement of water quality against which to evaluate progress toward achieving the goals of the Swimmable Hudson: initiative. (Hudson Riverkeeper, May 2008)

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Segment Description

Estuary area taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs (equal to 0% of total area).

Hudson River (Class SB), portion (1301-0094) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No: H (portion 2b) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/ **Str Class:** SB Lower Hudson River
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 31593.0 Acres **Quad Map:** YONKERS (R-25-1)
Seg Description: from Riverdale (Westch/Bronx Co line) to Bear Mt Brdg

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)
Known: METALS (cadmium), PRIORITY ORGANICS (PCBs)
Suspected: Pathogens, Problem Species, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)
Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

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Water Quality Sampling

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A bacteriological sampling effort was conducted by Lamont-Doherty Earth Observatory of Columbia University in 2006-07. The aim of this collaborative project between Columbia University an the Hudson Riverkeeper was to evaluate the need for large-scale monitoring of the Hudson Estuary, evaluate spatial and temporal trends in the data to identify patterns that could inform restoration and protection efforts and enhance predictive capabilities, and increase sampling coverage in areas with little previous monitoring (i.e., north of New York City). This increase in coverage will also be valuable in providing a baseline measurement of water quality against which to evaluate progress toward achieving the goals of the Swimmable Hudson: initiative. (Hudson Riverkeeper, May 2008)

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Segment Description

Estuary area taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs (equal to <1% of total area).

Saw Mill River, Lower, and tribs (1301-0007) Impaired Seg

Waterbody Location Information

Revised: 06/06/2008

Water Index No: H- 4
Hydro Unit Code: 02030101/150 **Str Class:** C
Waterbody Type: River
Waterbody Size: 2.9 Miles
Seg Description: stream, from mouth to near Yonkers

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: YONKERS (R-25-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
HABITAT/HYDROLGY	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (floatable, refuse), D.O./OXYGEN DEMAND, PRIORITY ORGANICS (PAHs, PCBs), PESTICIDES (chlordane), UNKNOWN TOXICITY, Oil and Grease
Suspected: Nutrients, Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, URBAN/STORM RUNOFF, Habitat Modification, Other Sanitary Disch
Suspected: Comb. Sewer Overflow
Possible: Chemical Leak/Spill

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 1,2b (Individual Waterbody Impairment Requiring a TMDL, more)

Further Details

Overview
Aquatic life, recreational uses and fish consumption in this portion of the Saw Mill River are known to be impaired by toxics and organic and nutrient loadings that impact dissolved oxygen levels in the stream. Floatables and other aesthetic impacts are also present. Sources of these pollutants and impacts are common to urban waterways: urban runoff, storm sewer outflows, roadway drainage (Saw Mill Parkway) and dumping of debris. Urban refuse (tires, bottles, cans, etc.) lines much of the lower river. Oil/gasoline slicks are regularly observed along this segment. The channelized section of the river and other sections that travel underground represent significant habitat and hydrologic modifications that limit aquatic life support.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Saw Mill River in Yonkers,

Westchester County, (at Court Street) 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 moderately impacted water quality conditions. Municipal/industrial sources were identified as influencing the sample. Water column sampling revealed coliform, total dissolved solids, iron and pH to be parameters of concern. Bottom sediment sampling results revealed lead and several PAHs to be exceeding the Probable Effects Level - a level at which adverse impacts are expected. Other metals (copper, zinc) were found to be above 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 results in an impaired waterbody that is not s supportive of aquatic life or recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Saw Mill River at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results also indicated moderately impacted water quality conditions, with evidence of municipal/industrial sources. (DEC/DOW, BWAM/SBU, September 2005)

Bacteriological sampling conducted by Lamont-Doherty Earth Observatory of Columbia University in 2006-07 found consistently elevated enterococci values at a tributary site on at the Saw Mill River. (Hudson Riverkeeper, May 2008)

Previous Sampling

A 1992 biological (macroinvertebrate) survey of the Saw Mill River found that impacts increased as one moved downstream into the more urban areas. Severe toxic and organic impacts were indicated at the most downstream site in Yonkers. From Elmsford to Nepera Park the impacts were characterized as moderate. Farther upstream at Pleasantville water quality was slightly impacted, probably by nutrient and/or organic enrichment. (Saw Mill River Biological Assessment, Bode et al, DOW/BWAM, April 1993) Follow-up sampling at the Yonkers site in 1997 and 1998 revealed moderately impacted water quality. Elevated levels of PAHs were also documented, and likely contribute to the impact. (DEC/DOW, BWAM, SBU, December 1999)

Fish Consumption Advisories

Fish consumption in the Saw Mill River is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of American eel because of elevated pesticide (chlordane) levels. The source of pesticides is primarily contaminated sediment in the river. The advisory for the river was first issued prior to 1998-99. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing

This portion of Saw Mill River 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 attain water quality standards for floatables and is also included on Part 2b as a Fish Consumption Water. This updated assessment suggests that it is appropriate to add nutrients (phosphorus), D.O./oxygen demand, pathogens and unknown toxicity as pollutants to the Part 1 listing for Saw Mill River.

Segment Description

This segment includes the non-tidal portion of the stream from a point about 1100 feet above the mouth to the Yonkers water supply dam near Yonkers. The waters of this portion of the stream are Class C. There are no tribs to this reach/segment. Middle, Upper Saw Mill River are listed separately. Lower tidal portions of the stream are included with the Hudson Main Stem.

Saw Mill River, Middle, and tribs (1301-0100) Impaired Seg

Waterbody Location Information

Revised: 05/30/2008

Water Index No: H- 4 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 5.1 Miles **Quad Map:** MOUNT VERNON (R-25-2)
Seg Description: stream and tribs, from near Yonkers to Woodlands

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Known
FISH CONSUMPTION	Impaired	Known
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
Habitat/Hydrolgy	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (floatables), D.O./OXYGEN DEMAND, PRIORITY ORGANICS (PAHs, PCBs), PESTICIDES (chlordane), UNKNOWN TOXICITY
Suspected: PATHOGENS, Nutrients (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, OTHER SANITARY DISCH, URBAN/STORM RUNOFF, Habitat Modification
Suspected: Comb. Sewer Overflow
Possible: Chemical Leak/Spill

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg2 **Resolution Potential:** Medium
TMDL/303d Status: n/a->1*,2b*

Further Details

Overview
Aquatic life, recreational uses and fish consumption in this portion of the Saw Mill River are known to be impaired by toxics and organic and nutrient loadings that impact dissolved oxygen levels in the stream. Floatables and other aesthetic impacts are also present. Sources of these pollutants and impacts are common to urban waterways: urban runoff, storm sewer outflows, roadway drainage (Saw Mill Parkway) and dumping of debris. Urban refuse (tires, bottles, cans, etc.) lines much of the lower river. Oil/gasoline slicks are regularly observed along this segment.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Saw Mill River in Nepera Park (at Tompkins Avenue) was conducted in 1999. Sampling results indicated moderately impacted water quality conditions. The fauna was dominated by

filter-feeding caddisflies and indicated nutrient and/or organic enrichment. PAHs, found in elevated levels in macroinvertebrate tissue at sites along the Saw Mill River, are also thought to contribute to impacts. (DEC/DOW, BWAM/SBU, June 2005)

Previous Sampling

A 1992 biological (macroinvertebrate) survey of the Saw Mill River found that impacts increased as one moved downstream into the more urban areas. Severe toxic and organic impacts were indicated at the most downstream site in Yonkers. From Elmsford to Nepera Park the impacts were characterized as moderate. Farther upstream at Pleasantville water quality was slightly impacted, probably by nutrient and/or organic enrichment. (Saw Mill River Biological Assessment, Bode et al, DOW/BWAM, April 1993) Follow-up sampling at the Yonkers site in 1997 and 1998 revealed moderately impacted water quality. Elevated levels of PAHs were also documented, and likely contribute to the impact. (DEC/DOW, BWAM, SBU, December 1999)

Fish Consumption Advisories

Fish consumption in the Saw Mill River is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of American eel because of elevated pesticide (chlordane) levels. The source of pesticides is primarily contaminated sediment in the river. The advisory for the river was first issued prior to 1998-99. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing

This lower portion of Saw Mill River is included on the NYS 2008 Section 303(d) List of Impaired Waters. The river is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for floatables and is also included on Part 2b as a Fish Consumption Water. This updated assessment suggests that it is appropriate to add a Part 1 Listing for this middle reach of the river for nutrients (phosphorus), D.O./oxygen demand, pathogens and unknown toxicity; and a Part 2b listing to reflect the fish consumption impairment. (DEC/DOW, BWAM, May 2008)

Segment Description

This segment includes the portion of the stream and all tribs from the Yonkers water supply dam near Yonkers to Woodlands Lake (P12) in Woodlands. The waters of this portion of the stream are Class A. Tribs to this reach/segment are also Class A. Lower, Upper Saw Mill River are listed separately.

Saw Mill River, Upper, and tribs (1301-0101) Impaired Seg

Waterbody Location Information

Revised: 05/30/2008

Water Index No: H- 4
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)*
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 25.3 Miles
Quad Map: WHITE PLAINS (Q-25-3)
Seg Description: stream and tribs, above Woodlands

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: PESTICIDES (chlordane)
Suspected: D.O./Oxygen Demand, Nutrients, Unknown Toxicity
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT
Suspected: Other Sanitary Disch, 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/DER
Resolution Potential: Medium
TMDL/303d Status: n/a->2b*

Further Details

Overview
Fish consumption in this portion of the Saw Mill River is known to be impaired by pesticide contamination resulting in a fish consumption advisory. Other toxics and organic and nutrient loadings that result in reduced dissolved oxygen levels in the stream are thought to impact aquatic life and recreational uses. However due to the lack of more recent data, conditions in this portion of the stream should be verified.

Fish Consumption Advisories
Fish consumption in the Saw Mill River is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of American eel because of elevated pesticide (chlordane) levels. The source of pesticides is primarily contaminated sediment in the river. The advisory for the river was first issued prior to 1998-99. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Previous Sampling
The most recent monitoring information for this reach of the stream is a 1992 biological (macroinvertebrate) survey of

the Saw Mill River. This survey, which included two sites (Elmsford and Pleasantville) in this reach, found that impacts increased as one moved downstream into the more urban areas. Water quality at the upstream site at Pleasantville was slightly impacted, probably by nutrient and/or organic enrichment. From Elmsford to Nepera Park the impacts were characterized as moderate. Increasing toxic and organic impacts were indicated at the most downstream site in Yonkers. (Saw Mill River Biological Assessment, Bode et al, DOW/BWAM, April 1993)

Section 303(d) Listing

The Lower Saw Mill River is included on the NYS 2008 Section 303(d) List of Impaired Waters. This updated assessment suggests that it is appropriate to include a listing for this upper reach of the river due to the fish consumption advisory, which applies to the entire river. A Part 2b Listing to reflect fish consumption impairments should be considered. (DEC/DOW, BWAM, May 2008)

Segment Description:

This segment includes the portion of the stream and all tribs above Woodlands Lake (P12) in Woodlands. The waters of this portion of the stream are Class B(T). Tribs to this reach/segment, including Rum Brook (-11) and Nannyhagen Brook (-24), are primarily Class C, with some portions designated Class A. Lower, Middle Saw Mill River are listed separately.

Sparkill Creek, Lower (1301-0088) Impaired Seg

Waterbody Location Information

Revised: 06/06/2008

Water Index No:	H- 13			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/160	**Str Class:**	C		Lower Hudson River
Waterbody Type:	River			**Reg/County:**	3/Rockland Co. (44)
Waterbody Size:	2.2 Miles			**Quad Map:**	NYACK (Q-25-4)
Seg Description:	stream, from mouth to NY-NJ state line				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

Known: PATHOGENS
Suspected: D.O./OXYGEN DEMAND, SILT/SEDIMENT, UNKNOWN TOXICITY, Nutrients
Possible: Thermal Changes

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, MUNICIPAL, OTHER SANITARY DISCH
Suspected: Construction (resident.develop.), Hydro Modification, Streambank Erosion
Possible:

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 1*

Further Details

Overview
Aquatic life support and recreational uses in this portion of Sparkill Creek are impaired by pathogens, organic inputs and toxicity attributed to sewage discharges and urban runoff sources. Nutrient enrichment was also noted.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Sparkill Creek in Tappan, Rockland County, (at Washington Street) 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 slightly impacted water quality conditions. These were improved from severe impacts noted in the previous year. Water column sampling revealed coliform, total dissolved solids and iron to be parameters of concern. Both total and fecal coliform were found to be very high on several occasions. Iron may be considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed PAHs to be exceeding the Probable Effects Level - a level at which adverse impacts are expected - and pesticides (endrin) to be above 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 results in an impaired segment that is not supportive of aquatic life or recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Sparkill Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin as part of a more detailed survey of the stream. This biological (macroinvertebrate) survey of Sparkill Creek included sampling at multiple sites between the mouth in Sparkill and the headwaters in Blauvelt. Sampling results indicated moderately impacted water quality conditions at the sites in this lower reach. The fauna was dominated by caddisflies and midges with sewage-tolerant worms, sowbugs and black fly larvae present. Mayflies and stoneflies were absent. Stream conductivity was found to increase significantly downstream, likely reflecting urban runoff impacts. Previous macroinvertebrate tissue sampling found elevated levels of metals, PAHs and pesticides. (DEC/DOW, BWAM/SBU, June 2005)

Bacteriological sampling conducted by Lamont-Doherty Earth Observatory of Columbia University in 2006-07 found consistently elevated enterococci values at a tributary site on at Sparkill Creek. (Hudson Riverkeeper, May 2008)

Water Quality Management

The Town of Orangetown is currently under an Order on Consent issued by NYSDEC for the elimination of sanitary sewer overflows (SSOs) from the Orangetown Sewer District collection system. This [date] Consent Order included payable penalties and a schedule of compliance to correct the SSO problems. The compliance schedule...

Section 303(d) Listing

Sparkill Creek is not 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 pathogens and D.O./Oxygen Demand in Sparkill Creek be added to Part 1, as a waterbody with an impairment requiring TMDL development.

Segment Description

This segment includes the portion of the stream from the Ferdon Mill Pond (P24) dam in Sparkill to the NY-NJ state line. The waters of this portion of the stream are Class C. Tribs to this reach/segment are listed separately. Upper Sparkill Creek is also listed separately. Lower tidal portions of this trib is included with the Hudson Main Stem.

Sparkill Creek, Upper, and minor tribs (1301-0106) MinorImpacts

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 13 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Rockland Co. (44)
Waterbody Size: 4.2 Miles **Quad Map:** NYACK (Q-25-4)
Seg Description: stream and select tribs, above NY-NJ state line

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS, Salts
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support and recreational uses in this portion of Sparkill Creek are known to experience impacts from nutrient enrichment and other contaminants from urban runoff and various nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) survey of Sparkill Creek at multiple sites between the mouth in Sparkill and the headwaters in Blauvelt was conducted in 2003. Sampling results indicated slightly impacted water quality conditions at the sites in this upper reach. The fauna was dominated by filter-feeding caddisflies but clean-water mayflies and stoneflies were present at the upstream sites. The stoneflies and more sensitive species were not found in downstream sites. Increases in stream conductivity indicated urban runoff impacts as one moves downstream. (Sparkill Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above the NY-NJ state line, excluding the short reach above unnamed trib (-13). The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment

include all tribs entering the Upper Sparkill from the west and the lower reach of unnamed trib (-6) are Class C. Lower Sparkill Creek and other tribs are listed separately.

Pocantico River, Lower, and tribs (1301-0109) Need Verific

Waterbody Location Information

Revised: 03/31/2008

Water Index No: H- 20 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 9.5 Miles **Quad Map:** WHITE PLAINS (Q-25-3)
Seg Description: stream and tribs, from N. Tarrytown to Pocantico Lk

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: Municipal, Other Sanitary Disch

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life use in this portion of the Pocantico River may experience impacts due to nutrient enrichment from municipal inputs and nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Pocantico River in Sleepy Hollow (at Dell Street) was conducted in 2002. Sampling results indicated moderately impacted water quality conditions, however the results appeared to be heavily influenced by impoundment effects. Nutrient enrichment and possible municipal/industrial sources were indicated by the sampling. Additional sampling - perhaps above the upstream impoundment - in order to verify conditions suggested by this one single sampling result is recommended. (DEC/DOW, BWAM/SBU, March 2008)

Segment Description
This segment includes the portion of the stream and all tribs from unnamed lake (P28) in North Tarrytown to Pocantico Lake (P30). The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Gory Brook (-1) and Rockefeller Creek (-2), are Class C. Middle, Upper Pocantico River are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Sing Sing Creek and tribs (1301-0118) MinorImpacts

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 28
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 9.0 Miles
Quad Map: OSSINING (Q-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
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: UNKNOWN TOXICITY
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Sing Sing Creek is thought to experience minor impacts from unknown toxicity. Urban runoff sources are the likely cause of the impacts.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Sing Sing Creek in Ossining (at Route 9) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Impact source determination identified toxicity likely from urban runoff sources as the primary cause of impacts. Siltation was also indicated. However, nutrient biotic evaluation determined these effects on the fauna to be minor. (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. Tribs to this reach/segment are also Class C. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Croton River, Lower, Main Stem (1302-0064) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31 (portion 1)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 0.9 Miles
Quad Map: OSSINING (Q-25-2)
Seg Description: from tidal waters to Mount Airy

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 Croton River in Croton (at outlet) was conducted in 2000. Sampling results at this location just above the stream reach indicated slightly impacted water quality conditions. However, much of the impact is attributed to impoundment effects from the reservoir just above the site. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. Sampling farther downstream (at Quaker Bridge Road) revealed moderate impacts that were largely the result of impoundment effects and poor sampling habitat. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the river from the tidal section near Paradise Island to unnamed trib (-3) near Mount Airy. The waters of this portion of the river are Class B. Lower tidal portions of the river are included with the Hudson Main Stem. The Upper Croton River is listed separately.

Croton River, Lower, Main Stem (1302-0065) NoKnownImpct

Waterbody Location Information

Revised: 04/02/2008

Water Index No: H- 31 (portion 2)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 1.4 Miles
Quad Map: OSSINING (Q-25-2)
Seg Description: from Mount Airy to New Croton Dam

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 Croton River in Croton (at outlet) was conducted in 2000. Sampling results indicated slightly impacted water quality conditions. However, much of the impact is attributed to impoundment effects from the reservoir just above the site. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. Sampling farther downstream (at Quaker Bridge Road) revealed moderate impacts that were largely the result of impoundment effects and poor sampling habitat. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the river from unnamed trib (-3) near Mount Airy to the New Croton Dam . The waters of this portion of the river are Class A(T). The Lower Croton River is listed separately.

New Croton Reservoir (1302-0010) Impaired Seg

Waterbody Location Information

Revised: 04/04/2008

Water Index No: H- 31-P44 (portion 1)
Hydro Unit Code: 02030101/130 **Str Class:** AA
Waterbody Type: Lake(R)
Waterbody Size: 1949.0 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: OSSINING (Q-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use of the New Croton Reservoir is considered to be impaired by phosphorus from urban runoff and other nonpoint sources.

Water Supply Use
The water supply use of the New Croton Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the applicable 15 ug/l criterion established for source water reservoirs. Data from 2001-2005 show concentrations to be about 23 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed
The New Croton Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam

Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The New Croton Reservoir is the terminal reservoir for the Croton System. The Reservoir receives most of its water from upstream reservoirs, primarily Muscoot Reservoir. Inputs from its own basin are less significant. Outflow from New Croton Reservoir leaves the reservoir through a spillway and conservation release to the Croton River and through the Croton Aqueduct to New York City. An unusual feature of the New Croton Reservoir is a relic, presently submerged dam located between the 5CNC and 4 CNC sampling stations, which influences water movement in the reservoir. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median total phosphorus values to be consistently above applicable 15 ug/l criterion established for protection of NYC sources water reservoirs and generally at the NYS criterion of 20 ug/l for the protection of recreational uses. Higher individual results were observed upstream of the submerged dam; downstream stations exhibited a lower range of values probably as a result of the partial retention provided by this structure. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Surface samples for dissolved oxygen consistently met applicable criteria. However lower dissolved oxygen observations occur during summer stratification in samples taken at greater depths. Median fecal coliform values in the reservoir were well below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the New Croton Reservoir is considered to be impaired by phosphorus, a TMDL for this pollutant has been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. Therefore a listing for this pollutant for the New Croton Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Segment Description

This segment is Class AA from the New Croton Dam to a point 1 mile above the New Croton Gate House, and Class A from that point to the Muscoot Reservoir Dam.

Muscoot/Upper New Croton Reservoir (1302-0042) Impaired Seg

Waterbody Location Information

Revised: 04/04/2008

Water Index No: H- 31-P44 (portion 2)
Hydro Unit Code: 02030101/130 **Str Class:** A
Waterbody Type: Lake(R)
Waterbody Size: 770.1 Acres
Seg Description: reservoir above ...

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: CROTON FALLS (P-26-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: Priority Organics (VOCs)

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: - - -
Possible: Landfill/Land Disp. (Katanah Municipal Well)

Resolution/Management Information

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

Further Details

Overview
Water supply use of the Muscoot/Upper New Croton Reservoir is considered to be impaired by phosphorus from urban runoff and other nonpoint sources.

Water Supply Use
The water supply use of the Muscoot/Upper New Croton Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the applicable 15 ug/l criterion established for source water reservoirs. Data from 2001-2005 show concentrations to be about 30 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed
The Muscoot/Upper New Croton Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the

Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Muscoot/Upper New Croton Reservoir is a source water reservoir; the reservoir basin is fairly small and receives most of its water from upstream reservoirs; inputs from its own basin are less significant. Water from the Diverting and Croton Falls Reservoirs enters the Muscoot Reservoir via the East and West Branches of the Croton River, respectively, from Amawalk Reservoir via the Muscoot River, from Cross River Reservoir via the Cross River, and from Titicus Reservoir via the Titicus River. Most of the water leaving Muscoot Reservoir discharges through a spillway directly into the New Croton Reservoir, though some is released through the dam as well. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median total phosphorus values to be consistently above both applicable 15 ug/l criterion established for protection of NYC sources water reservoirs and the NYS criterion of 20 ug/l for the protection of recreational uses. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Surface samples for dissolved oxygen consistently met applicable criteria. However lower dissolved oxygen observations occur during summer stratification in samples taken at greater depths. Median fecal coliform values in the reservoir were well below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Other Concerns

In addition to the nutrient-related impairment, a National Priority (Superfund) Site, Katanah Municipal Well (Site No. 3-60-007, EPA ID NYD980780795) is located on a peninsula that extends into the Muscoot Reservoir. Contamination of the well by dry cleaning fluids (VOCs) was detected in 1979; cleanup of the site (an air stripping and disinfection facility) began in 1987. Pumping of the well prevents the movement of contaminated groundwater into the reservoir. Phase I and II investigations have been completed, as has an EPA funded RI/FS. This site has been delisted from the National Priorities List because an EPA consent order was signed for remedial design and construction of a high volume air stripper for removal of chlorinated solvents and maintenance of hydraulic control. (Environmental Site Remediation Database, DEC/DER, March 2008)

Section 303(d) Listing

Though the Muscoot/Upper New Croton Reservoir is considered to be impaired by phosphorus, a TMDL for this pollutant has been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. Therefore a listing for this pollutant for the Muscoot Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Hunter Brook, Lower, and tribs (1302-0047) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44- 2 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/130 **Str Class:** B(TS) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 2.9 Miles **Quad Map:** MOHEGAN LAKE (P-25-3)
Seg Description: stream and tribs, from mouth to Mill Pond

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 Hunter Brook near Yorktown (at Crompond Road) was conducted in 2002 and 2003. Sampling results indicated slightly impacted water quality conditions. Urban runoff and nonpoint nutrient enrichment was indicated. 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. Areas of urban refuse have been noted along the stream, but there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, December 2004)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Hunter Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report,

NYCDEP, March 2003)

New York City Watershed

The Hunter Brook Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth at New Croton Reservoir to Mill Pond. The waters of this portion of the stream are Class B(TS). Tribs to this reach/segment are Class B. Upper Hunter Brook is listed separately.

Hunter Brook, Upper, and tribs (1302-0048) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44- 2
Hydro Unit Code: 02030101/130 **Str Class:** C
Waterbody Type: River
Waterbody Size: 3.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: MOHEGAN LAKE (P-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
Resolution Potential: n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Hunter Brook near Yorktown (at Hunter Brook Road) was conducted in 2002 and 2003. Sampling results indicated slightly impacted water quality conditions. Nonpoint nutrient enrichment was indicated. 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)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Hunter Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Hunter Brook Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs above Mill Pond. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment are also Class CC(TS). Lower Hunter Brook is listed separately.

Muscoot River, Lower, and minor tribs (1302-0049) Impaired Seg

Waterbody Location Information

Revised: 04/04/2008

Water Index No: H- 31-P44-14 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/130 **Str Class:** A(TS) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 10.0 Miles **Quad Map:** CROTON FALLS (P-26-4)
Seg Description: stream and select tribs, New Croton Res to Amawalk Res

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Suspected
PUBLIC BATHING	Impaired	Known
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)
Known: D.O./OXYGEN DEMAND, AMMONIA, Pathogens
Suspected: Nutrients (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: MUNICIPAL (Yorktown Hghts WWTP)
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/NYC **Resolution Potential:** High
TMDL/303d Status: 4b (Other Control(s) More Suitable than TMDL, Not Listed)

Further Details

Overview
Water supply, aquatic life and recreational uses in this reach are considered to be impaired by low dissolved oxygen, ammonia and other sewage inputs from municipal wastewater discharges. The impairments are primarily to Lower Hallocks Mill Brook; water quality in the Muscoot River appears to meet water quality criteria. Yorktown Heights is under consent order to upgrade the municipal WWTP to address the cause of these impairments. Construction is expected to be completed in 2008.

Water Quality Sampling
A biological (macroinvertebrate) assessment of this portion of Muscoot River in Yorktown (at Route 35) was conducted in 2000. Sampling results indicated moderately impacted water quality conditions. However, much of the impact is attributed to impoundment effects from the Amawalk Reservoir located just above the site. (DEC/DOW, BWAM/SBU, June 2005)

Biological (macroinvertebrate) assessments of the lower Hallocks Mill Brook were conducted in Yorktown Heights (at Pinesbridge Road) in 1999, 2000 and 2003 and just upstream in Amawalk (at Greeenwood Street) in 1998 and 2003. Most recent sampling results indicated moderately impacted water quality conditions at the downstream site, just below the Yorktown Heights WWTP; earlier sampling reflected severe impacts. The fauna tolerant midges, worms and leeches, clearly reflecting the impacts of organic wastes. High ammonia values have also been documented and this site. The upstream site (above the WWTP discharge) reflected slightly impacted conditions, an improvement from moderate impacts in 1998. (DEC/DOW, BWAM/SBU, June 2005)

The NYCDEP also monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains multiple water quality sampling stations on both the Muscoot River and Hallocks Mills Brook. Results at the Hallocks Mill Brook sites reveal high median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. High ammonia levels have also been noted in the stream, attributed to the Yorktown Heights WWTP discharge. Elevated fecal coliform levels in the stream have also been reported. Median phosphorus, dissolved oxygen, coliform and turbidity levels at the Muscoot River sites were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2008)

Water Quality Management

A consent order requiring treatment plant improvements was issued to Yorktown Heights in 2005. The order stipulated that construction was to be completed by December 2007. However the Town was expected to request an extension to mid-2008. (DEC/DOW, Region 3, December 2006)

New York City Watershed

The Muscoot/Hallocks Mill Brook Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Hallocks Mill Brook was included on the NYS 2004 Section 303(d) List of Impaired Waters, but was delisted in 2006. The stream was delisted as a Category 4b Water. Category 4b Waters are not included on the list because other required control measures, specifically a consent order to upgrade the WWTP, are expected to result in the restoration of the waterbody and a TMDL in not necessary.

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from New Croton Reservoir to Amawalk Reservoir. The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment are primarily Class C; Lower Hallocks Mill Brook is Class A(T). Upper Hallocks Mill Brook (-2) is listed separately.

Muscoot River, Upper, and tribs (1302-0050) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44-14 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/130 **Str Class:** A(T) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 15.7 Miles **Quad Map:** MOHEGAN LAKE (P-25-3)
Seg Description: stream and tribs, above Amawalk Reservior

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 this portion of the Muscoot River in Baldwin Place (at Mahopac Avenue) was conducted in 1998 and 2000. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was indicated. However, nutrient biotic evaluation determined 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, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on the Upper Muscoot River. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen, fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed
Upper Muscoot River Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

New York City Watershed
The Muscoot River is tributary to the New Croton Reservoir and the New York City water supply system (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description
This segment includes the entire stream and all tribs above the Amawalk Reservoir. The waters of this portion of the stream are Class A(T). Tribs to this reach/segment, including Secor Brook (4), are primarily Class C; Kirk Lake Outlet (-7) is Class A.

Kirk Lake (1302-0080) MinorImpacts

Waterbody Location Information

Revised: 04/03/2008

Water Index No: H- 31-P44-14- 7-P52
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 123.5 Acres
Quad Map: OSCAWANA LAKE (P-25-2)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Kirk Lake are thought to experience minor impacts due to elevated nutrient concentrations from urban runoff and other nonpoint sources.

Water Quality Sampling
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed and Kirk Lake is a part. These monitoring efforts include fixed frequency surveys in some tributary lakes as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station in Kirk Lake. Results at these monitoring sites reveal median total phosphorus concentrations that are were slightly above New York State guidance value of 20 ug/l indicating impacted/stressed recreational uses. Dissolved oxygen, fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria for protection of recreational uses. Fecal coliform results were quite low, consistently below 10 /100ml. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

Kirk Lake is a control lake that is a part of the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Amawalk Reservoir (1302-0044) Impaired Seg

Waterbody Location Information

Revised: 04/03/2008

Water Index No:	H- 31-P44-14-P50			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/130	**Str Class:**	A		Lower Hudson River
Waterbody Type:	Lake(R)			**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	566.6 Acres			**Quad Map:**	MOHEGAN LAKE (P-25-3)
Seg Description:	entire reservoir				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION, URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use and fish consumption of the Amawalk Reservoir are considered to be impaired by phosphorus from urban runoff and other nonpoint sources, and by mercury assumed to be the result of atmospheric deposition.

Water Supply Use
The water supply use of the Amawalk Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the 20 ug/l criterion established by NYS DEC. Data from 2001-2005 show concentrations to be about 24 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

Fish Consumption Advisories
Fish consumption in the Amawalk Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of Largemouth bass and larger smallmouth bass (over 16 inches) because of elevated

mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

New York City Watershed

The Amawalk Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Amawalk Reservoir watershed is a headwater basin; the reservoir receives most of its flow from runoff of precipitation that falls in the watershed and enters the reservoir through the Upper Muscoot River. Outflow from the reservoir flows via the Muscoot River downstream into the Muscoot Reservoir. The Town of Yorktown draws water from the reservoir for a water supply. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median total phosphorus values to be slightly above NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at greater depths. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the Amawalk Reservoir is considered to be impaired by phosphorus and as a result of a health advisory for mercury, TMDLs for both of these pollutants have been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. The mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore listings of these pollutants for the Amawalk Reservoir are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Lake Shenorock (1302-0083) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 31-P44-14-P50- 2- P50a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 15.2 Acres
Quad Map: CROTON FALLS (P-26-4)
Seg Description: entire lake

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

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF
Possible: Agriculture

Resolution/Management Information

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

Further Details

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

Water Quality Sampling
Shenorock Lake has been sampled 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 2008. 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 rarely 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 influences transparency when algae levels are low. (DEC/DOW, BWAM/CSLAP, January 2008)

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 highly unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness" to "severe algae levels," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. (DEC/DOW, BWAM/CSLAP, January 2008)

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.

New York City Watershed

Shenorock lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Shenorock 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)

Lake Mahopac (1302-0007) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No:	H- 31-P44-14-P53			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/130	**Str Class:**	A		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	578.6 Acres			**Quad Map:**	LAKE CARMEL (P-26-1)
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
Lake Mahopac has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 and most recently in 2002. An Interpretive Summary report of the findings of this sampling was published in 2003. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Water quality conditions have steadily improved throughout the late 1990s. Phosphorus levels in the lake typically exceed the state guidance values indicating impacted/stressed recreational uses, although this criterion was not exceeded in the most recent sampling year. Corresponding transparency measurements consistently meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH levels do not appear to result in ecological impacts. The lake water is weakly colored, and color does not influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, May 2003)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as either "crystal clear" or "not quite crystal clear," an assessment that is somewhat more favorable than expected based on measured water quality characteristics,

but likely reflecting the continuation of overall water quality improvement in the lake in recent years. Assessments have noted that aquatic plants typically grow to the lake surface (though this did not occur in the most recent sampling year) but do not appear to impact lake use. The stocking of grass carp may be responsible for reducing the impact of weed growth on the lake. (DEC/DOW, BWAM/CSLAP, May 2003)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

New York City Watershed

Lake Mahopac is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Minor Tribs to New Croton Reservoir (1302-0086) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44-15 thru 16a **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 10.7 Miles **Quad Map:** CROTON FALLS (P-26-4)
Seg Description: total length of select tribs, Muscoot R to Plum Brook

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 Angle Fly Brook in Somers (at Route 35) was conducted in 1998 and 2000. Sampling results indicated non-impacted to slightly impacted water quality conditions. The most recent assessment found slight impacts attributed to nonpoint sources of nutrient enrichment. However clean-water mayflies, stoneflies and caddisflies were present. Results from 1998 sampling indicated excellent water quality. Nutrient biotic evaluation determined 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, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on Angle Fly Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report,

NYCDEP, March 2003)

New York City Watershed

The Angle Fly Brook Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the total length of all tribs to New Croton Reservoir from Muscoot River to Plum Brook. Tribs within this segment, including Angle Fly Brook (-15), are Class C,C(TS). Muscoot River and Plum Brook are listed separately.

Plum Brook, Lower, and tribs (1302-0087) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44-17 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(TS)
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 8.3 Miles **Quad Map:** CROTON FALLS (P-26-4)
Seg Description: stream and tribs, from mouth to Lincolndale

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 Plum Brook in Lincolndale (at Krystal Drive) was conducted in 2000 and 2001. Sampling results indicated slightly impacted water quality conditions. However, much of the impact is attributed to impoundment effects from a lake located just above the site. Nutrient biotic evaluation determined 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, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on Plum Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Plum Brook Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth at New Croton Reservoir to/including unnamed trib (-4) in Lincolndale. The waters of this portion of the stream are Class B(TS). Tribs to this reach/segment are Class C. Upper Plum Brook is listed separately.

Plum Brook, Upper, and tribs (1302-0088) NoKnownImpct

Waterbody Location Information

Revised: 03/28/2008

Water Index No: H- 31-P44-17
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 6.3 Miles
Quad Map: CROTON FALLS (P-26-4)
Seg Description: stream and tribs, above Lincolndale

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 Plum Brook in Lake Lincolndale (at Brookside Avenue) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. However, much of the impact is attributed to poor habitat. Nutrient biotic evaluation determined 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, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs above unnamed trib (-4) in Lincolndale. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment are Class C. Lower Plum Brook is listed separately.

Lake Lincolndale (1302-0089) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No: H- 31-P44-17- 5-P57a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 20.9 Acres
Quad Map: CROTON FALLS (P-26-4)
Seg Description: entire lake

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: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
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: ext/NYCW
Resolution Potential: Medium
TMDL/303d Status: 3a->1

Further Details

Overview
Recreational uses in Lake Lincolndale are considered to be impaired due to algal growth and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. Urban/storm runoff and on-site (septic) systems are thought to be sources of these pollutants.

Water Quality Sampling
Lake Lincolndale has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1995 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as 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 rarely 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 colored, however color does not influence transparency. (DEC/DOW, BWAM/CSLAP, March 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 favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness," an assessment that is more favorable that expected based on measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. (DEC/DOW, BWAM/CSLAP, March 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.

New York City Watershed

Lake Lincolndale is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Lake Lincolndale is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for phosphorus in the lake be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Croton Falls Reservoir (1302-0026) Impaired Seg

Waterbody Location Information

Revised: 04/04/2008

Water Index No: H- 31-P44-23 (portion 2)/P59
Hydro Unit Code: 02030101/080 **Str Class:** A(T)
Waterbody Type: Lake(R)
Waterbody Size: 573.6 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use of the Croton Falls Reservoir is considered to be impaired by phosphorus from urban runoff and other nonpoint sources.

Water Supply Use
The water supply use of the Croton Falls Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the applicable 15 ug/l criterion established for source water reservoirs. Data from 2001-2005 show concentrations to be about 23 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed
The Croton Falls Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam

Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Croton Falls Reservoir is a source water reservoir; the reservoir basin is fairly small and receives most of its water from upstream reservoirs (primarily the West Branch and Middle Branch reservoirs, with a lesser fraction from the Diverting reservoir). The Croton Falls Reservoir discharges into the West Branch Croton River, which flows downstream to Muscoot Reservoir. Water can leave the reservoir through a stream release structure at the dam, a spillway structure, and pump station that connects to the Delaware Aqueduct. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median total phosphorus values to be consistently above applicable 15 ug/l criterion established for protection of NYC sources water reservoirs. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Surface samples for dissolved oxygen consistently met criteria. However lower dissolved oxygen observations occur during summer stratification in samples taken at greater depths. Sampling in tributary streams finds that median values typically meet applicable criteria for these parameters. Some elevated turbidity levels occur periodically. Median fecal coliform values in the reservoir were well below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the Croton Falls Reservoir is considered to be impaired by phosphorus, a TMDL for this pollutant has been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. Therefore a listing for this pollutant for the Croton Falls Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

West Branch Croton R, Middle, and tribs (1302-0093) NoKnownImpct

Waterbody Location Information

Revised: 04/03/2008

Water Index No: H- 31-P44-23 (portion 3) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(TS)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 5.8 Miles **Quad Map:** LAKE CARMEL (P-26-1)
Seg Description: from Croton Falls Reservoir to West Branch Reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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 West Branch Croton River in Carmel (at Route 6) was conducted in 2000. Sampling results indicated moderately impacted water quality conditions, however sampling was conducted just below the West Branch Reservoir outlet and the assessment is considered to reflect impoundment effects rather than poor water quality. (DEC/DOW, BWAM/SBU, June 2005)

Water Quality Sampling
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on West Branch Croton River along this reach. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the stream meets applicable criteria. Fecal coliform and turbidity results in the streams were also found to be relatively low and consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The West Branch Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Croton Falls Reservoir (P59) to West Branch Reservoir (P67). The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment, including Crafts Brook (-1), are Class C,C(T). Other portions of West Branch are listed separately.

West Branch Reservoir (1302-0022) Impaired Seg

Waterbody Location Information

Revised: 04/02/2008

Water Index No: H- 31-P44-23 (portion 4)/P67
Hydro Unit Code: 02030101/030 **Str Class:** AA
Waterbody Type: Lake(R)
Waterbody Size: 695.6 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Fish consumption use of the West Branch Reservoir is considered to be impaired by mercury assumed to be the result of atmospheric deposition. In addition, water supply uses are considered to be threatened by nutrients and other pollutants from various nonpoint sources.

Fish Consumption Advisories
Fish consumption in the West Branch Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of walleye because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Water Supply Use
The water supply use of the West Branch Reservoir is threatened by potential for elevated phosphorus concentrations and possible eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL did not identify West Branch

Reservoir as being water quality limiting for phosphorus; concentrations of phosphorus were found to be below the applicable 15 ug/l criterion established for source water reservoirs. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value as a source of drinking water for a large population. An Nonpoint Source Implementation Plan for this TMDL is being developed to address potential threats to water quality; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed

The West Branch Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The West Branch Reservoir is located within the Croton Watershed, but hydrologically it is considered part of the Catskill/Delaware System. The reservoir receives most of its water from the Catskill/Delaware reservoirs through the Delaware Aqueduct. The reservoir also receives lesser amounts of water from Boyd Corners Reservoir (through West Branch Croton River) and from runoff of precipitation that falls in the watershed and enters the reservoir primarily through Horse Pound Brook. Outflow from the reservoir flows via the Delaware Aqueduct to the Kensico Reservoir. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values generally to be below the 15 ug/l target for New York City source water reservoirs; median values at one site outside the main basin of the reservoir are above the 15, but below the New York State criterion of 20 ug/l. Median values for dissolved oxygen were found to be well within compliance with applicable standards. Individual exceedences of dissolved oxygen occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at lower depths. Median sampling values for turbidity were found to be below applicable criteria. Sampling values for fecal coliform were found to be well below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the West Branch Reservoir is considered to be impaired as a result of a health advisory for mercury, a TMDLs for this pollutants has been completed. Mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore a listing of this pollutant for the West Branch Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

West Branch Croton R, Middle, and tribs (1302-0094) NoKnownImpct

Waterbody Location Information

Revised: 05/29/2008

Water Index No: H- 31-P44-23 (portion 5) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(T)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 2.2 Miles **Quad Map:** LAKE CARMEL (P-26-1)
Seg Description: from West Branch Reservoir to Boyd Corners Reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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
Water quality of this small reach is considered to have no known impacts to uses. This assessment is based on sampling of the two reservoirs at both ends of the reach. The 2000 Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed did not identify either West Branch or Boyds Corner Reservoirs as being water quality limiting for phosphorus; concentrations of phosphorus were found to be below the applicable 20 ug/l criterion established for headwater reservoirs. Sampling by New York City Department of Environmental Protection at a site in the West Branch Reservoir at the point near where the West Branch Croton River enters the reservoir also found dissolved oxygen, pathogens and turbidity results to reveal no water quality concerns. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (Croton Watershed Strategy - Boyds Corners and West Branch Basin Reports, NYCDEP, March 2003)

New York City Watershed
The West Branch Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An

Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from to West Branch Reservoir (P67) to Boyd Corners Reservoir (P76); otherwise known as Boyd Corners Reservoir Outlet. The waters of this portion of the stream are Class A(T). Tribs to this reach/segment, including China Pond Outlet (-3) and Clear Pool Outlet (-4), are Class B,B(TS). Other portions of West Branch are listed separately.

Boyd Corners Reservoir (1302-0045) Impaired Seg

Waterbody Location Information

Revised: 04/01/2008

Water Index No: H- 31-P44-23 (portion 6)/P76
Hydro Unit Code: 02030101/030 **Str Class:** AA
Waterbody Type: Lake(R)
Waterbody Size: 217.8 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: OSCAWANA LAKE (P-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Fish consumption use of Boyds Corner Reservoir is considered to be impaired by mercury assumed to be the result of atmospheric deposition. In addition, water supply uses are considered to be threatened by nutrients and other pollutants from various nonpoint sources.

Fish Consumption Advisories
Fish consumption in Boyds Corner Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger largemouth bass (over 16 inches) and walleye because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2002-02. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Water Supply Use
The water supply use of Boyds Corner Reservoir is threatened by potential for elevated phosphorus concentrations and possible eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in

the New York City Water Supply Watershed was established in June 2000. This TMDL did not identify Boyds Corner Reservoir as being water quality limiting for phosphorus; concentrations of phosphorus were found to be below the applicable 20 ug/l criterion established for headwater reservoirs. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value as a source of drinking water for a large population. An Nonpoint Source Implementation Plan for this TMDL is being developed to address potential threats to water quality; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed

The Boyds Corner Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

Boyds Corner Reservoir is located within the Croton Watershed, but hydrologically it is considered part of the Catskill/Delaware System. The reservoir is a headwater reservoir and receives most of its water runoff that falls in the watershed and enters the reservoir through the Upper West Branch Croton River and other tributaries. Outflow from the reservoir flows via the West Branch Croton River to West Branch Reservoir. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be below the New York State criteria of 20 ug/l. Median values for dissolved oxygen were found to meet applicable standards. Individual exceedences of dissolved oxygen occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at lower depths. Sampling values for turbidity were found to be below applicable criteria. Sampling values for fecal coliform were found to be well below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though Boyds Corner Reservoir is considered to be impaired as a result of a health advisory for mercury, a TMDLs for this pollutants has been completed. Mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore a listing of this pollutant for the West Branch Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

West Branch Croton R, Upper, and tribs (1302-0095) NoKnownImpct

Waterbody Location Information

Revised: 04/03/2008

Water Index No: H- 31-P44-23 (portion 7) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 25.4 Miles **Quad Map:** OSCAWANA LAKE (P-25-2)
Seg Description: from Boyd Corners Reservoir to Sagamore 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
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on the Upper West Branch Croton River, tribs to the West Branch (Black Pond Brook) and Boyds Corner Reservoir Tribs (Leetown Brook and Bailey Brook). Results at these monitoring sites reveal median total phosphorus concentrations that are were well below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria, though lower individual values in the West Branch were noted occasionally during the summer months; these results are likely the result of unaerated releases from Sagamore Lake. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed
The Upper West Branch/Boyds Corner Watershed is tributary to the Croton System of New York City water supply

reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Boyd Corners Reservoir (P76) to Sagamore Lake (P76j); segment includes tribs to Boyds Corner Reservoir. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Black Pond Brook (-5), Leetown Brook (-P76-3) and Bailey Brook (-P76-4), are also Class C(T). Other portions of West Branch are listed separately.

Sagamore Lake (1302-0096) NoKnownImpct

Waterbody Location Information

Revised: 04/28/2008

Water Index No: H- 31-P44-23 (portion 8)/P76j
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 100.6 Acres
Quad Map: OSCAWANA LAKE (P-25-2)
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
Lake Sagamore has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1994 and continuing through 1997. An Interpretive Summary report of the findings of this sampling was published in 1998. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake only occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to cause any ecological impacts. The lake water is weakly to moderately colored, but not likely high enough to influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, September 2007)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear." Assessments have noted that aquatic plants growth reaches the lake surface but does not impact lake use. (DEC/DOW, BWAM/CSLAP, September 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a 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.

Lake Gilead (1302-0024) MinorImpacts

Waterbody Location Information

Revised: 05/28/2008

Water Index No:	H- 31-P44-23-P59- 3-P61			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080	**Str Class:**	A(T)		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	116.3 Acres			**Quad Map:**	LAKE CARMEL (P-26-1)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: Algal/Weed Growth (aquatic vegetation)
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Habitat Modification, On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply and recreational uses in Lake Gilead are thought to experience minor impacts due to elevated nutrient concentrations from urban runoff and other nonpoint sources.

Water Quality Sampling
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed and Lake Gilead is a part. These monitoring efforts include fixed frequency surveys in some tributary lakes as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station in Lake Gilead. Results at these monitoring site reveal median total phosphorus concentrations that approach New York State guidance value of 20 ug/l indicating impacted/stressed recreational uses. This monitoring indicates the lake is a significant source of phosphorus to the downstream reservoirs. Median dissolved oxygen, fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria for protection of recreational uses. Individual exceedences of dissolved oxygen occur during summer stratification in samples taken at greater depths. (Croton Watershed Strategy - East Branch Basin

Report, NYCDEP, March 2003)

New York City Watershed

Lake Gilead is a control lake that is a part of the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Previous Assessment

The fishery in Lake Gilead may be affected by nutrient loadings and low dissolved oxygen related to increasing aquatic vegetation. Water supply and other recreational uses could also be affected. Runoff from urban/suburban development in the watershed are thought to contribute pollutant loads to the lake. Suspected failing and/or inadequate on-site septic systems in the watershed may also contribute. (Putnam County WQCC, 1996)

Minor Tribs to Croton Falls Reservoir (1302-0001) Impaired Seg

Waterbody Location Information

Revised: 04/04/2008

Water Index No:	H- 31-P44-23-P59- 4 thru 10	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/130 **Str Class:** B		Lower Hudson River
Waterbody Type:	River	**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	4.8 Miles	**Quad Map:**	LAKE CARMEL (P-26-1)
Seg Description:	total length of select tribs, northern/eastern shore		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Known
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: MUNICIPAL (Carmel SD#2 WWTP), Urban/Storm Runoff
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/NYCW **Resolution Potential:** High
TMDL/303d Status: 4b (Other Control(s) More Suitable than TMDL, Not Listed)

Further Details

Overview
Aquatic life and recreational uses in this waterbody are considered to be impaired by nutrient loadings, low dissolved oxygen and other sewage inputs attributed to municipal wastewater discharges. The impairments within this segment were identified in Michael Brook. The Carmel Sewer District #2 WWTP has been identified as the source of the impacts. The WWTP is undergoing an upgrade that is expected to be complete in 2008.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Michael Brook in Carmel (at Kelly Road) was conducted annually from 2001 to 2005. Sampling results consistently indicated moderately impacted water quality conditions. The fauna was dominated by sowbugs, filter-feeding caddisflies and other sewage tolerant species. Impact Source Determination clearly identified sewage wastes as the primary source of the impacts. Sampling at a site above the WWTP discharge (at Fair Street) was sampled in 2001 and was found to exhibit slightly impacted water quality. Impacts at this site were attributed to urban runoff and other nonpoint sources. (DEC/DOW, BWAM/SBU, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on Michael Brook within this reach. Results at these monitoring sites reveal median total phosphorus concentrations that indicate that the stream is a significant source of phosphorus to the Croton Falls Reservoir. Median dissolved oxygen levels in the stream meets applicable criteria. However fecal coliform and turbidity results in the streams were also found to be elevated, suggesting the stream is a significant source of loadings of these parameters to the downstream reservoir. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Croton Falls Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the total length of selected/smaller tribs to the Croton Falls Reservoir, entering the reservoir from the north and the east. Tribs within this segment, including Michaels Brook (-5), are primarily Class B; with some tribs designated Class C. Lake Gilead Outlet (-3) and Middle Branch (-6) are listed separately.

Palmer Lake (1302-0103) Impaired Seg

Waterbody Location Information

Revised: 05/18/2011

Water Index No: H- 31-P44-23-P59- 5-P61a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 14.0 Acres
Quad Map: LAKE CARMEL (P-26-1)
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
RECREATION	Impaired	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: - - -
Possible: Pathogens

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DEC/DOW
Resolution Potential: Medium
TMDL/303d Status: n/a->3a*

Further Details

Overview

Recreational uses in Palmer Lake are thought to be impaired due to elevated nutrient loadings, resulting in some algal growth and reduced water clarity. Urban stormwater runoff and other nonpoint sources are the source of the pollutants. Onsite wastewater treatment (septic) systems may also be contributing. Pathogen sampling has not been conducted to determine impairment to public bathing, but swimming is considered to be stressed.

Water Quality Sampling

Palmer Lake was sampled weekly in August and September of 2010 by NYSDEC in conjunction with an on-going discussion with the local lake association to evaluate contemporary water quality conditions in the lake. Samples were collected from the center of the lake, and in the inlet and outlet. Based on this sampling, the lake can be characterized as eutrophic, or highly productive. The average water clarity reading was typical of eutrophic lakes, but slightly lower than expected given the average total phosphorus and average chlorophyll a readings, which were also typical of eutrophic lakes. Eutrophic conditions were also apparent in the inlet to the lake, and highly elevated phosphorus readings were also found in the inlet and outlet. High algae levels were measured in early August in the center of the

(additional, after pg 88)

lake and in the inlet, and in all three sampling locations in late September. If sampling had started in June or July it is conceivable that chlorophyll levels would have been higher. As a result, a full summer of sampling is recommended to verify conditions. The nitrogen to phosphorus ratios suggest that algae growth in the lake is phosphorus limited, indicating that phosphorus reduction will be needed to reduce algae levels and increase water clarity in the lake. The lake pH and conductivity readings in the lake are typical of hardwater, alkaline lakes with high algae levels, although no pH readings exceeded the state water quality standards. Chloride levels are typical of lakes with moderate impacts from road salt, although these readings fall below the state water quality standards. Dissolved oxygen levels indicate sufficient oxygen to support aquatic life. (DEC/DOW, BWAM/LMAS, March 2011)

Section 303(d) Listing

Palmer Lake is not currently included on the 2010 Section 303(d) List of Impaired/TMDL Waters. However this updated assessment suggests it is appropriate to consider the waterbody for inclusion on the next (2012) List. It is recommended that the lake be included on Part 3a of the List as an impaired waterbody for which TMDL development may be deferred pending verification of impairment. (DEC/DOW, BWAM, May 2011)

Segment Description

This segment includes the total area of the entire lake. Palmer Lake is a 12 acre, Class B lake in the town of Kent and Carmel in Putnam County.

Middle Branch Croton R, Lower (1302-0104) NoKnownImpct

Waterbody Location Information

Revised: 04/03/2008

Water Index No: H- 31-P44-23-P59- 6 (portion 1) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(T)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 0.2 Miles **Quad Map:** LAKE CARMEL (P-26-1)
Seg Description: entire stream

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
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on Middle Branch Croton River along this reach. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the stream meets applicable criteria. Fecal coliform and turbidity results in the streams were also found to be relatively low and consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed
The Middle Branch Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An

Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description
This segment includes the entire stream from Croton Falls Reservoir to Middle Branch Reservoir. The waters of the stream are Class A(T). There are no tribs to this reach/segment.

Middle Branch Reservoir (1302-0009) Impaired Seg

Waterbody Location Information

Revised: 04/02/2008

Water Index No: H- 31-P44-23-P59- 6 (portion 2)/P62
Hydro Unit Code: 02030101/080 **Str Class:** A
Waterbody Type: Lake(R)
Waterbody Size: 399.6 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use of the Middle Branch Reservoir is considered to be impaired by phosphorus from urban runoff and other nonpoint sources.

Water Supply Use
The water supply use of the Middle Branch Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the 20 ug/l criterion established by NYS DEC. Data from 2001-2005 show concentrations to be about 30 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed
The Middle Branch Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and

Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Middle Branch Reservoir watershed is a headwater basin; the reservoir receives most of its flow from runoff of precipitation that falls in the watershed and enters the reservoir through the Middle Branch Croton River. Outflow from the reservoir flows via the Middle Branch downstream into the Croton Falls Reservoir. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be consistently above NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Surface samples for dissolved oxygen consistently met criteria. However lower dissolved oxygen observations occur during summer stratification in samples taken at depths of 7 meters or greater. Sampling in tributary streams finds that median values typically meet applicable criteria for these parameters. Some elevated turbidity levels occur periodically. Fecal coliform values in the reservoir were quite low, with median values below 5/100ml. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the East Branch Reservoir is considered to be impaired by phosphorus, a TMDL for this pollutant has been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. Therefore a listing for this pollutant for the East Branch Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Middle Branch Croton R, Middle, and trib (1302-0105) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-23-P59- 6 (portion 3) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 6.8 Miles **Quad Map:** LAKE CARMEL (P-26-1)
Seg Description: stream and tribs, Middle Branch Reserv to Lake Carmel

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 West Branch Croton River in Carmel (at Route 57) was conducted in 2000. Sampling results indicated non-impacted water quality conditions. Although minor effects of nonpoint source nutrient enrichment were noted, the diverse fauna included many clean-water mayflies, stoneflies and caddisflies. (DEC/DOW, BWAM/SBU, December 2004)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on the Middle Branch Croton River, including two between Middle Branch reservoir and Lake Carmel. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Phosphorus values were higher below Lake Carmel than above the lake, suggesting the lake is a source of nutrients to downstream reservoirs. Median dissolved oxygen levels in the stream met applicable criteria, though lower individual values in the Middle Branch just below Lake Carmel may occur during the summer months; the result of unaerated releases from the

lake. Fecal coliform and turbidity results in the stream were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

Middle Branch Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs from Middle Branch Reservoir (P62) to Lake Carmel (P62a). The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Beaver Brook (-1), are also Class C(TS).

Middle Branch Croton R, Upper, and tribs (1302-0106) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-23-P59- 6 (portion 4)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 5.8 Miles
Quad Map: LAKE CARMEL (P-26-1)
Seg Description: stream and tribs, above Lake Carmel

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 West Branch Croton River in Maynard Corners (at Route 3117) was conducted in 1998. Sampling results indicated non-impacted water quality conditions. Although minor effects of nonpoint source nutrient enrichment were noted, the diverse fauna included many clean-water mayflies, stoneflies and caddisflies. (DEC/DOW, BWAM/SBU, December 2004)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on the Middle Branch Croton River, including one between and Lake Carmel and Stump Pond. Results at this monitoring site reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels, fecal coliform and turbidity results in the stream were also found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

Middle Branch Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs Lake Carmel (P62a) to Stump Pond (P63). The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C.

Lake Carmel (1302-0006) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No: H- 31-P44-23-P59- 6-P62..P62a
Hydro Unit Code: 02030101/130 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 186.6 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-26-1)

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 (algal blooms, vegetation), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: D.O./Oxygen Demand, Ammonia, Pathogens

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/NYCW **Resolution Potential:** Medium
TMDL/303d Status: 3a->1*

Further Details

Overview

Recreational uses in Lake Carmel 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 may also be contributing sources.

Water Quality Sampling

Lake Carmel has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) but not since 1990. 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. General observation suggests conditions remain the same, but sampling to verify current conditions is recommended. (DEC/DOW, BWAM/CSLAP, 2008)

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.

New York City Watershed

Lake Carmel is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Lake Carmel is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for phosphorus in the lake be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Minor Tribs to West Branch Reservoir (1302-0113) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-23..P67-
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B*
Waterbody Type: River
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 26.6 Miles
Quad Map: LAKE CARMEL (P-26-1)
Seg Description: total length of select 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
Biological (macroinvertebrate) assessments of Gipsy Trail Brook in Carmel (at Gipsy Trail Road) and of Hourse Pound Brook in Lake Carmel (at gage) were conducted in 2000. Sampling results indicated non-impacted water quality conditions at both sites. The diverse fauna included many clean-water mayflies, stoneflies, caddisflies, riffle beetles and hellgrammites. No water quality impacts were noted. (DEC/DOW, BWAM/SBU, December 2004)

New York City Watershed
Tribs to West Branch Reservoir are tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description
This segment includes the total length of selected/smaller tribs to the West Branch Reservoir. Tribs within this segment, including Long Pond Outlet (-1), Barrett Pond Outlet (-5), Gypsy Trail Brook (-7), Horse Pound Brook (-8) and Gleneida

Lake Outlet, are primarily Class B,B(TS) with some portions designated as Class C; Barrett Pond Outlet (-5) and Gleneida Lake Outlet are Class A.

Lake Gleneida (1302-0025) MinorImpacts

Waterbody Location Information

Revised: 07/30/2008

Water Index No: H- 31-P44-23..P67..P74
Hydro Unit Code: 02030101/030 **Str Class:** AA(T)
Waterbody Type: Lake
Waterbody Size: 166.5 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS (phosphorus), Algal/Weed Growth (aquatic vegetation)
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: On-Site/Septic Syst

Resolution/Management Information

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

Further Details

Overview
Water supply and recreational uses in Lake Gleneida are thought to experience minor impacts due to elevated nutrient concentrations from urban runoff and other nonpoint sources.

Water Quality Sampling
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed and Lake Gleneida is a part. These monitoring efforts include fixed frequency surveys in some tributary lakes as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station in Lake Gleneida. Results at these monitoring site reveal median total phosphorus concentrations that approach New York State guidance value of 20 ug/l indicating impacted/stressed recreational uses. Median dissolved oxygen, fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria for protection of recreational uses. Individual exceedences of dissolved oxygen occur during summer stratification in samples taken at greater depths. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Source (Drinking) Water Assessment

Lake Gleneida was assessed throughout 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. The assessment area for this drinking water source contains some medium rated threats to water quality. The watershed contains a large amount of high density residential land cover. Considerable development in the watershed results in a number of potential contaminant sources, including main roadways and commercial businesses. This assessment is typical of many water supplies in developed areas and reflects the need to protect the resource. This water supply reservoir provides water to Carmel Water District #2. (NYSDOH, Source Water Assessment Program, 2005)

Drinking Water Supply

The designation of water supply use in this waterbody as threatened is reflective of a need to protect its particular resource value, rather than specifically identified threats. Although there are no specific water quality impacts, the segment is considered a highly valued water resource due to its drinking water supply classification as a AA(T) water. The inclusion of the water supply use of this waterbody as Threatened is a reflection of the particular resource value reflected in this designation and the need to provide additional protection, rather than any specifically identified threats.

New York City Watershed

Lake Gleneida is a control lake that is a part of the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Diverting Reservoir (1302-0046) Impaired Seg

Waterbody Location Information

Revised: 04/02/2008

Water Index No: H- 31-P44-24 (portion 2)/P83
Hydro Unit Code: 02030101/080 **Str Class:** AA
Waterbody Type: Lake(R)
Waterbody Size: 124.8 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: LAKE CARMEL (P-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)
Known: METALS (mercury), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION, URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use and fish consumption of the Diverting Reservoir are considered to be impaired by phosphorus from urban runoff and other nonpoint sources, and by mercury assumed to be the result of atmospheric deposition.

Water Supply Use
The water supply use of the Diverting Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the 20 ug/l criterion established by NYS DEC. Data from 2001-2005 show concentrations to be about 36 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

Fish Consumption Advisories
Fish consumption in the Diverting Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of walleye because of elevated mercury levels. The source of mercury is considered to

be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

New York City Watershed

Diverting Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

Diverting Reservoir watershed is a raw water supply reservoir. The reservoir basin is fairly small and receives most of its flow from East Branch and Bog Brook Reservoirs. Most outflow from the reservoir flows via East Branch Croton River downstream into Muscoot Reservoir, although some outflow goes to Croton Falls Reservoir via a connecting channel. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be above NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of turbidity criteria occur periodically. Unlike many reservoirs, Diverting Reservoir does not typically experience low dissolved oxygen conditions during summer. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though Diverting Reservoir is considered to be impaired by phosphorus and as a result of a health advisory for mercury, TMDLs for both of these pollutants have been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. The mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore listings of these pollutants for Diverting Reservoir are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

East Branch Croton, Middle, and tribs (1302-0055) Threatened

Waterbody Location Information

Revised: 10/14/1999

Water Index No: H- 31-P44-24 (portion 3) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/080 **Str Class:** A(T) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 12.8 Miles **Quad Map:** BREWSTER (P-26-2)
Seg Description: stream and tribs, from Diverting Res to East Branch Res

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: PRIORITY ORGANICS (cis-1,2 Dichloroethene)
Suspected: Nonpriority Organics (MTBE), Nutrients, Pathogens
Possible: Silt/Sediment

Source(s) of Pollutant(s)
Known: LANDFILL/LAND DISP. (Brewster Well Field)
Suspected: Chemical Leak/Spill, Construction (resid/comm develop), On-Site/Septic Syst, Other Sanitary Disch, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: ()
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: ext/EPA **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life use in this portion of the Middle Branch Croton River are thought to experience minor impacts due to pollutant loadings from urban runoff and other nonpoint sources. Organic wastes from residential on-site and/or municipal discharges may also impact water quality.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Tonetta Brook (at trib of the Croton) in Brewster (at Route 56) was conducted in 2000. Sampling results indicated slightly impacted water quality conditions. Previous sampling in 1998 and 1999 reflected moderately impacted conditions. The fauna in all samples was dominated by caddisflies and midges. Organic wastes and urban/storm runoff were identified as the primary sources of impact. (DEC/DOW, BWAM/SBU, June 2005)

Other Concerns

The water supply use of the East Branch Croton River was previously considered to be threatened by potential contamination from the Brewster Village Well Field National Priority (EPA Superfund) Site (Site No. 3-40-012, EPA ID NYD980652275). Volatile organics were discovered in the well field in 1978, with a large plume of groundwater contamination traced to a dry-cleaning establishment. In 1984 the site, which is adjacent to the river, was designated a Superfund Site and treatment was installed to remove VOCs from the village water supply. Remediation of the groundwater, in which groundwater is pumped, treated and discharged directly to the East Branch of the Croton, began in 1996 and continues. Only one compound (the gasoline additive MTBE) is being detected in the discharge and this is at a level well below the SPDES discharge criteria of 50 ppb. (Environmental Site Remediation Database, DEC/DER, March 2008)

Previous Assessment

In 1998, NYCDEP conducted a Water Quality Impact Assessment investigation of failing septic systems and other sources in the Village of Brewster. Samples collected from the river, stormwater discharge pipes and area tributaries indicated some impacts to the water quality of the river as it passed through the village. However, no single source could be identified. (NYS DEP, July 1999)

New York City Watershed

The East Branch Croton River is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream from Diverting Reservoir (P83) to East Branch Reservoir (P89). The waters of this portion of the stream are Class A(T). Tribs to this reach/segment, including Tonetta Brook (-3) and Bog Brook (-9) are primarily Class C; a short portion of Tonetta Brook and Bog Brook are Class A.

East Branch Reservoir (1302-0040) Impaired Seg

Waterbody Location Information

Revised: 04/02/2008

Water Index No:	H- 31-P44-24 (portion 4)/P89			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080	**Str Class:**	AA		Lower Hudson River
Waterbody Type:	Lake(R)			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	41.0 Acres			**Quad Map:**	BREWSTER (P-26-2)
Seg Description:	entire reservoir				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION, URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use and fish consumption of the East Branch Reservoir are considered to be impaired by phosphorus from urban runoff and other nonpoint sources, and by mercury assumed to be the result of atmospheric deposition.

Water Supply Use
The water supply use of the East Branch Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the 20 ug/l criterion established by NYS DEC. Data from 2001-2005 show concentrations to be about 38 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

Fish Consumption Advisories
Fish consumption in the East Branch Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of walleye because of elevated mercury levels. The source of mercury is considered

to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

New York City Watershed

The Middle Branch Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The East Branch Reservoir watershed is a headwater basin; the reservoir receives most of its flow from runoff of precipitation that falls in the watershed and enters the reservoir through the Upper East Branch Croton River. Outflow from the reservoir flows via East Branch Croton River downstream into Diverting Reservoir. Excess flow from the East Branch Reservoir can be directed to Bog Brook Reservoir for storage. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be slightly above NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at depths of 12 meters or greater. Sampling in tributary streams finds that median values typically meet applicable criteria for these parameters. Some watershed streams flow through wetlands and the few observed low dissolved oxygen readings might have been caused by high oxygen demand or other conditions present in the Great Swamp. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the East Branch Reservoir is considered to be impaired by phosphorus and as a result of a health advisory for mercury, TMDLs for both of these pollutants have been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. The mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore listings of these pollutants for the East Branch Reservoir are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

East Branch Croton, Upp, and tribs (1302-0056) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-24 (portion 5) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/080 **Str Class:** A(T) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 10.8 Miles **Quad Map:** BREWSTER (P-26-2)
Seg Description: stream and tribs, fr East Branch Res to Deforest Crnrs

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 East Branch Croton River in Putnam Lake (at Route 65) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was noted. 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. Biological monitoring by NYCDEP found similar conditions. (DEC/DOW, BWAM/SBU, December 2004)

Biological assessments of Peach Lake Outlet in Brewster (at Cobb Road) were conducted from 2000 through 2005. These results typically found moderately impacted water quality, however impoundment effects and wetland conditions are though to influence the results of the sampling. Sensitive stoneflies are found in abundance at the site. (DEC/DOW, RIBS/SBU, October 2007)

New York City Watershed
East Branch Croton River is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a

phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Upper East Branch Croton River. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria, though individual values occasionally fell below criteria; these results are likely to have been influenced by flow through Great Swamp. Fecal coliform and turbidity results typically met water quality standards; occasional elevated values, often coinciding with high runoff events, were also noted. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Segment Description

This segment includes the portion of the stream and all tribs to/from East Branch Reservoir (P89) to/including unnamed trib (-16) near Deforest Corners. The waters of this portion of the stream are Class A(T). Tribs to this reach/segment, including Peach Lake Brook (-10) and Salmons Daily Brook (-13), are Class C,C(TS).

East Branch Croton, Upp, and minor tribs (1302-0057) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-24 (portion 6) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/080 **Str Class:** C Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 69.2 Miles **Quad Map:** BREWSTER (P-26-2)
Seg Description: stream and select tribs, above Deforest Corners

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 East Branch Croton River in Patterson (at Route 311) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment impacts were noted. 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. Similar conditions were found in Brady Brook, a trib to East Branch, during 2000 sampling. (DEC/DOW, BWAM/SBU, December 2004)

Biological assessments of Putnam Lake Outlet in Putnam (at Lakeshore Drive) were conducted from 2001 through 2005. These results typically found moderately impacted water quality, however the site is just below the lake and impoundment effects are though to influence the results of the sampling. (DEC/DOW, RIBS/SBU, October 2007)

New York City Watershed
East Branch Croton River is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a

phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Upper East Branch Croton River as well as Haviland Hollow Brook and Stephens Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria, though individual values occasionally fell below criteria; these results are likely to have been influenced by flow through Great Swamp. Fecal coliform and turbidity results typically met water quality standards; occasional elevated values, often coinciding with high runoff events, were also noted. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-16) near Deforest Corners. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Deforest Corners Brook (-17), Haviland Hollow Brook (-22), Mountain Brook (-23), Stephens Brook (-26) and Brady Brook (-32), are Class C,C(T),C(TS). Muddy Brook (-25) is listed separately.

Holly Stream and tribs (1302-0125) MinorImpacts

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-24- 1
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 9.0 Miles
Quad Map: PEACH LAKE (P-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
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/NYCW
Resolution Potential: n/a
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life uses in Holly Stream are known thought to experience minor impacts due to nutrient loadings from urban runoff and other nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Holly Stream in Brewster (at Route 202) was conducted in 2000. Sampling results indicated slightly impacted water quality conditions. The fauna was diverse but dominated by facultative midges. (DEC/DOW, BWAM/SBU, June 2005)

New York City Watershed
Holly Stream is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Lake Tonetta (1302-0014) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No:	H- 31-P44-24- 3-P85			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080	**Str Class:**	B		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	63.5 Acres			**Quad Map:**	BREWSTER (P-26-2)
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	Possible
Aquatic Life	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation)
Suspected: PATHOGENS, Nutrients (phosphorus)
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION, ON-SITE/SEPTIC SYST, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Water supply and recreational uses in Lake Tonetta may experience minor impacts due to elevated nutrient concentrations from urban runoff and other nonpoint sources. Due to the lack of any current information, conditions in the lake need to be verified.

New York City Watershed
Lake Tonetta is a control lake that is a part of the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Previous Assessment
The recreational use (swimming, boating, fishing) and aesthetics in Lake Tonetta were thought to be limited by high

coliform counts, blue-green algal blooms and excessive aquatic weed growth in the lake. Sampling in early 1990s indicated a mesotrophic lake with elevated phosphorus levels and seasonal low dissolved oxygen at the lake bottom. Failing and/or inadequate on-site septic systems serving homes and camps along the lake shore and other runoff from urban/suburban development in the watershed are considered likely sources of pollutants. (Putnam County WQCC, 1996)

Bog Brook Reservoir (1302-0041) Impaired Seg

Waterbody Location Information

Revised: 04/02/2008

Water Index No: H- 31-P44-24- 9-P86
Hydro Unit Code: 02030101/030 **Str Class:** AA
Waterbody Type: Lake(R)
Waterbody Size: 379.9 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: BREWSTER (P-26-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Fish consumption use of the Bog Brook Reservoir is considered to be impaired by mercury assumed to be the result of atmospheric deposition. In addition, water supply uses are considered to be threatened by nutrients and other pollutants from various nonpoint sources.

Fish Consumption Advisories
Fish consumption in the Bog Brook Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger walleye (over 21 inches) because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Water Supply Use
The water supply use of the Bog Brook Reservoir is threatened by potential for elevated phosphorus concentrations and possible eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in

the New York City Water Supply Watershed was established in June 2000. This TMDL did not identify Bog Brook Reservoir as being water quality limiting for phosphorus; concentrations of phosphorus were found to be below the applicable 20 ug/l criterion established for upstream reservoirs. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value as a source of drinking water for a large population. An Nonpoint Source Implementation Plan for this TMDL has been developed to address potential threats to water quality. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed

The Bog Brook Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Bog Brook Reservoir watershed is a headwater basin; the reservoir receives water from the overflow from the East Branch Reservoir through the East Branch tunnel and from runoff of precipitation that falls in the watershed and enters the reservoir through primarily Bog Brook. Outflow from the reservoir flows via East Branch Croton River downstream into Diverting Reservoir. Water may also leave the reservoir and flow back into East Branch Reservoir, depending upon precipitation and the operation of the reservoirs. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be below NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at depths of 12 meters or greater. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the Bog Brook Reservoir is considered to be impaired as a result of a health advisory for mercury, a TMDLs for this pollutants has been completed. Mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore a listing of this pollutant for the East Branch Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Peach Lake (1302-0004) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No:	H- 31-P44-24- P89-10-P93	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080 **Str Class:** B		Lower Hudson River
Waterbody Type:	Lake	**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	241.9 Acres	**Quad Map:**	PEACH LAKE (P-26-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation), NUTRIENTS (phosphorus), PATHOGENS
Suspected: Silt/Sediment
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION, HABITAT MODIFICATION
Suspected: ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF, 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: ext/NYCW **Resolution Potential:** Medium
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview
Public bathing and recreational uses in Lake Lincolndale are considered to be impaired due to pathogens and aquatic weed/algal growth and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. Urban/storm runoff and on-site (septic) systems are thought to be sources of these pollutants.

Water Quality Sampling
Peach Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1999 and continuing through 2007. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as mesoeutrophic, or moderately to 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 regularly fail to meet what is

recommended for swimming beaches. Measurements of pH typically exceed the state water quality range of 6.5 to 8.5; but it is not known whether this results in ecological impacts. The lake water is moderately colored, high enough to impact transparency if algae levels were lower. (DEC/DOW, BWAM/CSLAP, January 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness" or "severe algae levels." Recreational assessment decline over the season, consistent with increasing lake productivity. Assessments have noted that aquatic plants typically grow to the lake surface. (DEC/DOW, BWAM/CSLAP, January 2008)

Previous Assessment

High coliform counts (resulting in occasional beach closures), along with algal blooms and excessive aquatic weed growth in the lake, have been noted in the past. The aquatic growth may also depress dissolved oxygen in the lake to the point where the fishery may also be affected. Failing and/or inadequate on-site septic systems serving lake shore camps and year-round residences and other runoff from urban/suburban development in the watershed are considered likely sources of nutrient loads and other pollutants. Mechanical and chemical weed control efforts have been attempted with limited success. (Westchester and Putnam County WQCCs, 1996)

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.

New York City Watershed

Peach Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Peach 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. The lake is listed for both pathogens and phosphorus. (DEC/DOW, BWAM/WQAS, May 2008)

Lost Lake, Putnam Lake (1302-0053) MinorImpacts

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H- 31-P44-24-17-P93a,P93b	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080 **Str Class:** B		Lower Hudson River
Waterbody Type:	Lake	**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	222.1 Acres	**Quad Map:**	BREWSTER (P-26-2)
Seg Description:	total area of both lakes		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (algal blooms, vegetation), Nutrients (phosphorus), Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF, 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: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Public bathing and other recreational uses in Putnam Lake are thought to experience minor impacts due to excessive aquatic vegetation and algal growth. Nutrient loadings from nonpoint sources are also thought to contribute to water quality problems. The most recent assessment of this lake is more than ten years old so it is recommended that the condition of the lake be verified.

Previous Assessment
The recreational use (swimming, boating, fishing), and aesthetics in Putnam Lake are restricted by algal blooms and excessive aquatic weed growth in the lake. Sampling at public beaches have revealed occasional elevated coliform levels, but not sufficiently high to result in swimming closures. Failing and/or inadequate on-site septic systems serving lake shore camps and year-round residences and other runoff from urban/suburban development in the watershed are considered likely sources of pollutants. Waterfowl (geese) are another likely source of pathogens. (Putnam County WQCC, 1996)

New York City Watershed

Putnam Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Muddy Brook and tribs (1302-0011) Need Verific

Waterbody Location Information

Revised: 03/27/2008

Water Index No:	H- 31-P44-24-25			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/080	**Str Class:**	C		Lower Hudson River
Waterbody Type:	River			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	38.5 Miles			**Quad Map:**	BREWSTER (P-26-2)
Seg Description:	entire stream and tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus)
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: Urban/Storm Runoff
Possible: OTHER SANITARY DISCH

Resolution/Management Information

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

Further Details

Overview
Aquatic life uses in Muddy Brook may experience impacts due to organic wastes. Specific possible sources have not been identified.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Muddy Brook in Towners (at Cornwall Hill Road) was conducted in 1998 and 2000. Sampling results indicated moderately impacted water quality conditions. Stream habitat resembled a wetland and these conditions likely influenced the assessment. Criteria for slow, sandy streams was used to calculate assessment metrics. Impact source determination found organic wastes to be the likely cause of the impacts. Due to the influences of the habitat , followup monitoring and assessment is recommended. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Previous listing noted potential impacts from the Kessman Landfill and the Town of Patterson Landfill. However, there is no indication that either site affects water quality in the stream.

New York City Watershed

Muddy Brook is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on a tributary to Muddy Brook. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria, though individual values occasionally fell below criteria; these results are likely to have been influenced by flow through Great Swamp. Fecal coliform and turbidity results typically met water quality standards; occasional elevated values, often coinciding with high runoff events, were also noted. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Segment Description

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

Titicus Reservoir (1302-0035) Impaired Seg

Waterbody Location Information

Revised: 04/03/2008

Water Index No:	H- 31-P44-26/P103			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/130	**Str Class:**	AA		Lower Hudson River
Waterbody Type:	Lake(R)			**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	672.3 Acres			**Quad Map:**	CROTON FALLS (P-26-4)
Seg Description:	entire reservoir				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION, URBAN/STORM RUNOFF
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use and fish consumption of the Titicus Reservoir are considered to be impaired by phosphorus from urban runoff and other nonpoint sources, and by mercury assumed to be the result of atmospheric deposition.

Water Supply Use
The water supply use of the Titicus Reservoir is impaired by elevated phosphorus concentrations and the resulting eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as being water quality limiting for phosphorus due to concentration above the 20 ug/l criterion established by NYS DEC. Data from 2001-2005 show concentrations to be about 27 ug/l. An Nonpoint Source Implementation Plan for this TMDL is being developed; draft interim plans are completed. (DEC/DOW, BWAM/WQAS, July 2007)

Fish Consumption Advisories
Fish consumption in the Titicus Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of white perch because of elevated mercury levels. The source of mercury is considered

to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2003-04. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

New York City Watershed

The Titicus Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Titicus Reservoir watershed is a headwater basin; the reservoir receives most of its flow from runoff of precipitation that falls in the watershed and enters the reservoir through the Upper Titicus River. Outflow from the reservoir flows via the Titicus River downstream into Muscoot Reservoir. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median total phosphorus values to be above NYS criteria of 20 ug/l. Median values for dissolved oxygen, turbidity and pathogens (fecal coliform) were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen and turbidity occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at greater depths. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the Titicus Reservoir is considered to be impaired by phosphorus and as a result of a health advisory for mercury, TMDLs for both of these pollutants have been completed. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. The mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore listings of these pollutants for the Titicus Reservoir are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Tribs to Titicus Reservoir (1302-0135) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-26/P103-
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 30.5 Miles
Quad Map: PEACH LAKE (P-26-3)
Seg Description: total length of all 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 Upper Titicus River in North Salem (at June Road) was conducted in 2000. Sampling results indicated slightly impacted water quality conditions. Evidence of nonpoint nutrient enrichment was noted. 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. A biological (macroinvertebrate) assessment of Crook Brook in Salem Center (at Turkey Hill Road) was also conducted in 2000. Sampling results indicated non-impacted water quality conditions. A high diversity of clean-water mayflies was found in the sample. Evidence on nonpoint nutrients and siltation was noted, but these impact were minor. (DEC/DOW, BWAM/SBU, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling station on the Upper Titicus River. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for

streams entering lakes. Median dissolved oxygen levels, fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

Upper Titicus River Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the total length of all tribs to Titicus Reservoir. Tribs within this segment, including Upper Titicus River, Crook Brook (-3), and Mopus Brook (-13) are Class C,C(T).

Lake Katonah (1302-0136) MinorImpacts

Waterbody Location Information

Revised: 05/01/2008

Water Index No: H- 31-P44-31- 3-P107a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 23.0 Acres
Quad Map: CROTON FALLS (P-26-4)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: ?

Further Details

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

Water Quality Sampling
Lake Katonah has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2006 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2008. 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 rarely 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, January 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be somewhat favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted for most recreational uses. The lake itself is most often described as "not quite crystal clear" to having "definite algae greenness," an assessment that is more favorable than expected based on measured water quality characteristics. Assessments have noted that aquatic plants do not grow to the lake surface and do not influence recreational use. (DEC/DOW, BWAM/CSLAP, January 2008)

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.

Section 303(d) Listing

Lake Katonak not is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. However this updated assessment suggests it may be appropriate to consider the waterbody for listing in 2010 due to phosphorus. However additional and more recent CSLAP sampling data should be evaluated to verify whether a listing at that time is warranted. (DEC/DOW, BWAM/WQAS, May 2008)

Cross River, Lower (1302-0137) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-35 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(T)
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 0.3 Miles **Quad Map:** CROTON FALLS (P-26-4)
Seg Description: stream, from mouth to Cross River Reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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 Cross River in Ward Pound Ridge (at reservation bridge) was conducted in 2002 and 2003. Sampling results indicated non-impacted water quality conditions. Excellent water quality was reflected by a diversity of clean-water mayflies, stoneflies and caddisflies. Nonpoint sources of nutrient enrichment were suggested, but these impacts were minor. Results were similar to sampling conducted in 2000 and 2001. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream from the mouth at the New Croton Reservoir to the Cross River Reservoir (P109). The waters of this portion of the stream are Class A(T). There are no tribs included in this reach/segment.

Cross River Reservoir (1302-0005) Impaired Seg

Waterbody Location Information

Revised: 04/01/2008

Water Index No: H- 31-P44-35-P109
Hydro Unit Code: 02030101/130 **Str Class:** AA(T)
Waterbody Type: Lake(R)
Waterbody Size: 898.6 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: CROTON FALLS (P-26-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Fish consumption use of the Cross River Reservoir is considered to be impaired by mercury assumed to be the result of atmospheric deposition. In addition, water supply uses are considered to be threatened by nutrients and other pollutants from various nonpoint sources.

Fish Consumption Advisories
Fish consumption in the Cross River Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of largemouth bass and larger smallmouth bass (over 16 inches) because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the reservoir watershed. The advisory for this lake was first issued in 2002-03. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

New York City Watershed
The water supply use of the Cross River Reservoir is threatened by potential for elevated phosphorus concentrations and possible eutrophication in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in

the New York City Water Supply Watershed was established in June 2000. This TMDL did not identify Cross River Reservoir as being water quality limiting for phosphorus; concentrations of phosphorus were found at the time to be near but below the applicable 15 ug/l criterion established for source water reservoirs. More recent sampling finds median values to be above 15 but below the New York State criterion of 20 ug/l. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value as a source of drinking water for a large population. An Nonpoint Source Implementation Plan for this TMDL is being developed to address potential threats to water quality; draft interim plans are completed.. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed

The Cross River Reservoir is a part of the Croton System of New York City water supply reservoirs. The Croton System provides about 10% of New York City water supply, the other 90% is supplied by the Catskill/Delaware System. The Croton supply is a cascading system of twelve reservoirs and three controlled lakes in northern Westchester and Putnam Counties. Most of these reservoirs/lakes are impoundments of the Croton River, with the New Croton Reservoir being the downstream terminal reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. Although New York City has committed through a Consent Decree to construct a water filtration plant for the Croton supply, the City has considerable interest in efforts to protect the water quality in the Croton watershed. To that end a Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. These efforts focus on the specific water quality concerns such as increased nutrient loadings to reservoirs, risk of spill-related problems and pollution from stormwater runoff. The designation of the watershed as an MS4 municipal stormwater area - and the subsequent development of Stormwater Management Programs - will also reduce pollutant loadings. Separate Basin Reports for each of the Croton reservoirs watersheds have been prepared as part of the Croton Watershed Strategy. (NYCDEP, July 2006)

Reservoir Assessment/Water Quality Sampling

The Cross River Reservoir watershed is a headwater basin; the reservoir receives water from runoff of precipitation that falls in the watershed and enters the reservoir through primarily Cross River. Outflow from the reservoir flows via Lower Cross River downstream into Muscoot Reservoir. During drought conditions reservoir flow may be directed through a pump station to the Delaware Aqueduct. Water quality monitoring in the reservoir focuses on total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP monitoring finds median Total Phosphorus values to be below NYS criteria of 20 ug/l but above the 15 ug/l target for New York City source water reservoirs. Median values for dissolved oxygen were found to be in compliance with applicable standards. Individual exceedences of dissolved oxygen occur periodically. Low dissolved oxygen observations occur during summer stratification in samples taken at lower depths. Sampling values for turbidity and fecal coliform were found to be below applicable criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

Section 303(d) Listing

Though the Cross River Reservoir is considered to be impaired as a result of a health advisory for mercury, a TMDLs for this pollutants has been completed. Mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore a listing of this pollutant for the Cross River Reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Upper Cross/Waccabuc River and tribs (1302-0139) NoKnownImpct

Waterbody Location Information

Revised: 04/01/2008

Water Index No: H- 31-P44-35-P109- 6
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 25.4 Miles
Quad Map: PEACH LAKE (P-26-3)
Seg Description: 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
The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Upper Cross River. Results at these monitoring sites reveal median total phosphorus concentrations that are were below USEPA recommended criteria of 50 ug/l for streams entering lakes. Dissolved oxygen levels and turbidity values in the stream met applicable criteria. Fecal coliform results typically met water quality standards; occasional elevated values, often coinciding with high runoff events, were also noted. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed
Upper Cross River and Waccabuc River are tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An

Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description
This segment includes the portion of the stream and all tribs above the Cross River Reservoir. The waters of this portion of the stream are Class A(T),A(TS). Tribs to this reach/segment, including Truesdale Stream (-13), are Class C.

Lake Kitchawan (1302-0002) MinorImpacts

Waterbody Location Information

Revised: 05/28/2008

Water Index No:	H- 31-P44-35-P109- 6- 7-P114			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/130	**Str Class:**	B		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	96.6 Acres			**Quad Map:**	POUND RIDGE (Q-26-2)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: Algal/Weed Growth (algal blooms, vegetation)
Suspected: NUTRIENTS (phosphorus)
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF, Habitat Modification, On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply and recreational uses in Lake Kitchawan may experience minor impacts due to elevated nutrient concentrations from urban runoff and other nonpoint sources. Due to the lack of any current information, conditions in the lake need to be verified.

New York City Watershed
Lake Kitchawan is a control lake that is a part of the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Previous Assessment
The recreational use (swimming) and aesthetics in Lake Kitchawan were thought to be limited by algal blooms and excessive aquatic vegetation in the lake. Failing and/or inadequate on-site septic systems serving homes along the lake

shore and other runoff from urban/suburban development in the watershed are considered likely sources of pollutants. (Westchester County WQCC, 1996)

Truesdale Lake (1302-0054) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 31-P44-35-P109- 6-13-P115a
Hydro Unit Code: 02030101/130 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 82.4 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: PEACH LAKE (P-26-3)

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: ALGAL/WEED GROWTH (algal blooms, vegetation)
Suspected: - - -
Possible: Pathogens

Source(s) of Pollutant(s)
Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF, On-Site/Septic Syst
Possible: Agriculture

Resolution/Management Information

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

Further Details

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

Water Quality Sampling
Truesdale Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1999 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as 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 rarely meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasionally high pH does not appear to impact aquatic life in the lake. The lake water is moderately to highly colored, and may influence transparency when algae levels are low. (DEC/DOW, BWAM/CSLAP, October 2007)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be somewhat favorable. 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 more favorable than expected based on measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface, likely a result of active weed management (herbicide). (DEC/DOW, BWAM/CSLAP, October 2007)

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.

New York City Watershed
Truesdale Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing
Truesdale 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)

The recreational use (swimming) and aesthetics in Truesdale Lake are thought to be limited by algal blooms, excessive aquatic vegetation and eutrophication. Chemical treatment of the lake to control weed growth has been used in the past. Failing and/or inadequate on-site septic systems serving lake shore residences and other runoff from urban/suburban development in the watershed are considered likely sources of pollutants. (Putnam County WQCC, 1996)

Truesdale Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. NYCDEP is currently developing a phosphorus TMDL for Croton System Watershed to aid in the management of this nutrient. (NYCDEP, July 1999)

Lake Waccabuc (1302-0140) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H- 31-P44-35-P109- 6-P117
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 133.1 Acres
Quad Map: PEACH LAKE (P-26-3)
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
Lake Waccabuc has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 through 1996 and again most recently in 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to cause any ecological impacts. The lake water is weakly to moderately colored, but not likely high enough to influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, September 2007)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," assessments that are somewhat more favorable given measured water quality characteristics. The more favorable

assessment may be influenced by the lack of impact from aquatic weed growth. Assessments have noted that aquatic plants growth reaches the lake surface but does not impact lake use. (DEC/DOW, BWAM/CSLAP, September 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a 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.

Lake Oscaleta, Lake Rippowam (1302-0141) MinorImpacts

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H- 31-P44-35-P109- 6..P118,P119
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 93.6 Acres
Quad Map: PEACH LAKE (P-26-3)
Seg Description: total area of both lakes

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: OTHER SOURCE (nutrient recycling), 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: ext/NYCW
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Snyders Lake are thought to experience minor impacts due to aquatic weed growth and occasional algal blooms related to seasonal phosphorus releases from lake bottom sediments.

Water Quality Sampling
Lake Oscaleta and Lake Rippowam have been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Phosphorus levels in the lake regularly exceed the state guidance values indicating impacted/stressed recreational uses. However, corresponding transparency measurements rarely fail to meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to result in ecological impacts. The lake water is moderately colored, likely reflecting natural conditions, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, September 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 generally favorable. The recreational suitability of Lake Rippowam is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear." Recreational suitability in Lake Oscaleta was described most frequently as "slightly" impacted with the lake typically described as having "definite algal greenness." Assessments have noted that aquatic plants and algal growth have occasional impact on uses. (DEC/DOW, BWAM/CSLAP, September 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a 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.

New York City Watershed

Lake Oscaleta and Lake Rippowam are tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Stone Hill River, Lower, and tribs (1302-0059) Need Verific

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-36 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/130 **Str Class:** C(T) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 45.3 Miles **Quad Map:** POUND RIDGE (Q-26-2)
Seg Description: stream and tribs, from mouth to near Pound Ridge

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS, Pathogens, Salts
Possible: Silt/Sediment

Source(s) of Pollutant(s)
Known: - - -
Suspected: PRIVATE/COMM/INST (Taconic Correction), URBAN/STORM RUNOFF, Other Source (wildlife)
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Aquatic life uses in this portion of Stone Hill River (also known as Beaverdam Brook) may experience impacts due to municipal sewage inputs. These possible impacts were identified in tribs to the stream and follow-up monitoring is recommended.

Water Quality Sampling
Biological (macroinvertebrate) assessments of Stone Hill River at multiple sites near Bedford Hills were conducted in 2002, 2003 and 2004. Sampling results indicated non-impacted to slightly impacted water quality conditions. The upstream site revealed excellent water quality with an abundance of clean-water mayflies, stoneflies and caddisflies. Metrics declined only slightly at other sites on the stream. These declines were attributed to impoundment effects at one site and perhaps influence from a trib (Broad Brook) at another site. Water quality was found to be moderately impacted on two tribs to Stone Hill River. Impacts on Broad Brook are thought to be the result of discharge from the Taconic State Correctional Facility. Impacts on Davids Brook suggest municipal/industrial organic inputs; herbicide inputs may also impact water quality. The results of all river and trib sites are similar to findings outlined in a 2001 Biological Survey of the stream. (DEC/DOW, BWAM/SBU, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains a water quality sampling stations on Stone Hill River . Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Stone Hill River Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth at New Croton Reservoir to/incl unnamed tribs (-16a) near Pound Ridge. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Broad Brook (-2) and Davids Brook (-6), are Class C,C(TS). Upper Stone Hill River is listed separately.

Blue Heron Lake (1302-0144) NoKnownImpct

Waterbody Location Information

Revised: 04/14/2008

Water Index No: H- 31-P44-36-11-P122a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 42.3 Acres
Quad Map: POUND RIDGE (Q-26-2)
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
Blue Heron Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2005 and 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately unproductive. Readings for trophic indicators were stable, except when influenced by heavy rains. Phosphorus levels in the lake only occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements the typically exceed 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 slightly colored, which is considered natural and only influences lake clarity when algal levels are very low. (DEC/DOW, BWAM/CSLAP, October 2007)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. Assessments have noted

that aquatic plants regularly grow to the lake surface, but do not appear to impact recreational uses. (DEC/DOW, BWAM/CSLAP, October 2007)

Lake Uses

Blue Heron Lake 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 potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Kisco River, Lower, and tribs (1302-0060) NoKnownImpct

Waterbody Location Information

Revised: 03/27/2008

Water Index No: H- 31-P44-43 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/130 **Str Class:** B(TS) Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 6.2 Miles **Quad Map:** MOUNT KISCO (Q-26-1)
Seg Description: stream and tribs, from mouth to below Mount Kisco

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 Kisco River in Mount Kisco (at Nitra-Yeshiva Road) was conducted in 2002, 2003 and 2004. Sampling results indicated slightly impacted water quality conditions in all years. These results reflect improvements from conditions in the Upper Kisco River. 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, June 2005)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Kisco River. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Kisco River Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth at New Croton Reservoir to/including unnamed trib (-5) near Mount Kisco. The waters of this portion of the stream are Class B(TS). Tribs to this reach/segment are Class C. Upper Kisco River is listed separately.

Kisco River, Upper, and tribs (1302-0061) Impaired Seg

Waterbody Location Information

Revised: 03/31/2008

Water Index No: H- 31-P44-43
Hydro Unit Code: 12030101/130 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 31.7 Miles
Seg Description: stream and tribs, above Mount Kisco

Drain Basin: Lower Hudson River
Reg/County: 3/Westchester Co. (60)
Quad Map: MOUNT KISCO (Q-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Suspected
Recreation	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus)
Suspected: Pathogens, Unknown Toxicity
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF, Other Source (wildlife), Other Sanitary Disch
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/NYC
Resolution Potential: n/a
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview
Aquatic life use in this portion of the Kisco River thought to be impaired by toxic and organic pollutants attributed to municipal/industrial discharges and urban/storm runoff. Recreational uses are also considered to be stressed.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Kisco River in Mount Kisco (at Route 133) was conducted in 2001. Sampling results indicated moderately impacted water quality conditions. The macroinvertebrate fauna of caddisflies and riffle beetles indicate municipal/industrial sources. Urban runoff is also thought to contribute to the impacts. Sampling of three tributaries also found impacts from organic wastes and toxic stressors. Waterfowl impacts are also thought to contribute to the nutrient/organic loads. Wetland conditions may also influence the water quality sampling results to some degree. These results were similar to findings during a stream survey conducted in 1999. (DEC/DOW, BWAM/SBU, June 2005 and Kisco River Biological Assessment Report, DEC/DOW, BWAM/SBU, December 1999)

The NYCDEP monitors water quality throughout the New York City water supply system, of which the Croton Watershed is a part. These monitoring efforts include fixed frequency surveys in watershed streams as well as the

reservoirs themselves to record current conditions and provide a long-term record for trend analysis. This monitoring focuses on measurement of total phosphorus, dissolved oxygen, turbidity, and pathogens as measured by fecal coliform levels. NYCDEP maintains water quality sampling stations on Kisco River. Results at these monitoring sites reveal median total phosphorus concentrations that are below USEPA recommended criteria of 50 ug/l for streams entering lakes. Median dissolved oxygen levels in the streams met applicable criteria. Fecal coliform and turbidity results in the streams were found to consistently meet water quality criteria. (Croton Watershed Strategy - East Branch Basin Report, NYCDEP, March 2003)

New York City Watershed

The Kisco River Watershed is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Segment Description

This segment includes the portion of the stream and all tribs above unnamed trib (-5) near Mount Kisco. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment, including Branch Brook (-8) and Chappaqua Brook (-9) are Class C,C(T). Lower Kisco River is listed separately.

Minor Tribs to New Croton Reservoir (1302-0148) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 31-P44-44 thru 55 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 20.9 Miles **Quad Map:** OSSINING (Q-25-2)
Seg Description: total length of select tribs, from Kisco R to Croton R

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
Biological (macroinvertebrate) assessments of Cornell Brook in Millwood (at Route 100) and of Gedney Brook n Millwood (at Seven Bridges Road) were conducted in 2002. Sampling results indicated slightly impacted water quality conditions in both streams. In Cornell Brook, nonpoint source nutrient enrichment was identified as the primary source of impacts, but clean-water mayflies, stoneflies and caddisflies were represented in the sample. In gedney Brook the fauna was thought to be influenced by headwater and wetland effects. Nutrient biotic evaluation determined the 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 total length of selected/smaller tribs to the New Croton Reservoir between Kisco River (-43) and the New Croton Dam. Tribs within this segment, including Gedney Brook (-45), Cornell Brook (-46) and Bailey Brook (-54), are primarily Class B with some portions designated as Class C. Kisco River is listed separately.

Teatown Lake (1302-0150) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 31-P44-54-P128a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 40.2 Acres
Quad Map: OSSINING (Q-25-2)
Seg Description: entire lake

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

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF
Possible: Agriculture

Resolution/Management Information

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

Further Details

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

Water Quality Sampling
Teatown Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1997 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as 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 often 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, and lake color may influence transparency. (DEC/DOW, BWAM/CSLAP, October 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment (2005) indicates recreational suitability of the lake to be 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 having "definite algae greenness," an assessment that is somewhat higher than expected based on measured water quality characteristics. Assessments have noted that aquatic plants regularly grow to the lake surface and are frequently dense, affecting recreational use. (DEC/DOW, BWAM/CSLAP, October 2007)

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.

New York City Watershed

Teatown Lake is tributary to the Croton System of New York City water supply reservoirs (see New Croton Reservoir, Segment 1302-0010). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. In addition, NYCDEP has developed a phosphorus TMDL for the entire Croton System Watershed to aid in the management of nutrients. An Implementation Plan for this TMDL is being developed. (NYCDEP, July 2006)

Section 303(d) Listing

Teatown 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)

Lake Tiorati Brook, Low, and minor tribs (1301-0062) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 43 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/140 **Str Class:** C(TS)* Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Rockland Co. (44)
Waterbody Size: 15.3 Miles **Quad Map:** HAVERSTRAW (Q-25-1)
Seg Description: stream and select tribs, from mouth to Cedar Flats

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 Lake Tiorati Brook in Stony Point (at Route 210) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. Algae was found to be abundant in the stream, but the macroinvertebrate fauna was diverse and well-balanced. Many clean-water mayflies, stoneflies and caddisflies were present. (DEC/DOW, BWAM/SBU, June 2005)

Other Concerns/Threats
Suburban residential and other development activities in the Lake Tiorati (Cedar Pond) Brook watershed may result in increased sediment loads and thermal changes affecting a natural trout fishery and aesthetics of the stream. The steep topography of the watershed increases the potential impact of ongoing and future planned development activity around Stony Point. There is also concern regarding control of stormwater runoff and changes in runoff patterns following construction. (DOW/Reg3, June 1999)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from the mouth (above tidal portion) to the Palasades Park boundary near Cedar Flats. The waters of this portion of the stream are Class C(TS). Tribs to this

reach/segment are Class C with one trib (-4) designate Class A. Minisceongo Creek (-1) and Upper Lake Tiorati Brook are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Miniscenongo Creek and minor tribs (1301-0089) Need Verific

Waterbody Location Information

Revised: 06/26/2008

Water Index No: H- 43- 1
Drain Basin: Lower Hudson River
Hydro Unit Code: 02030101/140
Str Class: C
Lower Hudson River
Waterbody Type: River
Reg/County: 3/Rockland Co. (44)
Waterbody Size: 7.1 Miles
Quad Map: HAVERSTRAW (Q-25-1)
Seg Description: stream and select tribs, from mouth to Thiells

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS, PATHOGENS
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: PRIVATE/COMM/INST

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life and recreational uses in this portion of Minisceongo Creek may experience impacts due to organic inputs from a nearby composing facility. However this facility is believed to have ceased operation since the most recent sampling and conditions in the stream should be verified. Suburban residential development activities may also influence waters quality.

Water Quality Sampling
Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Minisceongo Creek in Thiells, Rockland County, (at Mount Ivy Road) 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 slightly impacted water quality conditions. Water column sampling was limited to 4 samples during the year but revealed coliform to be a parameter of concern. One of the 4 pH measurements was found to be just below the criterion of 6.5. Bottom sediment sampling results revealed PAHs 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 (has minor impacts, but is -or- is fully) s supportive of the water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Minisceongo Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results at that time indicated moderately impacted water quality conditions. The fauna indicated impacts from organic wastes. Dissolved oxygen was only 3.2 mg/l and the bottom of the stream was covered with a brown flocculent algae. (DEC/DOW, BWAM/SBU, September 2005)

Sources Assessment

The source of the impacts to the stream was thought to be a composting facility about a mile above the sampling site on the South Branch of the creek. However the facility is believed to have ceased operation. Follow-up monitoring to verify conditions at the site is recommended. (DEC/DOW, Region 3, June 2008)

Segment Description

This segment includes the stream and all tribs from the mouth (above tidal portion) to the confluence of the South (-10) and North (-11) Branches near Thiells. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are Class C. South and North Branches of Minisceongo Creek are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Breakneck Pond (1301-0123) Impaired Seg

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H- 43- 1-11- 9-P150d
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: AA
Waterbody Type: Lake
Reg/County: 3/Rockland Co. (44)
Waterbody Size: 63.0 Acres
Quad Map: THIELLS (Q-24-2)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA
Resolution Potential: Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview
Fish consumption use in Breakneck Pond is impaired by mercury contamination attributed to atmospheric deposition.

Fish Consumption Advisories
Fish consumption in Breakneck Pond is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger (over 15 inches) largemouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the lake watershed. The advisory for this lake was first issued in 2005-06. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing
Breakneck Pond is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the lake are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Lake Welch (1301-0124) NoKnownImpct

Waterbody Location Information

Revised: 07/30/2008

Water Index No: H- 43- 1-11-P150c
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Rockland Co. (44)
Waterbody Size: 217.3 Acres
Quad Map: THIELLS (Q-24-2)
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

Source (Drinking) Water Assessment
Lake Welch was assessed 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 assessment found a moderate susceptibility to contamination for this source of drinking water. Land cover and associated activities within the assessment area do not increase the potential for contamination. Non-sanitary wastewater discharges may contribute to contamination, but there are no noteworthy contamination threats associated with other discrete contaminant sources. This water supply reservoir provides water to Lake Welch Beach. (NYSDOH, Source Water Assessment Program, 2005)

Lake Tompkins (1301-0126) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H- 43- 4-P150i
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Rockland Co. (44)
Waterbody Size: 10.5 Acres
Quad Map: PEEKSKILL (P-25-4)
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
Tomkins Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) in 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake are higher but typical of similar lakes. Corresponding transparency measurements are fairly low but water transparency is limited by shallow maximum lake depth. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasionally low pH does not appear to result in ecological impacts. The lake water is slightly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, March 2002)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as having "definite algal greenness." Assessments have noted that aquatic plants do not grow to the lake surface. (DEC/DOW, BWAM/CSLAP, March 2002)

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.

Lake Tiorati (1301-0129) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H- 43-P152
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 292.6 Acres
Quad Map: POPOLOPEN LAKE (P-24-3)
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

Source (Drinking) Water Assessment
Lake Tiorati was assessed 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. Based on the analysis of available information, 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 water supply reservoir provides water to the Lake Tiorati Water System. (NYSDOH, Source Water Assessment Program, 2005)

Furnace Brook and tribs (1301-0130) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 44
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C*
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 15.4 Miles
Quad Map: HAVERSTRAW (Q-25-1)
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 Furnace Brook near Crugers (at Furnace Dock Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions, however this assessment is thought to be largely reflective of impoundment effects. The sample was collected just below Furnace Brook Lake. 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 entire stream (freshwater section) and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are primarily Class C, with some trib waters designated Class B. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Lake Meahagh (1301-0053) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No:	H- 49a-P160			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/020	**Str Class:**	C		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Westchester Co. (60)
Waterbody Size:	79.4 Acres			**Quad Map:**	PEEKSKILL (P-25-4)
Seg Description:	entire lake				

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 3a->1*

Further Details

Overview
Recreational uses in Lake Meahagh are considered to be impaired due to algal growth, nutrient and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. Urban/storm runoff and on-site (septic) systems are thought to be sources of these pollutants.

Water Quality Sampling
Lake Meahagh has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1999 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as hypereutrophic, or extremely 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 above the state water quality range of 6.5 to 8.5, but it is not

known whether the high pH impacts aquatic life. The lake water is moderately colored, however color does not influence transparency. (DEC/DOW, BWAM/CSLAP, November 2002)

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 having "definite algae greenness" or "high algae levels," an assessment that is actually more favorable than expected based on measured water quality characteristics. Assessments have noted that aquatic plants grow to the lake surface. (DEC/DOW, BWAM/CSLAP, November 2002)

Lake Uses

This lake waterbody is designated class C, 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

Lake Meahagh is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for phosphorus in the lake be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Peekskill Hollow Cr, Low, and mnr tribs (1301-0049) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 55 **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02030101/020 **Str Class:** B Lower Hudson River
Waterbody Type: River **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 1.0 Miles **Quad Map:** PEEKSKILL (P-25-4)
Seg Description: stream and select tribs, from mouth to VanCortlandville

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) survey of Peekskill Hollow Creek at multiple sites between Van Cortlandtville near the mouth and Carmel was conducted in 2005. Sampling results indicated non-impacted water quality conditions at all sites sampled. One of the six sites sampled was located within this reach. (Peekskill Hollow Creek Biological Assessment, DEC/DOW, BWAM/SBU, December 2005)

Previous Assessment
There is concern the water supply, recreational and fishery uses in Peekskill Hollow Creek may be affected by residential development, urban runoff, lawn chemical/fertilizer usage and road salt/sanding activity in the watershed. Runoff from on-site septic systems located on steep slopes, in shallow soils and with insufficient setbacks may also influence water quality. Remaining agricultural activity (horse farms) may also contribute pollutants. (Westchester County WQCC, 1996)

Segment Description
This segment includes the freshwater portion of the stream and selected/smaller tribs from a point 0.8 miles above the mouth to unnamed pond (P169) in VanCortlandville. The waters of this portion of the stream are Class B. Tribs to this

reach/segment, including Annsville Creek, are Class C,C(TS). Canopus Creek (-2) and Middle/Upper Peekskill Hollow Creek are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Peekskill Hollow Cr, Middle, and tribs (1301-0138) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 55 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(TS)
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 6.7 Miles **Quad Map:** PEEKSKILL (P-25-4)
Seg Description: stream and tribs, fr VanCortlandville to Putnam Valley

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) survey of Peekskill Hollow Creek at multiple sites between Van Cortlandtville near the mouth and Carmel was conducted in 2005. Sampling results indicated non-impacted water quality conditions at all sites sampled. None of the six sites sampled was located within this reach, however sites were located just above and just below the reach that are considered to be reflective of condition in the reach. (Peekskill Hollow Creek Biological Assessment, DEC/DOW, BWAM/SBU, December 2005)

Source (Drinking) Water Assessment
Peekskill Hollow Creek was assessed 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 assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of pasture in the assessment area, the moderate density of sanitary wastewater discharges results in elevated susceptibility for various contaminants. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply

reservoir provides water to the City of Peekskill. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the portion of the stream and all tribs from unnamed pond (P169) in VanCortlandville to/including unnamed trib (-6) below Putnam Valley. The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment are Class C. Lower/Upper Peekskill Hollow Creek are listed separately.

Peekskill Hollow Cr, Upper, and tribs (1301-0139) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 55
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 62.1 Miles
Quad Map: PEEKSKILL (P-25-4)
Seg Description: stream and tribs, above Putnam Valley

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) survey of Peekskill Hollow Creek at multiple sites between Van Cortlandtville near the mouth and Carmel was conducted in 2005. Sampling results indicated non-impacted water quality conditions at all sites sampled. Five of the six sites sampled were located within this reach. (Peekskill Hollow Creek Biological Assessment, DEC/DOW, BWAM/SBU, December 2005)

Segment Description
This segment includes the portion of the stream and all tribs above unnamed trib (-6) below Putnam Valley. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Oscawana Brook (-8), Mohegan Outlet (-11), Shrub Oak Brook (-12) and Roaring Brook (-18), are Class C. Wiccopee Brook (-17) and Lower/Upper Peekskill Hollow Creek are listed separately.

Wallace Pond (1301-0140) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 55- 1-P165
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 18.5 Acres
Quad Map: PEEKSKILL (P-25-4)
Seg Description: entire lake

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

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF
Possible: Agriculture

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: n/a->1*,4c*

Further Details

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

Water Quality Sampling
Wallace Pond has been sampled 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 2008. 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 rarely 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 influences transparency when algae levels are low. (DEC/DOW, BWAM/CSLAP, March 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as having "definite algae greenness," an assessment that is somewhat more favorable than expected based on measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface, but "excessive weed growth" was identified as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, March 2008)

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.

Section 303(d) Listing

Wallace Pond 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)

Canopus Creek and tribs (1301-0141) MinorImpacts

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H- 55- 2
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 29.2 Miles
Quad Map: PEEKSKILL (P-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS
Possible: Priority Organics (PAHs), Acid/Base (pH), Unknown Toxicity

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, Urban/Storm Runoff
Possible: Atmosph. Deposition

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: ext/WQCC
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life in Canopus Creek is thought to experience minor impacts due to nutrient enrichment, low pH and sediment toxicity. Some organics (PAHs were also found in sediments at slightly elevated levels.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Canopus Creek in Annsville, Westchester County, (at Sprout Brook Park) 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. The fauna was diverse and included many clean-water mayflies, stoneflies and hellgrammites. The fauna showed no effects of low pH which water column sampling revealed to be a parameters of concern. Bottom sediment sampling results revealed PAHs 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 has minor impacts, but is supportive of the water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Canopus Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results indicated slightly impacted water quality conditions. The fauna included many clean-water species but was dominated by filter-feeding caddisflies, suggesting nutrient enrichment and siltation. Poor sampling habitat of gravel and silt may have influenced the sampling results. (DEC/DOW, BWAM/SBU, September 2005)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class B,B(T). Tribs to this reach/segment, including Indian Lake Creek (-4), are Class C,C(TS).

Lake Celeste (1301-0142) Need Verific

Waterbody Location Information

Revised: 04/29/2008

Water Index No: H- 55- 2- 3-P166
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 7.0 Acres
Quad Map: PEEKSKILL (P-25-4)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: ALGAL/WEED GROWTH
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Lake Celeste may experience minor impacts from nutrient loadings resulting in algal growth and reduced water clarity. The most recent assessments revealed some improvement in recreational use support. However these assessments are ten years old and conditions need to be verified.

Water Quality Sampling
Lake Celeste has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1993 and continuing through 1997. An Interpretive Summary report of the findings of this sampling was published in 1998. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Phosphorus levels in the lake frequently exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements frequently fail to meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, January 1998)

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

recreational suitability of the lake to be favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "not quite crystal clear" and occasionally as having "definite algal greenness." These assessment are more favorable than expected given the measured water quality characteristics. Perception of recreational use in the lake has been steadily improving. Assessments have noted that aquatic plants do not typically grow to the lake surface and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, January 1998)

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 potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Indian Lake (1301-0143) NoKnownImpct

Waterbody Location Information

Revised: 04/16/2008

Water Index No: H- 55- 2- 4-P167
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 44.4 Acres
Quad Map: WEST POINT (P-25-1)
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
Indian Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1994 and most recently in 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements 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 weakly colored, and color does not influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, May 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 since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. Assessments have noted that aquatic plants growth does not impact lake use. (DEC/DOW, BWAM/CSLAP, May 2007)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Lake Peekskill (1301-0147) MinorImpacts

Waterbody Location Information

Revised: 04/29/2008

Water Index No: H- 55- 7-P171
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 58.5 Acres
Quad Map: PEEKSKILL (P-25-4)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

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

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: Agriculture
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Lake Peekskill are known to experience minor impacts from nutrient loadings from nonpoint sources resulting in algal growth and eutrophic conditions.

Water Quality Sampling
Lake Peekskill has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1990 and continuing through 2007. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Phosphorus levels in the lake regularly exceed the state guidance values indicating impacted/stressed recreational uses. However corresponding transparency measurements typically meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, March 2008)

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 unfavorable in recent years. The recreational suitability of the lake is described most frequently as "slightly" impacted for recreational use. The lake itself is most often described as having "definite algal greenness." These assessment are consistent with measured water quality characteristics. Assessments have noted that aquatic plants do not typically grow to the lake surface and are not usually cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, March 2008)

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 potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Oscawana Lake (1301-0035) Impaired Seg

Waterbody Location Information

Revised: 07/15/2008

Water Index No:	H- 55- 8-P175			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/020	**Str Class:**	A		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	363.8 Acres			**Quad Map:**	OSCAWANA LAKE (P-25-2)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Suspected
RECREATION	Impaired	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal bloom, vegetation)
Suspected: NUTRIENTS (phosphorus)
Possible: D.O./Oxygen Demand, Pathogens, Silt/Sediment

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: On-Site/Septic Syst, Other Source (waterfowl)
Possible: Habitat Modification

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Oscawana Lake are considered to be impaired by excessive aquatic weeds and algal growth. Nutrient loadings from urban storm runoff may be contributing to the vegetation and algal growth.

Water Quality Sampling
Oscawana Lake was sampled in 2005 and 2006 as part of an effort to develop a TMDL for the lake. The results of this sampling indicate that the lake is best characterized as mesotrophic, or moderately productive. However high phosphorus levels in the hypolimnion of the lake often exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is the recommended minimum for swimming beaches. (DEC/DOW, BWAM/CSLAP, October 2005)

Lake Uses
This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination

from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Source Assessment

Lake Oscawana is surrounded by dense full and part-time residential development, and increasing development throughout the 2,900 acre watershed has also been noted. Stormwater runoff from developed areas have been identified as sources of pollutants to the lake. Failing and/or inadequate on-site septic systems serving lakeshore homes are also a concern. Other nutrient sources include internal loadings (resuspension) from lake sediments, lawn fertilizer, waterfowl (geese), and motorboat pollution.

Previous Assessment

A 1994 Citizens Statewide Lake Assessment Program (CSLAP) report indicated use impairments in the lake. More recent annual sampling of the lake and watershed tributaries is conducted by the Lake Oscawana Aquatic Plant Growth Control District. Their 1998 sampling results show signs of increased phosphorus loading from lake sediments and increasing anoxia in the water column. Lake Oscawana is the focus of a FOLA/DEC Watershed Management Planning Project. Consultants retained by the lake association will continue monitoring in 1999 and will prepare a State of the Lake report. (Lake Oscawana Advisory Committee, May 1999)

Section 303(d) Listing

Oscawana Lake 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 Requiring TMDL Development (or other strategy to attain water quality standards). The lake is currently listed as being impaired by phosphorus. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2008)

Lake Mohegan (1301-0149) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No: H- 55-11-P179
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Westchester Co. (60)
Waterbody Size: 103.8 Acres
Quad Map: OSCAWANA LAKE (P-25-2)
Seg Description: entire lake

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: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: URBAN/STORM RUNOFF
Possible: Agriculture

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: n/a->1*,4c*

Further Details

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

Water Quality Sampling
Lake Mohegan has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1998 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2008. 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 rarely meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH is not know to cause impacts to aquatic life. The lake water is weakly colored, and does not influence transparency. (DEC/DOW, BWAM/CSLAP, February 2008)

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 more favorable than expected based on measured water quality characteristics. Assessments have noted that aquatic plants regularly grow to the lake surface but do not greatly influence recreational use. (DEC/DOW, BWAM/CSLAP, February 2008)

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.

Section 303(d) Listing

Lake Mohegan 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)

Barger Pond (1301-0091) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H- 55-12-P181			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/020	**Str Class:**	B		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	30.0 Acres			**Quad Map:**	MOHEGAN LAKE (P-25-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH
Possible: Nutrients (phosphorus)

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Barger Pond may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Eutrophic conditions, algal blooms and excessive aquatic weed growth were previously reported in the lake. Resulting impacts on dissolved oxygen were also noted as a concern but needed to be evaluated. Conditions in the lake at the time may have been a result of natural conditions, however urban runoff from the surrounding area was thought to be a contributing factor influencing water quality. (Putnam County WQCC, June 1999)

Roaring Brook Lake (1301-0037) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H- 55-18-P183a
Hydro Unit Code: 02030101/020 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 114.9 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Lower Hudson River
Reg/County: 3/Putnam Co. (40)
Quad Map: OSCAWANA LAKE (P-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: ON-SITE/SEPTIC SYST, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Roaring Brook Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Concerns that recreational uses and aesthetics in Roaring Brook Lake may be restricted by excessive aquatic vegetation were previously reported. A 1985 lake study by a consultant indicated suspected sources of nutrients feeding the lake include inadequate and/or failing on-site septic systems serving residences along the lake and lawn chemical/fertilizer usage. Urban runoff and the impact of proposed residential developments was also raised. (Putnam County WQCC, 1996)

Lake Ossi (1301-0156) MinorImpacts

Waterbody Location Information

Revised: 04/29/2008

Water Index No: H- 55-20-P183d
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 10.4 Acres
Quad Map: OSCAWANA LAKE (P-25-2)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: Agriculture

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Lake Ossi are known to experience minor impacts from nutrient loadings from nonpoint sources resulting in algal growth and eutrophic conditions. The most recent assessment information is nearly ten years old and it is recommended that conditions be verified.

Water Quality Sampling
Lake Ossi has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1996 and continuing through 1999. An Interpretive Summary report of the findings of this sampling was published in 2000. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Phosphorus levels in the lake often exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements often fail to meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. Lake color may be high enough to influence water transparency. (DEC/DOW, BWAM/CSLAP, January 1999)

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 unfavorable. The recreational suitability of the lake is described most frequently as "slightly" of "substantially" impacted for recreational use. The lake itself is most often described as having "definite algal greenness" or as having "high algae levels." These assessment are consistent with measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface. (DEC/DOW, BWAM/CSLAP, January 1999)

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 potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Lake Tibet (1301-0034) MinorImpacts

Waterbody Location Information

Revised: 06/02/2008

Water Index No:	H- 55-P183e			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02030101/020	**Str Class:**	B		Lower Hudson River
Waterbody Type:	Lake			**Reg/County:**	3/Putnam Co. (40)
Waterbody Size:	37.4 Acres			**Quad Map:**	OSCAWANA LAKE (P-25-2)
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
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation)
Suspected: Problem Species
Possible: Nutrients

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION, On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Public bathing and other recreational uses in Lake Tibet are known to experience impacts due to aquatic weed growth. Various chemical and mechanical weed control measures have been undertaken over the years to manage aquatic weed impacts. Due to the lack of any current lake chemistry data, water quality monitoring of the lake is recommended.

Previous Assessment
Heavy aquatic weed growth that restricts recreational uses consistently occurs during the summer months. Chemical (copper sulfate) treatment was used in the 1960s and 1970s. Beginning in the early 1980s mechanical weed harvesting has been employed with varying levels of success. Diquat applications were used in the late 1980s. Lake water quality studies were performed in 1989 (Western Connecticut State University, 1989) and in 1991 (Aquatic Control Technology Inc for the Lake Tibet Association, 1991). The Lake Tibet Property Owners Association currently contracts (with Allied-Biological Inc.) to implement a herbicide program and mechanical measures to maintain the lake. Hydro-raking is being considered in addition to the chemical and mechanical control efforts already in place. (Lake Tibet Property Owners Association, May 2008)

Previous Assessment

This very shallow lake was once a wetland. Homes along the shore of the lake were reported to be served by inadequate and/or failing on-site septic systems. (Putnam County WQCC, 1996)

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Waterbody Inventory
for
Hudson-Wappingers River Watershed

Water Index Number	Waterbody Segment	Category
Lower Hudson, Main Stem, Bear Mountain Bridge to Rondout River		
H (portion 3)	Hudson River (Class B) (1301-0003)	**Impaired Seg**
H (portion 4a)	Hudson River (Class A) (1301-0001)	**Impaired Seg**
Tribs to Lower Hudson, Bear Mountain Bridge to Moodna Creek		
H- 61	Popolopen Creek and tribs (1301-0160)	**Need Verific**
H- 61- 2-P184b thru j	Queensboro Lk, Turkey Hill Pd, others (1301-0056)	**Need Verific**
H- 61- 5-P185	Cranberry Pond (1301-0161)	UnAssessed
H- 61- 6-P186	Long Pond (1301-0162)	UnAssessed
H- 61- 6-P187	Round Pond (1301-0163)	UnAssessed
H- 61-P188- 2-P191	Popolopen Lake (1301-0164)	UnAssessed
H- 61-P188- 2-P191..P192 thru P193	Bull Pond, Barnes Lake, Summit Lake (1301-0165)	UnAssessed
H- 61..P187a,P188	Stillwell Lake, Mine Lake (1301-0166)	**NoKnownImpct**
H- 61..P188..P188a/b,P189,P190	Lk Massawippa, Lk Teata, Low/Up Twin Lks (1301-0167)	UnAssessed
H- 62 thru 92, EOH (selected)	Minor Tribs to East of Hudson (1301-0168)	**MinorImpacts**
H- 63 thru 88, WOH (selected)	Minor Tribs to West of Hudson (1301-0169)	UnAssessed
H- 63-P193a	Brooks Lake (1301-0170)	UnAssessed
H- 67-P197,P197b	Cragson Lake, Crystal Lake (1301-0171)	UnAssessed
H- 71	Highland Brook and tribs (1301-0172)	**MinorImpacts**
H- 71..P200,P199b	Bog Meadow Pond, Jims Pond (1301-0173)	UnAssessed
H- 74-P204	Lusk Reservoir (1301-0174)	UnAssessed
H- 77	Indian Brook and tribs (1301-0175)	UnAssessed
H- 77-P206, P207a,P207b,P207c	Laths Pd, Loch Lyall, Catfish, Duck Pds (1301-0176)	UnAssessed
H- 83	Foundry Brook and tribs (1301-0177)	**NoKnownImpct**
H- 83- 3-P216	Jaycox Pond (1301-0178)	UnAssessed
H- 83-P217,P218	Cold Spring Reservoirs (1301-0179)	UnAssessed
H- 86-P220	Lake Surprise (1301-0180)	UnAssessed
H- 88- 4-P222d thru g	Arthurs, Sphagnum, Tamarack Ponds and... (1301-0181)	UnAssessed
H- 88-P223	Upper Reservoir (1301-0182)	UnAssessed
Moodna Creek Watershed		
H- 89	Moodna Creek, Lower, and minor tribs (1303-0010)	**NoKnownImpct**
H- 89	Moodna Creek, Upper, and minor tribs (1303-0011)	**MinorImpacts**
H- 89- 2-P225	Lake Washington (1303-0012)	**NoKnownImpct**
H- 89- 2-P226a	Browns Pond Reservoir (1303-0013)	**NoKnownImpct**
H- 89- 7	Woodbury Creek and tribs (1303-0014)	**MinorImpacts**
H- 89- 7- 4-P228	Sutherland Pond (1303-0015)	UnAssessed
H- 89- 7- 6-P229a	Earl Reservoir (1303-0016)	UnAssessed
H- 89- 7- 7- 2-P231	Cromwell Lake (1303-0017)	UnAssessed
H- 89- 7- 7-P231a,P231b	Shadow Lake, Hillside Lake (1303-0018)	UnAssessed

...Hudson-Wappingers River Watershed

Water Index Number	Waterbody Segment	Category
Moodna Creek Watershed (con't)		
H- 89- 7-10-P231f	Lake Frederick (1303-0019)	UnAssessed
H- 89- 7-P232	Peckermans Pond (1303-0020)	UnAssessed
H- 89-12-P234	Beaver Dam Lake (1303-0021)	UnAssessed
H- 89-12-P234..P234g	Crest View Lake (1303-0022)	UnAssessed
H- 89-17-P239d	Orange Rockland Lake (1303-0023)	UnAssessed
H- 89-19-10-P257	Walton Lake (1303-0004)	**Need Verific**
H- 89-19-P240d	Tomahawk Lake (1303-0024)	UnAssessed
H- 89-20	Otter Kill/Black Meadow Creek and tribs (1303-0025)	**Threatened**
H- 89-20-17-P304b	Goshen Reservoir (1303-0026)	UnAssessed
H- 89-20-P260	Browns Pond (1303-0027)	UnAssessed
Tribs to Lower Hudson, Moodna Creek to Fishkill Creek		
H- 92-P331	Melzing Reservoir (1301-0183)	UnAssessed
H- 94	Quassaic Creek, Lower, and minor tribs (1301-0079)	**MinorImpacts**
H- 94	Quassaic Creek, Middle, and tribs (1301-0184)	UnAssessed
H- 94	Quassaic Creek, Upper, and tribs (1301-0185)	UnAssessed
H- 94- 3-P337	Crystal Lake (1301-0186)	UnAssessed
H- 94- 4	Gidneytown Creek and tribs (1301-0187)	UnAssessed
H- 94- 6-P340	Orange Lake (1301-0008)	**Impaired Seg**
H- 94- P333	Muchattoes Lake (1301-0188)	UnAssessed
H- 94-P338b	Glenwood Lake (1301-0189)	UnAssessed
H- 94-P341a	Chadwick Lake (1301-0190)	**NoKnownImpct**
Fishkill Creek Watershed		
H- 95	Fishkill Creek, Lower, and tribs (1304-0003)	**MinorImpacts**
H- 95	Fishkill Creek, Middle, and minor tribs (1304-0010)	UnAssessed
H- 95	Fishkill Creek, Upper, and minor tribs (1304-0011)	UnAssessed
H- 95- 2	Dry Brook, Upper, and tribs (1304-0012)	UnAssessed
H- 95- 2-P345	Beacon Reservoir (1304-0013)	UnAssessed
H- 95- 5	Clove Creek and tribs (1304-0014)	**NoKnownImpct**
H- 95- 5- 2	Hell Hollow Creek, Upper, and tribs (1304-0015)	UnAssessed
H- 95- 5- 2-P345k	Lake Valhalla (1304-0016)	UnAssessed
H- 95- 5- 3-P345a	Beacon/Cargill Reservoir (1304-0017)	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

...Hudson-Wappingers River Watershed

Water Index Number	Waterbody Segment	Category
Fishkill Creek Watershed (con't)		
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
Tribs to Lower Hudson, Fishkill Creek to Wappingers Creek		
H- 96 thru 100, WOH (selected)	Minor Tribs to West of Hudson (1301-0191)	UnAssessed
H- 98 thru 99, EOH (selected)	Minor Tribs to East of Hudson (1301-0192)	UnAssessed
Wappingers Creek Watershed		
H-101 (portion 1)	Wappingers Cr, Lower, and minor tribs (1305-0012)	UnAssessed
H-101 (portion 2)/P365	Wappingers Lake (1305-0001)	**Impaired Seg**
H-101 (portion 3)	Wappingers Cr, Middle, and minor tribs (1305-0013)	**Need Verific**
H-101 (portion 4)	Wappingers Cr, Middle, and minor tribs (1305-0014)	**NoKnownImpct**
H-101 (portion 5)	Wappingers Cr, Upper, and tribs (1305-0011)	**NoKnownImpct**
H-101- 1- 1a	Unnamed Trib to Hughsonville Cr (1305-0015)	UnAssessed
H-101- 4	Unnamed Trib to Wappingers Cr and tribs (1305-0016)	UnAssessed
H-101- 4- 2- 1-P366b	Lake Oniad (1305-0017)	UnAssessed
H-101-11	Unnamed Trib to Wappingers Cr and tribs (1305-0018)	UnAssessed
H-101-12	Great Spring Brook and tribs (1305-0030)	**NoKnownImpct**
H-101-18	Little Wappingers Cr, Lower, and tribs (1305-0019)	**NoKnownImpct**
H-101-18	Little Wappingers Cr, Upper, and tribs (1305-0020)	UnAssessed
H-101-18-11-P375	Long Pond (1305-0003)	**Need Verific**
H-101-18-13-P378	Silver Lake (1305-0002)	**Need Verific**
H-101-18-13-P378- 1-P379	Mud Pond (1305-0021)	UnAssessed
H-101-20-P384	Upton Lake (1305-0005)	**Need Verific**
H-101-21	East Br Wappingers Cr, Lower, and tribs (1305-0022)	UnAssessed
H-101-21	East Br Wappingers Cr, Upper, and tribs (1305-0023)	UnAssessed
H-101-21- 7-P395	Round Pond (1305-0024)	UnAssessed
H-101-21-P390	Dieterich Pond (1305-0025)	UnAssessed
H-101-21-P396	Shaw Pond (1305-0026)	UnAssessed
H-101-30..P401,P403	Ryder Pond, Hunns Lake (1305-0004)	**Need Verific**
H-101-31- 4- 2-P405	Miller Pond (1305-0027)	UnAssessed
H-101-38-P407	Halcyon Pond (1305-0028)	UnAssessed
H-101-P408,P409,P410	Thompson, Stissing, Mud/Twin Isl Ponds (1305-0010)	**Need Verific**
Tribs to Lower Hudson, Wappingers Creek to Rondout River		
H-103	Lattintown Creek and tribs (1301-0193)	**NoKnownImpct**
H-104 thru 125, WOH (selected)	Minor Tribs to West of Hudson (1301-0194)	UnAssessed
H-105	Casper Creek and tribs (1301-0195)	**MinorImpacts**
H-105-P415c	Cobalt Lake (1301-0196)	UnAssessed
H-105a thru 140, EOH (selected)	Minor Tribs to East of Hudson (1301-0197)	UnAssessed

...Hudson-Wappingers River Watershed

Water Index Number	Waterbody Segment	Category
Tribs to Lower Hudson, Wappingers Creek to Rondout River (con't)		
H-114	Fall Kill and tribs (1301-0087)	**Impaired Seg**
H-114..P418	Morgan Lake (1301-0198)	UnAssessed
H-116	Twaalfskill Creek and tribs (1301-0199)	**MinorImpacts**
H-124	Crum Elbow Creek and tribs (1301-0200)	**NoKnownImpct**
H-124-P425,P426	Staatsburg Reservoir, Browns Pond (1301-0201)	UnAssessed
H-128	Black Creek, Lower, and tribs (1301-0202)	**NoKnownImpct**
H-128	Black Creek, Middle, and tribs (1301-0203)	UnAssessed
H-128	Black Creek, Upper, and tribs (1301-0204)	UnAssessed
H-128- 2-P433,P434	Mirror Lake, Esopus Lake (1301-0205)	UnAssessed
H-128- 4-P436	Lily Pond (1301-0206)	UnAssessed
H-128- 4-P436b	Marx Pond (1301-0207)	UnAssessed
H-128-P437	Chodikee Pond (1301-0208)	**Impaired Seg**
H-136	Landsman Kill and minor tribs (1301-0209)	**MinorImpacts**
H-136- 6	Rhinebeck Kill and tribs (1301-0210)	**MinorImpacts**
H-136-P446	Round Pond (1301-0211)	UnAssessed

Hudson River (Class B) (1301-0003) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No:	H (portion 3)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/	**Str Class:**	B		Low Hudson-Wappinger
Waterbody Type:	Estuary			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	8910.0 Acres			**Quad Map:**	WEST POINT (P-25-1)
Seg Description:	from Bear Mountain Bridge to Roseton/Chelsea				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (cadmium), PRIORITY ORGANICS (PCBs)
Suspected: Pathogens, Problem Species, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

Fish Consumption Advisories
Fish consumption in the Lower Hudson is impaired due to a NYSDOH health advisory that recommends eating no gizzard shad, channel catfish or white catfish, and no more than one meal per month of American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white

perch because of elevated levels of PCBs. Advisories along this lower reach are also in place for blue crab that recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Toxics/CARP

Ongoing efforts to address the widespread contamination by PCBs, dioxin and other toxic chemicals in New York Harbor and the Hudson River include the Contamination Assessment and Reduction Project (CARP), a landmark monitoring effort bringing together federal, state and non-government partners in a determined effort to reduce contamination within the NY/NJ Harbor Estuary, particularly as it relates to dredged material management. CARP has identified and quantified major sources of contaminants of concern to the NY/NJ Harbor and Hudson Estuary. A series of numerical models have also been developed and calibrated to simulate movement of contaminants through the estuary and to predict the concentrations of these contaminants in water, sediment, and biota in future years under a variety of scenarios. The CARP data and modeling products are being used to identify which contaminants require load reductions (through Total Maximum Daily Loads) to meet appropriate water quality criteria and to develop sediment remediation strategies in connection with the U.S. Army Corps of Engineers' Hudson-Raritan Comprehensive Restoration Program and the Harbor Estuary Program's Regional Sediment Management strategy. (USEPA/HEP and Hudson River Foundation and DEC/DOW, BWAM/Priority Waters Research, May 2008)

Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of bycatch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species. (NYSDEC/DFWMR, Hudson River Fisheries, May 2008)

Water Quality Sampling

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Swimmable Hudson

In response to the improvement in Hudson River water quality since the 1970s, there has been a rise in recreational use and a public call for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, the NYSDEC Hudson River Estuary Program: and Division of Water are focusing on four primary areas of water quality impact

1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with Phase II Stormwater permit program, and

4) continued support of a vessel No Discharge Zone in the Hudson. (DEC/HREP and DEC/DOW, BWAM, May 2008)

Hudson River Estuary Program

To further restore and protect the waters of the Hudson River, NYS DEC established in 1987 The Hudson River Estuary Program: to provide a holistic (watershed) approach to management of the ecosystem. The Hudson River Estuary Program: leads a unique regional partnership of agencies, organizations and the public to restore the Hudson in ways that support the quality of life so valued by Hudson Valley residents. The program focuses on conservation of natural resources, promotion of full public use and enjoyment of the river and reducing pollution that affects the ability to use and enjoy the river. The Estuary Program implements the Hudson River Estuary Action Agenda through numerous partners in government, the non-profit and business sectors, and concerned citizens. The program is built on sound science and principles of ecosystem-based management. It is guided by the Hudson River Estuary Advisory Committee, which includes representatives of the commercial fishing industry, recreational anglers, utility companies, local government, educators, researchers, conservationists and other river users. This facilitates working with many representatives of the public toward common goals. (DEC/HREP, May 2008)

Segment Description

This segment includes the waters of the Hudson from a line drawn from the northerly Rockland County line on west shore and northerly Westchester County line on east shore, to a point on the river at Roseton on west shore and Low Point on east shore in general area of Chelsea. The size of the estuary area is taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs (equal to 1% of total area).

Hudson River (Class A) (1301-0001) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No:	H (portion 4a)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/	**Str Class:**	A		Low Hudson-Wappinger
Waterbody Type:	Estuary			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	10306.0 Acres			**Quad Map:**	KINGSTON EAST (N-25-1)
Seg Description:	from Roseton/Chelsea to Kingston				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (cadmium), PRIORITY ORGANICS (PCBs)
Suspected: Pathogens, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview

Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

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recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

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Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Hudson River in Poughkeepsie, Dutchess County, is conducted annually at the Poughkeepsie Water Treatment Plant intake. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. The most recent Intensive Network monitoring was conducted during 2003. Water column sampling revealed iron, copper and water temperature to be parameters of concern. However, the results for these parameters may be influenced but sample collection which draws the samples through a raw water tap at the water treatment plant. Toxicity testing of the water column showed no significant mortality or reproductive impacts. (DEC/DOW, BWAM/RIBS, January 2005)

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Source (Drinking) Water Assessment

The Hudson River was assessed 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. The Hudson River watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, eutrophication (excessive nutrients and algae) wastewater, toxic sediments. In addition, salt water can enter the lower Hudson and impact drinking water quality during periods of low flow. This more general assessment suggests an elevated susceptibility to contamination for this source of drinking water. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to the City of Poughkeepsie, Portions of Dutchess County and the Village of Millbrook. (NYSDOH, Source Water Assessment Program, 2005)

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In response to the improvement in Hudson River water quality since the 1970s, there has been a rise in recreational use and a public call for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, the NYSDEC Hudson River Estuary Program: and Division of Water are focusing on four primary areas of water quality impact
1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with Phase II Stormwater permit program, and 4) continued support of a vessel No Discharge Zone in the Hudson. (DEC/HREP and DEC/DOW, BWAM, May 2008)

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To further restore and protect the waters of the Hudson River, NYS DEC established in 1987 The Hudson River Estuary Program: to provide a holistic (watershed) approach to management of the ecosystem. The Hudson River Estuary Program: leads a unique regional partnership of agencies, organizations and the public to restore the Hudson in ways that support the quality of life so valued by Hudson Valley residents. The program focuses on conservation of natural resources, promotion of full public use and enjoyment of the river and reducing pollution that affects the ability to use and enjoy the river. The Estuary Program implements the Hudson River Estuary Action Agenda through numerous partners in government, the non-profit and business sectors, and concerned citizens. The program is built on sound science and principles of ecosystem-based management. It is guided by the Hudson River Estuary Advisory Committee, which includes representatives of the commercial fishing industry, recreational anglers, utility companies, local government, educators, researchers, conservationists and other river users. This facilitates working with many representatives of the public toward common goals. (DEC/HREP, May 2008)

Segment Description

This segment includes the waters of the Hudson from a point on the river at Roseton on west shore and Low Point on east shore in general area of Chelsea, to the mouth of the Rondout River in Kingston. The size of the estuary area is taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs.

Popolopen Creek and tribs (1301-0160) Need Verific

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H- 61
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 44.9 Miles
Quad Map: POPOLOPEN LAKE (P-24-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: ACID/BASE (PH)
Possible: Metals (copper), Priority Organics (PAHs)

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: Tox/Contam. Sediment

Resolution/Management Information

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

Further Details

Overview
Aquatic life in Popolopen Creek is thought to be experience some threats from low pH, assumed to be from atmospheric deposition (acid rain). Elevated levels of organics (PAHs) in stream sediments were also noted.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Queensboro Creek, a trib of Popolopen Creek, in Highland, Ulster County, (at Seven Lakes Road) 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. Water column sampling revealed only pH to be a parameter of concern. However the non-impacted biological assessment suggests the low pH does not have a measurable impact on aquatic life. Bottom sediment sampling results revealed several PAHs to be exceeding the Probable Effects Level - a level at which adverse impacts are expected; Copper was found above 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 threatened, but is supportive of the aquatic life and recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T) from the mouth to outlet of unnamed pond (P184h) near the confluence of Queensboro Creek (-2) and Class A,A(T) for the remainder of the reach. Tribs to this reach/segment, including Queensboro Creek (-2) and Long Pond Brook (-6), are Class A,A(T).

Queensboro Lk, Turkey Hill Pd, others (1301-0056) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H- 61- 2-P184b thru j
Hydro Unit Code: 02020008/110 **Str Class:** A
Waterbody Type: Lake
Waterbody Size: 190.0 Acres
Seg Description: total area of selected lakes

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
Reg/County: 3/Orange Co. (36)
Quad Map: POPOLOPEN LAKE (P-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ACID/BASE (PH)
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life in Queensboro Lake, Turkey Hill Pond and other waters may experience impacts from low pH due to atmospheric deposition (acid rain). However due to the lack of current information conditions in these lakes need to be verified.

Source (Drinking) Water Assessment
Queensboro Lake was assessed throughout 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. The assessment area for this drinking water source contains no discrete potential contaminant sources and land cover suggests contaminant risk is low. This water supply reservoir provides water to Bear Mountain Water Supply. (NYSDOH, Source Water Assessment Program, 2005)

Previous Assessment

The fishery in a number of Palisades Park lakes were thought to be affected by low pH, the result of atmospheric deposition and lower buffering capacity. Specific lakes/ponds thought to be affected include: Turkey Hill Pond (P184b), Upper Twin Lake (P190), and Summit Lake (P193). (1996)

Stillwell Lake, Mine Lake (1301-0166) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H- 61..P187a,P188
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 151.6 Acres
Quad Map: POPOLOPEN LAKE (P-24-3)
Seg Description: total area of both 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

Source (Drinking) Water Assessment
Stillwell and Mine Lakes were assessed 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. The assessment area for this drinking water source contains no discrete potential contaminant sources. The high percentage of residential land cover results in an elevated potential for contamination from nonpoint sources. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to the US Military Academy at West Point. (NYSDOH, Source Water Assessment Program, 2005)

Minor Tribs to East of Hudson (1301-0168) MinorImpacts

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 62 thru 92, EOH (selected) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B
Waterbody Type: River **Reg/County:** 3/Putnam Co. (40)
Waterbody Size: 25.3 Miles **Quad Map:** WEST POINT (P-25-1)
Seg Description: total length of select tribs, Bear Mt.Br. to Beacon

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: - - -
Suspected: NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: AGRICULTURE, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life use support and recreational uses in these tribs are thought to experience minor impacts due to nutrient enrichment from nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Philipse Brook near Garrison (at Route 9D) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by algal-feeding riffle beetles and filter-feeding caddisflies, indicative of nonpoint sources of nutrient enrichment. Stoneflies and mayflies were present in the sample, but sparse in numbers. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the total length of selected/smaller tribs to the East of Hudson between Bear Mountain Bridge and Fishkill Creek (-95) in Beacon. Tribs within this segment, including Copper Mine Brook (-64), Arden Brook (-72), Philipse Brook (-75), Breakneck Valley Brook (-86), Wades Brook (-91) and Gordons Brook (-92), are Class B with some tribs and portions designated as Class C, and a small reach in Gordons Brook Class A. Indian Brook (-77), Foundry

Brook (-83) and Fishkill Creek (-95) are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Highland Brook and tribs (1301-0172) MinorImpacts

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 71
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 7.1 Miles
Quad Map: PEEKSKILL (P-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS, UNKNOWN TOXICITY
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/Reg3
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life use support and recreational uses in Highland Creek are thought to experience minor impacts due to urban nonpoint sources. Considerable urban refuse was also noted along the stream.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Highland Creek in Highland Falls (at Main Street) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by facultative midges and caddisflies, indicative of urban nonpoint sources. The stream was highly embedded and considerable refuse was present. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class B from the mouth to unnamed tribs (-2) above Highland Falls, and Class A(T) for the remainder of the reach.

Foundry Brook and tribs (1301-0177) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 83
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Putnam Co. (40)
Waterbody Size: 10.3 Miles
Quad Map: WEST POINT (P-25-1)
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 Foundry Brook in Cold Spring (at Route 9D) was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions. Species richness was limited but the dominant organism was a clean-water stonefly. Nutrient biotic evaluation determined 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. The unique stream habitat of bedrock, boulders and plunge pools likely affected the fauna. Because of the uniqueness of the habitat, this site was judged to be poor candidate for biological sampling. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs above unnamed pond (P215a) above Cold Springs. The waters of this portion of the stream are Class A(T). Tribs to this reach/segment are also Class A(T). Lower Foundry Brook is listed separately (with Tribs to Hudson).

Moodna Creek, Lower, and minor tribs (1303-0010) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 89 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 25.3 Miles **Quad Map:** CORNWALL (P-24-2)
Seg Description: stream and select tribs, from mouth to Mountainville

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) survey of Moodna Creek at multiple sites between the mouth at Cornwall and Washingtonville was conducted in 2004. Sampling results indicated non-impacted to slightly impacted water quality conditions. Two of the three sites located in this reach reflected non-impacts water quality. Nonpoint source nutrient enrichment was indicated as the primary source at all sites on the stream. Possible sewage inputs were suggested at the downstream sites. Nutrient biotic evaluation determined the 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, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to Woodbury Creek (-7) in Mountainville. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Silver Stream (-2), are Class C. Woodbury Creek and Upper Moodna Creek are listed separately.

Moodna Creek, Upper, and minor tribs (1303-0011) MinorImpacts

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 89 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 131.5 Miles **Quad Map:** MAYBROOK (P-24-1)
Seg Description: stream and select tribs, above Mountainville

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: - - -
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life uses in This portion of Moodna Creek are thought to experience minor impacts/threats due to nutrient loadings from nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) survey of Moodna Creek at multiple sites between the mouth at Cornwall and Washingtonville was conducted in 2004. Sampling results indicated non-impacted to slightly impacted water quality conditions. All three of the sites located in this reach reflected slightly impacts water quality. Nonpoint source nutrient enrichment was indicated as the primary source at all sites on the stream. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above Woodbury Creek (-7) in Mountainville. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Baby Brook (-9), Perry Brook (-15), Slatterly Creek (-17) and Cromline Creek (-19), are Class C,C(T). Woodbury Creek, Otter Kill Creek (-2) and

Lower Moodna Creek are listed separately.

Lake Washington (1303-0012) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H- 89- 2-P225
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 167.3 Acres
Quad Map: CORNWALL (P-24-2)
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

Source (Drinking) Water Assessment
Lake Washington was assessed 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 assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of residential lands in the assessment area results in an elevated potential for contaminants. Other potential contaminant sources consistent with residential/commercial areas are also present. However, this assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to... (NYSDOH, Source Water Assessment Program, 2005)

Browns Pond Reservoir (1303-0013) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H- 89- 2-P226a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake(R)
Reg/County: 3/Orange Co. (36)
Waterbody Size: 193.1 Acres
Quad Map: CORNWALL (P-24-2)
Seg Description: entire reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Source (Drinking) Water Assessment
Browns Pond Reservoir was assessed 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. The analysis of available information for this source water assessment did not find any significant sources of contamination in this watershed. No discrete sources were identified within the assessment area and agricultural practices in the watershed do not appear to pose significant threats. The overall susceptibility of this watershed to potential sources of contamination was found to be medium. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to the City of Newburgh. (NYSDOH, Source Water Assessment Program, 2005)

Woodbury Creek and tribs (1303-0014) MinorImpacts

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H- 89- 7
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 38.4 Miles
Quad Map: CORNWALL (P-24-2)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), SALTS
Suspected: Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: DEICING (STOR/APPL), URBAN/STORM RUNOFF
Suspected: MUNICIPAL
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Woodbury Creek is known to experience minor impacts and threats due to elevated chlorides, nutrient enrichment and siltation from nonpoint sources related to continuing development in the watershed.

Water Quality Sampling
A biological (macroinvertebrate) survey of Woodbury Creek at multiple sites between the mouth in Mountainville and Highland Mill was conducted in 2005. Sampling results indicated quality conditions ranged from non-impacted to slightly impacted at four sites on the stream and in two tribs. The identified causes of the impacts include increased specific conductednce from chloride inputs, nutrient enrichment and siltation. Much of the chloride increase is likely attributable to salt runoff from a salt storage facility serving Woodbury Commons Mall. Increases in nutrient loadings may be the result of smaller sewage treatment facilities that serve newer developments in Highland Mills, just upstream of the sampling site most impacted by enrichment. Siltation from ongoing development in the watershed was also noted as contributing to impacts. The report noted that a particular stonefly species that is key indicator of high water quality that was found in 2004 sampling did not found during the 2005 survey. Although aquatic life is supported in the stream, sampling results indicate impacts are sufficient to stress/threaten aquatic life support. (Woodbury Creek Biological assessment Report, DEC/DOW, BWAM/SBU, November 2005)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(TS). Tribs to this reach/segment, including Mineral Spring Brook (-4), are also Class C,C(TS).

Walton Lake (1303-0004) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H- 89-19-10-P257			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/090	**Str Class:**	A		Low Hudson-Wappinger
Waterbody Type:	Lake			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	117.7 Acres			**Quad Map:**	MONROE (P-24-4)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation)
Possible: Nutrients, Salts

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST, Urban/Storm Runoff
Possible: Deicing (stor/appl)

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Walton Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Source (Drinking) Water Assessment The NYSDOH Source Waters Assessment
Program (SWAP) compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply sources. This information - which is contained in SWAP assessment reports - assists in the oversight and protection of public water systems. It is important to note that SWAP assessments evaluate the potential for untreated drinking water sources to be impacted by contamination. These assessments do not address the safety or quality of treated finished potable tap water. Drinking water supplies taken from this waterbody include the Village of Chester. This assessment found no noteworthy risks to source water quality. (NYSDOH, Source Water Assessment Program, 2005)

Previous Assessment
Concerns that recreational uses and aesthetics in Walton Lake may be restricted by excessive aquatic vegetation were previously reported. Suspected sources of nutrients feeding the lake include inadequate and/or failing on-site septic

systems serving residences along the lake and lawn chemical/fertilizer usage. Urban runoff and road salt/sanding activity may also influence water quality in the lake. Grass carp were introduced to control aquatic vegetation growth in the lake. However the lake has been stocked with trout and it is noted as a satisfactory large mouth bass fishery. (Orange County WQCC and DEC/Reg 3, FWMR, 1996)

Otter Kill/Black Meadow Creek and tribs (1303-0025) Threatened

Waterbody Location Information

Revised: 04/16/2008

Water Index No: H- 89-20
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C*
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 99.1 Miles
Quad Map: MAYBROOK (P-24-1)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrolgy	Threatened	Known

Type of Pollutant(s)

Known: - - -
Suspected: WATER LEVEL/FLOW, THERMAL CHANGES
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: CONSTRUCTION, HABITAT MODIFICATION
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Hydrologic/habitat uses in Otter Kill/Black Meadow Creek are known to experience threats due to impacts to habitat from increasing development.

Water Quality Sampling
Biological (macroinvertebrate) assessments of Black Meadow Creek were conducted at various sites by the Orange County Water Authority in 2004 and 2005. The results of this sampling indicated slightly to moderately impacted water quality conditions. However the more significant (moderate) impacts were likely influenced by low stream gradient and poor sampling habitat. Initial result suggested septic inputs were contributing to impacts, but these indication were likely to have been significantly influenced by impoundment conditions in the wetlands. (DEC/DOW, BWAM/SBU, March 2008)

Habitat Issues
The Metropolitan Conservation Alliance of the Wildlife Conservation Society issued a Biodiversity Plan for the Southern Wallkill area, including this watershed. The plan identified Otter Creek as a biodiversity hub that is host to significant biodiversity. The plan noted that portions of the habitat system are at risk from dense residential development. The

watershed also includes Purgatory Swamp, a diverse wetland system that provides important wildlife habitat for state-listed declining and rare amphibians, reptiles and birds. Protection measures in this watershed would yield significant conservation benefits. (MCA/WCS, 2005)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Black Meadow Creek (above trib. 20 of Otter Kill is named Black Meadow Creek), are primarily Class C; with small portions of tribs designated Class A.

Quassaic Creek, Lower, and minor tribs (1301-0079) MinorImpacts

Waterbody Location Information

Revised: 03/26/2008

Water Index No:	H- 94			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/080	**Str Class:**	C		Low Hudson-Wappinger
Waterbody Type:	River			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	39.7 Miles			**Quad Map:**	NEWBURGH (O-24-3)
Seg Description:	stream and select tribs, from mouth to Cronomer Valley				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS (phosphorus), UNKNOWN TOXICITY
Possible: Pathogens

Source(s) of Pollutant(s)

Known: COMB. SEWER OVERFLOW, URBAN/STORM RUNOFF
Suspected: - - -
Possible: Unknown Source

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 3a->delist

Further Details

Overview
Aquatic life support and recreational uses in this portion of Quassaic Creek are known to experience minor impacts due to various pollutants from combined sewer overflows and other urban runoff sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Quassaic Creek in Newburgh (at River Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. These results are consistent with sampling results in 1992, 1997, 1998 and 1999. Results for these sampling years were also found to be slightly impacted, except in 1998 when moderate impacts were noted. The greater impacts in 1998 were attributed to a high flow year which increased the impacts from urban runoff, the primary source of impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates/suggests the level of eutrophication is sufficient to stress/threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment

A 1987 biological (macroinvertebrate) study conducted to evaluate CSO impact in lower Quassic Creek in Newburgh 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: 08/19/2010

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

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 **Resolution Potential:** Medium
TMDL/303d Status: n/a->1,4c

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.

Lake/Watershed Management

The Orange Lake Civic Association has worked with local officials to lead a number of initiatives to improve water quality in the lake. In 1995, sewer lines were put in place to handle approximately 85% of our homes in and around the lake. More recently MS4 catch basins with sumps and snouts were placed around the peripheral of the lake by the Town. The Association also continues monitoring of geese, and under the DEC's direction has used oiling of eggs to reduce the population to an insignificant number. They have also instituted a plan to introduce 3,600 triploid carp to help control Eurasian milfoil in the lake. These initiatives are in addition to continued educate and outreach to members on the protection of the water quality and support of recreational use in the lake. (Orange Lake Civic Association, July 2010)

Section 303(d) Listing

Orange Lake was added to the current (2010) NYS Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development due to phosphorus. It is worth noting that although this recent addition to the List might suggest conditions have worsened since the previous (2008) List was issued, that is not the case. A full evaluation of waterbodies in the Lower Hudson Basin, including Orange Lake, was only recently completed (in July 2008). The absence of Orange Lake on previous Lists is not because evaluation of the lake showed it was not impaired, but rather due to the fact that the evaluation was incomplete and a specific listing decision for the lake was deferred. In fact, current available data suggests that conditions in the lake are indeed improving; likely due to the watershed management actions taken to date. (DEC/DOW, BWAM/WQAS, May 2008)

Chadwick Lake (1301-0190) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H- 94-P341a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 211.4 Acres
Quad Map: NEWBURGH (O-24-3)
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

Source (Drinking) Water Assessment
Chadwick Lake was assessed 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 assessment found an elevated susceptibility to contamination for this source of drinking water. Land cover and its associated activities within the assessment area do not increase the potential for contamination. There are no noteworthy contamination threats associated with other discrete contaminant sources. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to the Newburgh Consolidated Water District. (NYSDOH, Source Water Assessment Program, 2005)

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

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H- 95
Drain Basin: Lower Hudson River
Hydro Unit Code: 02020008/070 **Str Class:** C
Low Hudson-Wappinger
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 17.4 Miles
Quad Map: WAPPINGERS FALLS (O-25-4)
Seg Description: entire stream and tribs, from mouth to Brickerhoff

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

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
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)*
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 35.6 Miles
Quad Map: WAPPINGERS FALLS (O-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of 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
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 18.3 Miles
Quad Map: HOPEWELL JUNCTION (O-25-3)
Seg Description: stream and tribs, from mouth to Noxon

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating 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) NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

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

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 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
Hydro Unit Code: 02020008/070 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 25.9 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
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
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)

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).

Sylvan Lake (1304-0029) Impaired Seg

Waterbody Location Information

Revised: 03/10/2010

Water Index No: H- 95-14-P354
Hydro Unit Code: 02020008/070 **Str Class:** B(T)
Waterbody Type: Lake (Mesoeutrophic)
Waterbody Size: 113.3 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
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
Public Bathing	Stressed	Known
AQUATIC LIFE	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	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, chlorophyl 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 a 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 know 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 not 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 residentional 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)

Whaley Lake Brook and tribs (1304-0030) NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

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

Whaley Lake, Little Whaley Lake (1304-0033) NoKnownImpct

Waterbody Location Information

Revised: 04/28/2008

Water Index No: H- 95-19-P353,P354
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 298.9 Acres
Quad Map: POUGHQUAG (O-26-4)
Seg Description: total area of both 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
Whaley Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) in 1998 and 1999. An Interpretive Summary report of the findings of this sampling was published in 2000. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to cause any ecological impacts. The lake water is weakly to moderately colored, but not likely high enough to influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, January 2000)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness." Assessments have noted a reduced aquatic plants growth and improved recreational use. (DEC/DOW, BWAM/CSLAP,

January 2000)

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.

Wappingers Lake (1305-0001) Impaired Seg

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-101 (portion 2)/P365
Hydro Unit Code: 02020008/060 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 80.2 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
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
PUBLIC BATHING	Impaired	Known
Aquatic Life	Stressed	Possible
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), Algal/Weed Growth (aquatic vegetation)
Suspected: SILT/SEDIMENT
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF, Agriculture, Construction (resident.develop.), Hydro Modification
Possible: Streambank Erosion, Other Sanitary Disch

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 3a->1

Further Details

Overview
Public bathing and other recreational uses in Wappingers Lake are impaired by nutrient (phosphorus) and silt/sediment loadings attributed to urban runoff and other nonpoint sources.

Water Quality Sampling
Wappingers Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) Program in 2003. Results of this sampling indicate that the lake is best characterized as eutrophic, or highly productive. Average phosphorus levels (60 ug/l) in the lake easily exceed the state guidance values indicating impacted/stressed recreational uses (20 ug/l). Corresponding transparency measurements also fail to meet what is the recommended minimum for swimming beaches. Upstream tributaries transport considerable silt and sediment to the lake. Urban/stormwater runoff in this highly developed urban/suburban watershed are thought to be a significant source of nutrient and silt/sediment loadings. Some of the remaining agriculture operations in the watershed may also contribute to the water quality impacts on the lake. (DEC/DOW, BWAM/SWQM, October 2005)

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 potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303(d) Listing

Wappingers Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters due to phosphorus and silt/sediment. The lake is included on Part 3 of the List as an Impaired Water for which TMDL Development May be Deferred due to the need to verify the impairment, the pollutant, or pending implementation/evaluation of other restoration measures. However this updated assessment suggests that the suspected impairments are confirmed and the lake be moved to Part 1 of the List as Waterbody Requiring TMDL Development (or other strategy to attain water quality standards). This waterbody was first listed on the 1996 Section 303(d) List for phosphorus and in 2002 for silt/sediment.

Wappingers Cr, Middle, and minor tribs (1305-0013) Need Verific

Waterbody Location Information

Revised: 06/05/2008

Water Index No: H-101 (portion 3) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(T)
Waterbody Type: River **Reg/County:** 3/Dutchess Co. (14)
Waterbody Size: 42.7 Miles **Quad Map:** PLEASANT VALLEY (O-25-2)
Seg Description: stream and select tribs, fr Wapp.Falls to Pleasnt.Vall.

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: PATHOGENS, Metals
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: Tox/Contam. Sediment
Possible: UNKNOWN SOURCE, On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in this portion of Wappingers Creek may experience impacts due to elevated pathogen levels from as yet unidentified sources. Slightly elevated levels of some metals in sediments have also been noted.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Wappingers Creek in Poughkeepsie, Dutchess County, (at Jackson Road) 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. Water column sampling revealed iron and coliform to be parameters of concern. However, iron can be considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed various metals (copper, nickel, zinc) to be exceeding the Threshold Effects level - levels at which adverse impacts occasionally occur. Toxicity testing of the water column showed significant mortality and reproductive impacts in one of three test. Based on the consensus of these established assessment methods, overall water quality at this site is thought to experience impacts to uses that need further investigation. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Wappingers Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results also indicated non-impacted water quality conditions. The sampling was part of a biological (macroinvertebrate) survey of Wappingers Creek at multiple sites between Wappingers Falls and Stanfordville. Sampling results indicated non-impacted water quality conditions at most sites. Excellent water quality was noted at four of the five sites sampled, including the three sites within this reach. Water quality at the most upstream site in Stanfordville was assessed as slightly impacted, 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. These condition represent an improvement from previous sampling which should most sites to be slightly impacted. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Wappingers Lake (P365) in Wappingers Falls to unnamed trib (-11) in Pleasant Valley. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment are Class B,B(T),C,C(T). An unnamed trib (-4) near New Hackensack and other portions of Wappingers Creek are listed separately.

Wappingers Cr, Middle, and minor tribs (1305-0014) NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H-101 (portion 4) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(T)
Waterbody Type: River **Reg/County:** 3/Dutchess Co. (14)
Waterbody Size: 91.8 Miles **Quad Map:** MILLBROOK (N-26-4)
Seg Description: stream and select tribs, fr Pleasnt Val to Stanfrdville

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) survey of Wappingers Creek at multiple sites between Wappingers Falls and Stanfordville was conducted in 2002. Sampling results indicated non-impacted water quality conditions at most sites. Excellent water quality was noted at four of the five sites sampled, including two of three sites within (or representative of) this reach. Water quality at the most upstream site in Stanfordville was assessed as slightly impacted, 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. These condition represent an improvement from previous sampling which should most sites to be slightly impacted. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from to/including unnamed trib (-11) in Pleasant Valley to unnamed trib (-29) in Stanfordville. The waters of this portion of the stream are Class B(T),B(TS). Tribs to this reach/segment, including Clinton Corners Brook (-20) and Willow Brook (-27), are Class B,B(T),C,C(T),C(TS). Great Spring Brook (-12), Little Wappingers Creek (-18), East Branch (-21) and other portions of Wappingers Creek are listed separately.

Wappingers Cr, Upper, and tribs (1305-0011) NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No:	H-101 (portion 5)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/060	**Str Class:**	C(TS)*		Low Hudson-Wappinger
Waterbody Type:	River			**Reg/County:**	3/Dutchess Co. (14)
Waterbody Size:	81.5 Miles			**Quad Map:**	MILLBROOK (N-26-4)
Seg Description:	stream and tribs, above Stanfordville				

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) survey of Wappingers Creek at multiple sites between Wappingers Falls and Stanfordville was conducted in 2002. Sampling results indicated non-impacted water quality conditions at most sites. Excellent water quality was noted at four of the five sites sampled. The lone site within this reach (in Stanfordville) was assessed as slightly impacted by nonpoint sources of nutrient enrichment, 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. These condition represent an improvement from previous sampling which should most sites to be slightly impacted. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
The recreational use (swimming), fishery and aesthetics in Hunns Lake Creek may be affected by agricultural runoff and streambank erosion. BMPs have been implemented on watershed croplands to address erosion and nutrient runoff. Continuing efforts by the county are focusing on the access of cattle to the stream itself. (Dutchess County WQCC, July 1999)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-29) in Stanfordville. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment, including Cold Spring Creek (-30), are Class B,B(T),B(TS),C,C(T),C(TS). Other portions of Wappingers Creek are listed separately.

Great Spring Brook and tribs (1305-0030) NoKnownImpct

Waterbody Location Information

Revised: 03/26/2008

Water Index No: H-101-12
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River (Low Flow)
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 31.3 Miles
Quad Map: SALT POINT (N-25-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
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) survey/assessment of Great Spring Brook near Pleasant Valley (at Route 73) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Mayflies and stoneflies were noted in the sample, but the fauna was dominated by algal-feeding riffle beetles. Nonpoint source nutrient enrichment was identified as the primary cause of the impacts. 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, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream and Class B. Tribs to the stream are also Class B.

Little Wappingers Cr, Lower, and tribs (1305-0019) NoKnownImpct

Waterbody Location Information

Revised: 02/20/2008

Water Index No: H-101-18
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 28.2 Miles
Quad Map: SALT POINT (N-25-3)
Seg Description: stream and tribs, mouth to Schultzville

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 Little Wappingers Creek near Salt Point (at Halstead Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The stream appeared sluggish and silty - less than ideal habitat - but the fauna was dominated by clean-water mayflies. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to/including unnamed trib (-10) near Schultzville. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment are primarily Class B; with some waters Class C. Upper Little Wappingers Creek is listed separately.

Long Pond (1305-0003) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H-101-18-11-P375			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/060	**Str Class:**	AA		Low Hudson-Wappinger
Waterbody Type:	Lake			**Reg/County:**	3/Dutchess Co. (14)
Waterbody Size:	81.9 Acres			**Quad Map:**	ROCK CITY (N-25-2)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Long Pond may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. Inadequate and/or failing on-site septic systems serving residences along the shore were the suspected source of nutrient loads that promote the growth of aquatic vegetation. (Dutchess County WQCC, 1999)

Silver Lake (1305-0002) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H-101-18-13-P378			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/060	**Str Class:**	AA(T)		Low Hudson-Wappinger
Waterbody Type:	Lake			**Reg/County:**	3/Dutchess Co. (14)
Waterbody Size:	110.7 Acres			**Quad Map:**	ROCK CITY (N-25-2)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST
Possible: Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Silver Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. Inadequate and/or failing on-site septic systems serving residences along the shore were the suspected source of nutrient loads that promote the growth of aquatic vegetation. (Dutchess County WQCC, 1999)

Upton Lake (1305-0005) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H-101-20-P384			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/060	**Str Class:**	B		Low Hudson-Wappinger
Waterbody Type:	Lake			**Reg/County:**	3/Dutchess Co. (14)
Waterbody Size:	45.5 Acres			**Quad Map:**	SALT POINT (N-25-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST
Possible: Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Long Pond may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. Inadequate and/or failing on-site septic systems serving residences along the shore were the suspected source of nutrient loads that promote the growth of aquatic vegetation. (Dutchess County WQCC, 1999)

Ryder Pond, Hunns Lake (1305-0004) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-101-30..P401,P403
Hydro Unit Code: 02020008/060 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 78.8 Acres
Seg Description: total area of both lakes

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
Reg/County: 3/Dutchess Co. (14)
Quad Map: PINE PLAINS (N-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), Nutrients
Possible: Silt/Sediment

Source(s) of Pollutant(s)
Known: - - -
Suspected: ON-SITE/SEPTIC SYST, Agriculture
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Ryder Pond and Hunns Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. Inadequate and/or failing on-site septic systems serving residences along the shore and runoff from agricultural activity in the watershed were the suspected source of nutrient loads that promote the growth of aquatic vegetation. (Dutchess County WQCC, 1999)

Thompson, Stissing, Mud/Twin Isl Ponds (1305-0010) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-101-P408,P409,P410
Hydro Unit Code: 02020008/060 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 204.4 Acres
Seg Description: total area of all three lakes

Drain Basin: Lower Hudson River
Low Hudson-Wappinger
Reg/County: 3/Dutchess Co. (14)
Quad Map: PINE PLAINS (N-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH, Nutrients
Possible: Pathogens

Source(s) of Pollutant(s)
Known: - - -
Suspected: OTHER SOURCE (waterfowl)
Possible: Agriculture, Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Thompson, Stissing and Mud/Twin Island Ponds may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. Waterfowl (geese, ducks) are the suspected source of nutrient loads that promote the growth of aquatic vegetation. (Dutchess County WQCC, 1996)

Lattintown Creek and tribs (1301-0193) NoKnownImpct

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-103
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C*
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 27.2 Miles
Quad Map: WAPPINGERS FALLS (O-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Lattintown Creek in Marlboro (at Prospect Street) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by filter-feeding caddisflies, with few mayflies found. Nonpoint source nutrient enrichment was indicated as the primary source of impacts. 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 entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are primarily Class C; a portion of one small unnamed trib (-6) is Class A.

Casper Creek and tribs (1301-0195) MinorImpacts

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-105
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 16.2 Miles
Quad Map: WAPPINGERS FALLS (O-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: AGRICULTURE, URBAN/STORM RUNOFF

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Casper Creek is thought to experience impacts due to nutrient enrichment from nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Casper Creek in Knapps Corners (at Camelot Road) was conducted in 2002. Sampling results indicated moderately impacted water quality conditions. The fauna had very low diversity and was dominated by filter-feeding caddisflies. Impact Source Determination indicated nonpoint source nutrient enrichment as the primary source of impacts, however poor sampling habitat of gravel and silt may have been a factor in the assessment of this site. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Fall Kill and tribs (1301-0087) Impaired Seg

Waterbody Location Information

Revised: 02/19/2008

Water Index No:	H-114			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020008/010	**Str Class:**	C		Low Hudson-Wappinger
Waterbody Type:	River			**Reg/County:**	3/Dutchess Co. (14)
Waterbody Size:	41.3 Miles			**Quad Map:**	POUGHKEEPSIE (O-25-1)
Seg Description:	entire stream and tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: Aesthetics (debris/trash), Pathogens
Suspected: NUTRIENTS (phosphorus), D.O./Oxygen Demand, Silt/Sediment, Unknown Toxicity
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: MUNICIPAL, Industrial
Possible: Other Sanitary Disch

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 3a (Waterbody Requiring Verification of Impairment)

Further Details

Overview
Aquatic life support and recreational uses in Fall Kill are impaired by nutrient enrichment, pathogens and various other pollutants attributed to municipal inputs and urban nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Fall Kill in Poughkeepsie (at Garden Street) was conducted in 2002. Sampling results indicated moderately impacted water quality conditions. These results were comparable to conditions found in 1997, 98 and 99. Previous biological sampling found that water quality degradation increases from slightly to moderately impacted as one moves downstream. In the upstream watershed, the sources of impact were determined to be primarily nonpoint. Farther downstream the community was consistent with residential/commercial development and golf course runoff. Near the mouth, municipal/industrial waste and urban runoff are the likely sources. Considerable trash and debris, typical of urban waterways, was also found in the stream during sampling. (DEC/DOW, BWAM/SBU, December 2004 and Fallkill Creek Biological Assessment Report, Bode et al, DEC/DOW BWAM, August 1998)

Previously Assessment
The Dutchess County Health Department has collected data indicating several areas of high fecal coliform levels. These findings suggest failing and/or inadequate on-site septic systems. (Dutchess County DOH, 1996)

Section 303(d) Listing
Fallkill Creek is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for phosphorus in the lake be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. It may be appropriate to add a listing for pathogens impairment as well, but current pathogen levels in the creek should first be verified. (DEC/DOW, BWAM/WQAS, May 2008)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Twaalfskill Creek and tribs (1301-0199) MinorImpacts

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-116
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 22.0 Miles
Quad Map: POUGHKEEPSIE (O-25-1)
Seg Description: entire stream and tribs

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: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: INDUSTRIAL, MUNICIPAL

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Twaalfskill Creek is thought to experience impacts due to pollutant inputs for municipal/industrial sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Twaalfskill in Highland (at Van Wagner Road) was conducted in 2002. Sampling results indicated moderately impacted water quality conditions. Impact Source Determination indicated municipal/industrial inputs as the primary source of impacts, however poor sampling habitat may have been a factor in the assessment of this site. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Crum Elbow Creek and tribs (1301-0200) NoKnownImpct

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-124
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 43.0 Miles
Quad Map: HYDE PARK (N-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Crum Elbow Creek in Hyde Park (at Coach House Service Road) was conducted in 1998. Sampling results indicated slightly impacted water quality conditions. However, impoundment effects were thought to influence these results. Nutrient biotic evaluation determined these effects on the fauna to be minor. Slightly to non-impacted conditions were found at multiple upstream sites during a 1995 survey. Based on these findings, 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 entire stream and all tribs. The waters of the stream are primarily Class A,A(T); with a small portion at the mouth Class C. Tribs to this reach/segment are Class A and C.

Black Creek, Lower, and tribs (1301-0202) NoKnownImpct

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-128 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B*
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 36.5 Miles **Quad Map:** HYDE PARK (N-25-4)
Seg Description: stream and tribs, from mouth to Chodikes Pond

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Black Creek in Esopus , Ulster County, (at Route 9W) 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. Water column sampling revealed no parameters of concern. Bottom sediment sampling results revealed no contaminants in detectable levels. 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 water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Black Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results indicated slightly impacted water quality conditions. Clean-water mayflies, stoneflies and hellgrammites were found, but the fauna was dominated by filter-feeding caddisflies. Nonpoint source nutrient enrichment was indicated, although very low flow at the time of sampling may have had some impact on the sample results. 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 Chodikes Pond. The waters of this portion of the stream are Class C from the mouth to unnamed trib (-2), Class A from there to unnamed trib (-3) and Class B for the remainder of the reach. Tribs to this reach/segment are primarily Class C; unnamed trib (-2) is Class B. Middle/Upper Black Creek are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Chodikee Pond (1301-0208) Impaired Seg

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-128-P437
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 61.9 Acres
Quad Map: HYDE PARK (N-25-4)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA
Resolution Potential: Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview
Fish consumption use in Chodikee Pond is impaired by mercury contamination attributed to atmospheric deposition.

Fish Consumption Advisories
Fish consumption in Chodikee Pond is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger (over 15 inches) largemouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the lake watershed. The advisory for this lake was first issued in 2005-06. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing
Chodikee Pond is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the lake are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Landsman Kill and minor tribs (1301-0209) MinorImpacts

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-136
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 12.6 Miles
Quad Map: KINGSTON EAST (N-25-1)
Seg Description: entire stream and select tribs

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: - - -
Suspected: UNKNOWN TOXICITY
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: UNKNOWN SOURCE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Landsman Kill may experience minor impacts/threats due to unknown toxicity. The most recent sampling on this stream was conducted in 1998 and sampling to verify conditions is recommended.

Water Quality Sampling
A biological (macroinvertebrate) survey of Landsman Kill at multiple sites between the mouth and Rhinebeck was conducted in 1998. Sampling results indicated slightly to non-impacted water quality conditions. Low dissolved oxygen levels were noted at one site, but these conditions were attributed to decomposition of vegetation in an impounded reach of the stream. (DEC/DOW, BWAM/SBU, June April 1993)

Segment Description
This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are also Class C. Rhinebeck Kill (-6) is listed separately.

Rhinebeck Kill and tribs (1301-0210) MinorImpacts

Waterbody Location Information

Revised: 02/19/2008

Water Index No: H-136- 6
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 25.6 Miles
Quad Map: KINGSTON EAST (N-25-1)
Seg Description: entire stream and tribs

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: - - -
Suspected: UNKNOWN TOXICITY
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: UNKNOWN SOURCE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Rhinebeck Kill may experience minor impacts/threats due to unknown toxicity. The most recent sampling on this stream was conducted in 1998 and sampling to verify conditions is recommended.

Water Quality Sampling
A biological (macroinvertebrate) survey of Rhinbeck Kill at multiple sites between the mouth near Rhinebeck Weys Corners was conducted in 1998. Sampling results indicated moderately to slightly impacted water quality conditions. Discharges from commercial establishments (car wash, town garage) were noted as possible sources. (DEC/DOW, BWAM/SBU, June April 1993)

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

Waterbody Inventory
for
Rondout River Watershed

Water Index Number	Waterbody Segment	Category
Rondout River Watershed		
H-139 (portion 1)	Rondout River, Lower, Main Stem (1306-0030)	UnAssessed
H-139 (portion 2)	Rondout River, Lower, Main Stem (1306-0031)	UnAssessed
H-139- 2 thru 6	Minor Tribs to Lower Rondount River (1306-0032)	UnAssessed
H-139- 7	DeWitt Lake Outlet and tribs (1306-0033)	UnAssessed
H-139- 7-P449	DeWitt Lake (1306-0034)	UnAssessed
H-139- 7-P449-	Tribs to DeWitt Lake (1306-0035)	UnAssessed
H-139- 7-P449-P452,P452,P452a	Third, First Binnewater Lakes, Twin Lk (1306-0036)	UnAssessed
Lower Wallkill River Watershed		
H-139-13 (portion 1)/P453a	Sturgeon Pond (1306-0037)	UnAssessed
H-139-13 (portion 2)	Wallkill River, Lower, Main Stem (1306-0027)	**MinorImpacts**
H-139-13- 2	Swarte Kill and tribs (1306-0039)	UnAssessed
H-139-13- 3 thru 18	Minor Tribs to Lower Wallkill (1306-0040)	UnAssessed
H-139-13-10- 1	Unnamed Trib to Wallkill, Upp, and tribs (1306-0041)	UnAssessed
H-139-13-11	Unnamed Trib to Wallkill, and mnr tribs (1306-0042)	UnAssessed
H-139-13-11- 4	Kleine Kill and tribs (1306-0043)	UnAssessed
H-139-13-16	Platte Kill and tribs (1306-0044)	**NoKnownImpct**
Shawangunk River Watershed		
H-139-13-19	Shawangunk Kill, Lower, and minor tribs (1306-0045)	**NoKnownImpct**
H-139-13-19	Shawangunk Kill, Middle, and minor tribs (1306-0046)	**NoKnownImpct**
H-139-13-19	Shawangunk Kill, Middle, and tribs (1306-0047)	**NoKnownImpct**
H-139-13-19	Shawangunk Kill, Upper, and tribs (1306-0048)	UnAssessed
H-139-13-19- 1-P463a	Heddens Lake (1306-0049)	UnAssessed
H-139-13-19- 5	Palmaghatt Kill, Upper, and tribs (1306-0050)	UnAssessed
H-139-13-19- 5-P464a	Tillson Lake (1306-0051)	UnAssessed
H-139-13-19- 7	Dwaar Kill and tribs (1306-0052)	**MinorImpacts**
H-139-13-19- 9	Pakanasink Creek, Upper, and tribs (1306-0053)	UnAssessed
H-139-13-19-10	Verkeerder Kill Creek and tribs (1306-0054)	**NoKnownImpct**
H-139-13-19-10- 5-P471	Lake Maratanza (1306-0055)	UnAssessed
H-139-13-19-13-P471a	Pinebush Lake (1306-0056)	UnAssessed
H-139-13-19-15	Platte Kill/Halliday Brook and tribs (1306-0057)	UnAssessed
H-139-13-19-17-P473	Echo Lake (1306-0058)	UnAssessed
H-139-13-19-28	Little Shawangunk Kill and tribs (1306-0059)	**NoKnownImpct**
H-139-13-19-28-P491,P492	Shawangunk Lake/Highland Lake (1306-0060)	**Threat(Poss)**

...Rondout River Watershed

Water Index Number	Waterbody Segment	Category
Upper Wallkill River Watershed		
H-139-13 (portion 3)	Wallkill River, Middle, Main Stem (1306-0038)	**MinorImpacts**
H-139-13 (portion 4)	Wallkill River, Upper, and minor tribs (1306-0017)	**MinorImpacts**
H-139-13-20 thru 53	Minor Tribs to Middle Wallkill (1306-0061)	UnAssessed
H-139-13-24	Dwaar Kill, Lower, and tribs (1306-0062)	**NoKnownImpct**
H-139-13-24	Dwaar Kill, Middle and tribs (1306-0063)	UnAssessed
H-139-13-24	Dwaar Kill, Upper, and tribs (1306-0064)	UnAssessed
H-139-13-28	Latterette Creek, Upper, and tribs (1306-0065)	UnAssessed
H-139-13-31	Borden Creek, Upper, and tribs (1306-0066)	UnAssessed
H-139-13-31- 1a-P546	Lake Osiris Lake (1306-0067)	UnAssessed
H-139-13-33	Tin Brook, Lower, and tribs (1306-0068)	**MinorImpacts**
H-139-13-33	Tin Brook, Upper, and tribs (1306-0069)	UnAssessed
H-139-13-41	Mannayunk Kill and tribs (1306-0070)	**NoKnownImpct**
H-139-13-47	Milburn Creek, Upper, and tribs (1306-0071)	UnAssessed
H-139-13-51	Masonic Creek and tribs (1306-0072)	**MinorImpacts**
H-139-13-51-P579a	Silver Lake (1306-0073)	UnAssessed
H-139-13-52	Monhagen Brook and tribs (1306-0074)	**Impaired Seg**
H-139-13-52-P598	Monhagen Lake (1306-0075)	**NoKnownImpct**
H-139-13-53-P623	Goshen Reservoir (1306-0076)	UnAssessed
H-139-13-59	Quaker Creek and tribs (1306-0025)	**Impaired Seg**
H-139-13-59-P668	Glenmere Lake (1306-0077)	UnAssessed
H-139-13-61	Pochuck Creek and minor tribs (1306-0078)	**NoKnownImpct**
H-139-13-61- 9	Wawayanda Creek, Lower, and tribs (1306-0079)	**MinorImpacts**
H-139-13-61- 9	Wawayanda Creek, Upper, and minor tribs (1306-0015)	**MinorImpacts**
H-139-13-61- 9-15	Unnamed Trib to Wawayanda Cr, and tribs (1306-0080)	UnAssessed
H-139-13-61- 9-20	Warwick Reservoir Outlet, Upp, and tribs (1306-0081)	UnAssessed
H-139-13-61- 9-25	Long House Creek, Upper, and tribs (1306-0082)	UnAssessed
H-139-13-61- 9-P698	Wickham Lake (1306-0083)	UnAssessed
H-139-13-62	Rutgers Creek and minor tribs (1306-0006)	**NoKnownImpct**
H-139-13-62- 2	Catlin Creek and tribs (1306-0084)	UnAssessed
H-139-13-62- 3	Indigot Creek, Lower, and tribs (1306-0085)	**NoKnownImpct**
H-139-13-62- 3	Indigot Creek, Upper, and tribs (1306-0086)	UnAssessed
H-139-13-62-10-P743	Lochenhurst Pond (1306-0087)	UnAssessed
Lower Rondout Creek Watershed		
H-139-14 (portion 1)	Rondout Creek, Middle, Main Stem (1306-0088)	**NoKnownImpct**
H-139-14 (portion 2)	Rondout Creek, Middle, and minor tribs (1306-0089)	**NoKnownImpct**
H-139-14 (portion 3)/P812	Honk Lake (1306-0090)	UnAssessed
H-139-14 (portion 4)	Rondout Creek, Middle, and tribs (1306-0091)	**NoKnownImpct**
H-139-14- 4 thru 33 (selected)	Minor Tribs to Middle Rondout Creek (1306-0093)	UnAssessed
H-139-14- 5-P769	Williams/Fifth Binnewater Lake (1306-0094)	UnAssessed
H-139-14- 5-P770	Fourth Binnewater Lake (1306-0095)	UnAssessed
H-139-14- 9	Coxing Kill and tribs (1306-0096)	**NoKnownImpct**
H-139-14- 9- 3..P774	Mohonk Lake (1306-0097)	UnAssessed
H-139-14- 9-P775	Lake Minnewaska (1306-0098)	UnAssessed

...Rondout River Watershed

Water Index Number	Waterbody Segment	Category
Lower Rondout Creek Watershed (con't)		
H-139-14-12	Kripplebush Creek and tribs (1306-0099)	**NoKnownImpct**
H-139-14-16	Peters Kill and tribs (1306-0100)	**NoKnownImpct**
H-139-14-16- 2-P780	Mud Pond (1306-0101)	UnAssessed
H-139-14-16-P781	Lake Awosting (1306-0102)	UnAssessed
H-139-14-18	North Peters Kill, Lower, and tribs (1306-0103)	**NoKnownImpct**
H-139-14-18	North Peters Kill, Upper, and tribs (1306-0104)	UnAssessed
H-139-14-18-P783	Lyonsville Pond (1306-0105)	UnAssessed
H-139-14-19	Stony Kill and tribs (1306-0106)	UnAssessed
H-139-14-20	Rochester Creek and minor tribs (1306-0107)	**NoKnownImpct**
H-139-14-20- 2	Mill Brook and tribs (1306-0108)	**Need Verific**
H-139-14-20- 5- 1-P788	Roosa Lake (1306-0109)	UnAssessed
H-139-14-35	Vernoy Kill, Upper, and tribs (1306-0110)	**NoKnownImpct**
H-139-14-35- 1-P789a	Lyons Lake (1306-0111)	UnAssessed
H-139-14-37	Unnamed Trib to Rondout, Upp, and tribs (1306-0112)	UnAssessed
H-139-14-38	Sandburg Creek, Lower, and tribs (1306-0113)	**NoKnownImpct**
H-139-14-38	Sandburg Creek, Upper, and tribs (1306-0114)	UnAssessed
H-139-14-38- 1,-5,-6	Shingle Gully, North/South Gully, tribs (1306-0115)	UnAssessed
H-139-14-38- 3	Beer Kill and minor tribs (1306-0116)	**NoKnownImpct**
H-139-14-38- 3- 1	West Branch Beer Kill and tribs (1306-0117)	**NoKnownImpct**
H-139-14-38- 3- 1- 5-P792	Cranberry Lake (1306-0118)	UnAssessed
H-139-14-38- 3- 4-P799	Upper Ulster Lake (1306-0119)	UnAssessed
H-139-14-38- 3-P797a	Ulster Lake (1306-0120)	UnAssessed
H-139-14-38- 9	Leuren Kill and tribs (1306-0121)	UnAssessed
H-139-14-38-14	Homowack Kill and tribs (1306-0122)	**NoKnownImpct**
H-139-14-38-20-3-P806a	Katz Pond (1306-0123)	UnAssessed
H-139-14-38-P807	Silver/Woods Lake (1306-0124)	UnAssessed
H-139-14-40	Brandy Brook and tribs (1306-0125)	UnAssessed
Upper Rondout Creek/Rondout Reservoir Watershed		
H-139-14 (portion 5)/P815a	Rondout Reservoir (1306-0003)	**Impaired Seg**
H-139-14 (portion 6)	Rondout Creek, Upper, and minor tribs (1306-0026)	**NoKnownImpct**
H-139-14 (portion 7)	Rondout Creek, Upper, and minor tribs (1306-0092)	**MinorImpacts**
H-139-14-P815a-	Minor Tribs to Rondout Reservoir (1306-0014)	**MinorImpacts**
H-139-14-P815a-48	Chestnut Creek and tribs (1306-0009)	**NoKnownImpct**
H-139-14-P815a-48- 2-P818	Beaverdam Pond (1306-0126)	UnAssessed
H-139-14-P815a-53	East/Sundown Brook and tribs (1306-0127)	UnAssessed

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Wallkill River, Lower, Main Stem (1306-0027) MinorImpacts

Waterbody Location Information

Revised: 12/21/2007

Water Index No: H-139-13 (portion 2)
Hydro Unit Code: 02020007/080 **Str Class:** B
Waterbody Type: River
Waterbody Size: 17.1 Miles
Seg Description: from Sturgeon Pond to Tuthill

Drain Basin: Lower Hudson River
Rondout River
Reg/County: 3/Ulster Co. (56)
Quad Map: ROSENDALE (N-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Fish Consumption	Stressed	Possible
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus), SILT/SEDIMENT, Pesticides (DDT, dieldrin)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: AGRICULTURE, Habitat Modification, Hydro Modification
Suspected: Streambank Erosion, 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: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life, recreational uses and hydrologic/habitat conditions in this portion of the Wallkill River are known to experience minor impacts due to nutrient and silt/sediment loads, the result of extensive agricultural activities in the watershed. Stream channelization and other channel modifications to support agricultural operations also effect water quality and use support. The impacts of pesticide use in the watershed also raises some concerns regarding fish consumption.

Water Quality Sampling
A biological (macroinvertebrate) assessment of the Wallkill River near New Paltz (at Libertyville Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Sampling results at this site have been consistent over the years. Most of the impact at this site and in most of the Wallkill is considered to have minor impacts, the result of agricultural nonpoint sources. Crayfish tissue samples collected in 1997 revealed elevated concentrations of PAHs, likely reflecting impacts from urban runoff. (DEC/DOW, BWAM/SBU, June 2005)

Pesticide Concerns In 1997 NYSDEC conducted a monitoring effort on Hudson River tributaries as part of the Contamination Assessment and Reduction Project (CARP) to evaluate potential sources of toxic chemicals to the Hudson and New York Harbor. Results from this monitoring found the Wallkill to have the highest concentrations of DDT (by factor of 10) and dieldrin of all tribs tested. Follow-up monitoring indicate the DDT source is located in the "black dirt" area (see Wallkill River segment 1306-0017). The study (Toxics Organics Survey: Hudson, Wallkill and Hackensack Rivers, Litten et al, DEC/DOW, BWAM, October 1999) concludes that while the impact of this source on the Hudson is unclear, it does affect the entire length of the Wallkill. High DDT concentrations were also confirmed by bottom sediment coring in the Sturgeon Pool (below New Paltz). This monitoring also found the highest concentrations to be in the uppermost layer of sediments; suggesting (but not proving) DDT releases are continuing. (DEC/DOW, BWAM/Special Studies Section and Sediment Assessment Unit, September 1999).

Previous Sampling

An extensive 1994 Biological Assessment of the river found slight water quality impacts along most of the length of the river. Evaluation of the monitoring results indicated nonpoint agricultural sources and siltation to be the likely causes of the impacts. These conditions represented a significant improvement over moderate to severe impacts documented in 1972 prior to the upgrade of sewage treatment plants serving Middletown, Wallkill, Montgomery and Walden. This portion of the river has historically suffered from high turbidity which colors the water. Urban runoff also affects the river aesthetics. (Wallkill River Biological Assessment Report, Bode et al, DEC/DOW, BWAM, September 1995)

Segment Description

This segment includes the main stem of the Wallkill River from the inlet of Sturgeon Pond (P453a) to the Shawangunk Kill (-19) in Tuthill. The waters of this portion of the stream are Class B. Middle/Upper Wallkill River are listed separately.

Platte Kill and tribs (1306-0044) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-16
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 25.5 Miles
Quad Map: CLINTONDALE (O-24-2)
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 Platte Kill in Burlingham (at Route 61) 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 sample was sorted in the lab to family level and results were found to support the field assessment. (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. Tribs to this reach/segment, including..., are also C.

Shawangunk Kill, Lower, and minor tribs (1306-0045) NoKnownImpct

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H-139-13-19 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 39.5 Miles **Quad Map:** GARDINER (O-24-1)
Seg Description: stream and select tribs, from mouth to Pinebush

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Shawangunk Kill in Ganahgote, Orange County, (at Route 9) 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. The fauna was diverse and well-balanced. Water column sampling revealed only iron to be a parameter of concern. However, this substance is considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed no contaminants 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 (has minor impacts, but is -or- is fully) s supportive of the water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

Biological (macroinvertebrate) assessments of Shawangunk Kill were conducted at three sites including Ganahgote (at Route 9) and Pine Bush (at Hardenburg Road) in 2002. Sampling results at these sites indicated non-impacted water quality conditions. The fauna was diverse and all screening criteria for waters having no known impacts were met. The

sample was sorted in the lab to family level and results were found to support the field assessment. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to near Pakanasink Creek (-9) near Pinebush. The waters of this portion of the stream are Class B. Tribs to this reach/segment, including Mara Kill (-1), are Class B,B(T),BT(S),C. Palmaghatt Kill (-5), Dwaar Kill (-7), Pakanasink Creek and Middle/Upper Shawangunk Creek are listed separately.

Shawangunk Kill, Middle, and minor tribs (1306-0046) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-19 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(T)*
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 76.2 Miles **Quad Map:** PINE BUSH (O-23-3)
Seg Description: stream and select tribs, from Pinebush to New Vernon

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
Biological (macroinvertebrate) assessments of Shawangunk Kill were conducted at three sites including Pine Bush (at Hardenburg Road) and Maple Glen (at Meyer Road) in 2002. Sampling results at these sites indicated non-impacted water quality conditions. The fauna was diverse and all screening criteria for waters having no known impacts were met. The sample was sorted in the lab to family level and results were found to support the field assessment. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs just below Pakanasink Creek (-9) near Pinebush to unnamed trib (-30) near New Vernon. The waters of this portion of the stream are Class A for the lower half mile and Class B(T) for the remainder of the reach. Tribs to this reach/segment, including Lower Pakanasink Kill (-9), Tomy Kill (-13), Todds/Macy Brook (-16), Smith Brook (-17) and Norris Brook (-21), are Class B,B(T) and C. Upper Pakanasink Creek (-9), Verkeerder Kill (-10), Platte Kill Brook (-15), Little Shawangunk Kill (-28) and Upper/Lower Shawangunk Kill are listed separately.

Shawangunk Kill, Middle, and tribs (1306-0047) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-19 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 18.5 Miles **Quad Map:** OTISVILLE (P-22-2)
Seg Description: stream and tribs, from New Vernon to New Hope

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
Biological (macroinvertebrate) assessments of Shawangunk Kill were conducted at three sites including one site in just below the reach in Maple Glen (at Meyer Road) in 2002. Sampling results at these sites indicated non-impacted water quality conditions. The fauna was diverse and all screening criteria for waters having no known impacts were met. The sample was sorted in the lab to family level and results were found to support the field assessment. Although this site is not in the reach, it is considered to be representative of the upstream reach. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description: This segment includes the portion of the stream and all tribs from unnamed trib (-30) near New Vernon to Mill Pond (P517) near Mount Hope. The waters of this portion of the stream are Class B. Tribs to this reach/segment are Class B,C,C(T). Lower/Upper Shawangunk Kill are listed separately.

Dwaar Kill and tribs (1306-0052) MinorImpacts

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-19- 7
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 18.1 Miles
Quad Map: NAPANOCH (O-23-2)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS
Possible: - - -

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

Resolution/Management Information

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

Further Details

Overview
Aquatic life support and recreational uses in Dwaar Kill are thought to experience minor impacts due to nutrient and organic impacts from agricultural nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Dwaar Kill in Dwaarkill (at Red Mills Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna contained many sewage-tolerant worms, but also contained many mayflies. The sample suggested organic wastes as the source of impacts. Cattle upstream of the site and agricultural nonpoint sources in general were assumed to be the source of the impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

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

Verkeerder Kill Creek and tribs (1306-0054) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-19-10
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 23.3 Miles
Quad Map: PINE BUSH (O-23-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
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 Verkeerder Kill in Ulsterville (at Ulsterville 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 sample was sorted in the lab to family level and results were found to support the field assessment. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class A(T),A(TS). Tribs to this reach/segment, including Berger Brook (-2), are Class A(TS).

Little Shawangunk Kill and tribs (1306-0059) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-19-28
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 16.6 Miles
Quad Map: MIDDLETOWN (P-23-1)
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 Little Shawangunk Kill in Maple Glen (at Timothy Collard 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. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class B. Tribs to this reach/segment are also/primarily Class B.

Shawangunk Lake/Highland Lake (1306-0060) Threat(Poss)

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H-139-13-19-28-P491,P492
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: AA
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 218.1 Acres
Quad Map: MIDDLETOWN (P-23-1)
Seg Description: total area of both lakes

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, Nutrients

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER SOURCE

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/Reg3
Resolution Potential: High
TMDL/303d Status: n/a

Further Details

Overview

Water supply use in Shawangunk and Highland Lakes are considered to be threatened. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value, rather than specifically identified threats.

Water Quality Sampling

Both Shawangunk and Highland Lakes have been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2003 and continuing through the present. An Interpretive Summary report of the findings of the most recent sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately to highly productive. Phosphorus levels in the lake regularly exceed the state guidance values indicating threatened/stressed recreation. Corresponding transparency measurements typically 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 slightly colored, conditions that are not thought to impact transparency. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of Shawangunk Lake is described most frequently as "excellent" with the lake itself is most often described as "not quite crystal clear," an assessment that is slightly less favorable than suggested by measured water quality characteristics. The recreational suitability of Highland Lake is described most frequently as "excellent" to "slightly" impacted with the lake itself is most often described as between "not quite crystal clear" and "having "definite algal greenness," an assessment that is slightly more favorable than suggested by measured water quality characteristics. Assessments have noted that aquatic plants occasionally grow to the lake surface but do not appear to impact recreation. (DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

These lake waterbodies are designated class AA, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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

Shawangunk Reservoir was assessed 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 assessment found no noteworthy risks to source water quality. Although there are no specific water quality impacts, the segment is considered a highly valued water resource due to its drinking water supply classification as a AA(T) water. The inclusion of this waterbody on the DEC/DOW Priority Waterbodies List as a Threatened water is a reflection of the particular resource value reflected in this designation and the need to provide additional protection, rather than any specifically identified threats. This water supply reservoir provides water to the City of Middletown. (NYSDOH, Source Water Assessment Program, 2005)

Wallkill River, Middle, Main Stem (1306-0038) MinorImpacts

Waterbody Location Information

Revised: 12/21/2007

Water Index No: H-139-13 (portion 3)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 28.0 Miles
Quad Map: GARDINER (O-24-1)
Seg Description: from Tuthill to Middletown

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Fish Consumption	Stressed	Possible
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), SILT/SEDIMENT
Suspected: Pesticides
Possible: - - -

Source(s) of Pollutant(s)

Known: AGRICULTURE, Habitat Modification, Hydro Modification
Suspected: Streambank Erosion, 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: DOW/Reg3
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life, recreational uses and hydrologic/habitat conditions in this portion of the Wallkill River are known to experience minor impacts due to nutrient and silt/sediment loads, the result of extensive agricultural activities in the watershed. Stream channelization and other channel modifications to support agricultural operations also effect water quality and use support. The impacts of pesticide use in the watershed also raises some concerns regarding fish consumption.

Water Quality Sampling

A biological (macroinvertebrate) assessment of the Wallkill River near New Paltz (at Libertyville Road) just below this reach was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Sampling results at this site have been consistent over the years. Though this sampling point is just below the described segment, it is considered representative of water quality in the upper reach. Most of the impact at this site and in most of the Wallkill is considered to have minor impacts, the result of agricultural nonpoint sources. Crayfish tissue samples collected in 1997 revealed elevated concentrations of PAHs, likely reflecting impacts from urban runoff. (DEC/DOW, BWAM/SBU, June

2005)

Pesticide Concerns
In 1997 NYSDEC conducted a monitoring effort on Hudson River tributaries as part of the Contamination Assessment and Reduction Project (CARP) to evaluate potential sources of toxic chemicals to the Hudson and New York Harbor. Results from this monitoring found the Wallkill to have the highest concentrations of DDT (by factor of 10) and dieldrin of all tribs tested. Follow-up monitoring indicate the DDT source is located in the "black dirt" area (see Wallkill River segment 1306-0017). The study (Toxics Organics Survey: Hudson, Wallkill and Hackensack Rivers, Litten et al, DEC/DOW, BWAM, October 1999) concludes that while the impact of this source on the Hudson is unclear, it does affect the entire length of the Wallkill. High DDT concentrations were also confirmed by bottom sediment coring in the Sturgeon Pool (below New Paltz). This monitoring also found the highest concentrations to be in the uppermost layer of sediments; suggesting (but not proving) DDT releases are continuing. (DEC/DOW, BWAM/Special Studies Section and Sediment Assessment Unit, September 1999).

Previous Sampling
An extensive 1994 Biological Assessment of the river found slight water quality impacts along most of the length of the river. Evaluation of the monitoring results indicated nonpoint agricultural sources and siltation to be the likely causes of the impacts. These conditions represented a significant improvement over moderate to severe impacts documented in 1972 prior to the upgrade of sewage treatment plants serving Middletown, Wallkill, Montgomery and Walden. This portion of the river has historically suffered from high turbidity which colors the water. Urban runoff also affects the river aesthetics. (Wallkill River Biological Assessment Report, Bode et al, DEC/DOW, BWAM/SBU, September 1995)

This segment includes the main stem of the Wallkill River from the Shawangunk Kill (-19) in Tuthill to Rio Grande (-53) near Middletown. The waters of this portion of the stream are Class B. Lower/Upper Wallkill River are listed separately.

Wallkill River, Upper, and minor tribs (1306-0017) MinorImpacts

Waterbody Location Information

Revised: 12/21/2007

Water Index No:	H-139-13 (portion 4)	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020007/060 **Str Class:** C		Rondout River
Waterbody Type:	River	**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	59.7 Miles	**Quad Map:**	PINE ISLAND (P-23-4)
Seg Description:	stream and select tribs, above Middletown		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Fish Consumption	Stressed	Possible
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), SILT/SEDIMENT
Suspected: Pesticides (DDT)
Possible: - - -

Source(s) of Pollutant(s)

Known: AGRICULTURE, Habitat Modification, Hydro Modification
Suspected: Municipal (NJ), Streambank Erosion, Urban/Storm Runoff
Possible: Tox/Contam. Sediment

Resolution/Management Information

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

Further Details

Overview
Aquatic life, recreational uses and hydrologic/habitat conditions in this portion of the Wallkill River are known to experience minor impacts due to nutrient and silt/sediment loads, the result of extensive agricultural activities in the watershed. Stream channelization and other channel modifications to support agricultural operations also effect water quality and use support. The impacts of pesticide use in the watershed also raises some concerns regarding fish consumption. This area of the Wallkill watershed consists of a former lake bottom that was drained by canals and ditches to form the truck-farming region (primarily onions) generally referred to as the "black dirt" area. Within New York State, the region extends from the NY/NJ state border to the Pelletts Island area, just southeast of Middletown. The area has historically contributed considerable turbidity and sediment to the river. During periods of flooding/high flow, plant nutrients, fertilizers, and pesticides also likely enter the river.

Water Quality Sampling
A biological (macroinvertebrate) assessment of the Wallkill River near New Paltz (at Libertyville Road) just below this reach was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Sampling results

at this site have been consistent over the years. Though this sampling point is just below the described segment, it is considered representative of water quality in the upper reach. Most of the impact at this site and in most of the Wallkill is considered to have minor impacts, the result of agricultural nonpoint sources. Crayfish tissue samples collected in 1997 revealed elevated concentrations of PAHs, likely reflecting impacts from urban runoff. (DEC/DOW, BWAM/SBU, June 2005)

Pesticide Concerns

In 1997 NYSDEC conducted a monitoring effort on Hudson River tributaries as part of the Contamination Assessment and Reduction Project (CARP) to evaluate potential sources of toxic chemicals to the Hudson and New York Harbor. Results from this monitoring found the Wallkill to have the highest concentrations of DDT (by factor of 10) and dieldrin of all tribs tested. Follow-up monitoring indicate the DDT source is located in the "black dirt" area (see Wallkill River segment 1306-0017). The study (Toxics Organics Survey: Hudson, Wallkill and Hackensack Rivers, Litten et al, DEC/DOW, BWAM, October 1999) concludes that while the impact of this source on the Hudson is unclear, it does affect the entire length of the Wallkill. High DDT concentrations were also confirmed by bottom sediment coring in the Sturgeon Pool (below New Paltz). This monitoring also found the highest concentrations to be in the uppermost layer of sediments. Fish tissue sampling in 1999 found contaminant levels did not exceeded criteria for the protection of human health but there are concerns regarding the protection of piscivorous wildlife. (DEC/DOW, BWAM/Special Studies Section and Sediment Assessment Unit and DEC/DFWMR, Habitat, September 1999).

Previous Sampling

An extensive 1994 Biological Assessment of the river found slight water quality impacts along most of the length of the river. Evaluation of the monitoring results indicated nonpoint agricultural sources and siltation to be the likely causes of the impacts. These conditions represented a significant improvement over moderate to severe impacts documented in 1972 prior to the upgrade of sewage treatment plants serving Middletown, Wallkill, Montgomery and Walden. This portion of the river has historically suffered from high turbidity which colors the water. Urban runoff and municipal discharges upstream and across the state line in New Jersey are also thought to impact water quality. (Wallkill River Biological Assessment Report, Bode et al, DEC/DOW, BWAM/SBU, September 1995)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above Rio Grande (-53) near Middletown. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Rio Grande, are also Class C. Quaker Creek (-59), Pochuck Creek (-61), Rutgers Creek (-62) and Lower/Middle Wallkill River are listed separately.

Dwaar Kill, Lower, and tribs (1306-0062) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-24 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 24.5 Miles **Quad Map:** WALDEN (O-24-4)
Seg Description: stream and tribs, from mouth to near Co Route 89

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 Dwaar Kill near Wallkill (at Bates 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 sample was sorted in the lab to family level and results were found to support the field assessment. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to a point 0.5 mile below unnamed trib (-9) near County Route 89. The waters of this portion of the stream are Class C. Tribs to this reach/segment are also Class C. Middle/Upper Dwaar Kill are listed separately.

Tin Brook, Lower, and tribs (1306-0068) MinorImpacts

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-33 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 11.4 Miles **Quad Map:** WALDEN (O-24-4)
Seg Description: stream and tribs, from mouth to Walden

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: - - -
Suspected: NUTRIENTS (phosphorus), SILT/SEDIMENT
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)
Known: - - -
Suspected: MUNICIPAL, URBAN/STORM RUNOFF
Possible: Industrial

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Tin Brook is thought to experience minor impacts/threats due to nutrient and organic inputs and siltation from point discharges and nonpoint urban runoff sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Tin Brook in Walden (at Route 52) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by facultative midges and scuds and Impact Source Determination indicated that municipal/industrial inputs and siltation were the most likely cause of the impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream from the mouth to/including unnamed trib (-3) above Walden. The waters of this portion of the stream are Class C to the Walden STP pumping station overflow, and Class A for the remainder of the reach. Tribs to this reach/segment are Class B,C(T). Upper Tin Brook is listed separately.

Mannayunk Kill and tribs (1306-0070) NoKnownImpct

Waterbody Location Information

Revised: 12/20/2007

Water Index No: H-139-13-41
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 9.0 Miles
Quad Map: GOSHEN (P-23-2)
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

Overview
Water Quality Sampling
A biological (macroinvertebrate) assessment of Manayunk Kill in Kaisertown (at VanAmberg Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Although the flow was very low at the time of sampling, the fauna was dominated by clean-water mayflies. The slight impacts noted are attributed to headwater effects. (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. Tribs to this reach/segment are also Class C.

Masonic Creek and tribs (1306-0072) MinorImpacts

Waterbody Location Information

Revised: 12/18/2007

Water Index No: H-139-13-51
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 23.2 Miles
Quad Map: MIDDLETOWN (P-23-1)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS, UNKNOWN TOXICITY, Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF, Streambank Erosion
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: ext/WQCC
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Masonic Creek are known to experience minor impacts due to nutrients and silt/sediment from nonpoint sources. Toxicity was also noted at the sampling site.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Masonic Creek in Middletown (at Mud Mills Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was heavily dominated by facultative midges and the stream contained significant amounts of silt-laden filamentous algae. Impact Source Determination suggested toxicity was the primary source of impact. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class B. Tribs to this reach/segment are also Class B.

Monhagen Brook and tribs (1306-0074) Impaired Seg

Waterbody Location Information

Revised: 12/18/2007

Water Index No: H-139-13-52
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 3/Orange Co. (36)
Waterbody Size: 25.9 Miles
Quad Map: MIDDLETOWN (P-23-1)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), Salts
Suspected: UNKNOWN TOXICITY, D.O./Oxygen Demand
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Agriculture
Possible: Deicing (stor/appl), Other Sanitary Disch

Resolution/Management Information

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

Further Details

Overview
Aquatic life support, recreational use and aesthetics in Monhagen Brook are impaired by a various pollutants from point and urban nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) survey of Monhagen Brook at multiple sites in the vicinity of Middletown was conducted in 2004. Sampling results indicated slightly to moderately impacted water quality conditions. All sites revealed similar assessments that straddle the line between slight and moderate impacts. Water quality at the upstream sites were assessed as slightly impacted. These sites were littered with refuse and urban debris. Water quality decreased to moderately impacted downstream. Impact Source Determination indicated a range of causes, but nutrient enrichment and urban runoff sources are the most likely factors influencing water quality. A continuing rise in chlorides in the stream (specific conductednce increased by 250% between 1986 and 204) is indicative of increases in urban nonpoint loadings of pollutants. Such increases - also noted in other developing watersheds of the Lower Hudson River Basin - are of concern and warrant continued monitoring. (Monhagen Brook Biological Assessment Report, Bode et al.,

DEC/DOW, BWAM/SBU, February 2005)

Previous Sampling
Biological assessment reports were also conducted on Monhagen Brook in 1992 and 1986. These reports document the improvement in water quality from severely impacted in 1986, prior to the Middletown WWTP upgrade and re-routing of the effluent outfall to the Wallkill River in 1989. (DEC/DOW, BWAM/SBU, February 2005)

Section 303(d) Listing
Monhagen Brook is not currently included on the NYS 2006 Section 303(d) List of Impaired Waters. However this updated assessment suggests it is appropriate to include this waterbody on the 2008 List. It is recommended that the segment be added to Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for phosphorus.

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Draper Brook (-5), are primarily Class C; with unnamed trib (-2) designated Class B.

Monhagen Lake (1306-0075) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H-139-13-52-P598
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: AA
Waterbody Type: Lake
Reg/County: 3/Orange Co. (36)
Waterbody Size: 63.5 Acres
Quad Map: MIDDLETOWN (P-23-1)
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
Monhagen Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2003 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake were consistently above the state guidance values indicating impacted/stressed recreational uses in 2003 and 2004, but not in 2005. Corresponding transparency measurements 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 weakly colored, and color does not influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants rarely grow to the lake surface and do not impact lake use.

(DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Quaker Creek and tribs (1306-0025) Impaired Seg

Waterbody Location Information

Revised: 12/17/2007

Water Index No:	H-139-13-59			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020007/060	**Str Class:**	C		Rondout River
Waterbody Type:	River			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	41.5 Miles			**Quad Map:**	MONROE (P-24-4)
Seg Description:	entire stream and tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
Aesthetics	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: D.O./OXYGEN DEMAND, WATER LEVEL/FLOW, NUTRIENTS, Silt/Sediment
Possible: Pesticides

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE (muckland farms), HYDRO MODIFICATION, Municipal (Florida WWTP)
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/BWAR **Resolution Potential:** Medium
TMDL/303d Status: 3b (Waterbody Requiring Verification of Cause/Pollutant)

Further Details

Overview
Aquatic life support and aesthetics of Quaker Creek are thought to be impacted by low dissolved oxygen in the stream. Significant biological impacts were noted. Some of the impacts are thought to be exacerbated by low flow/hydromodification and sluggish stream currents.

Water Quality Sampling
A biological (macroinvertebrate) survey of Quaker Creek was conducted at multiple sites between Snufftown and Florida in 1994 and 1995. Both surveys indicated moderately to severely impacted water quality in some reaches of the creek. Sampling during drought conditions in 1995 found daytime D.O. to be as low as 3.1 mg/l. The biological impact was reflective of municipal discharges, in this case from the Florida (v) WWTP. However, the plant had been upgraded in 1993 and all indications are that it is operating properly. Other hydrologic conditions such as the slow-moving sluggish flow of the creek, the withdrawal of water for irrigation and the low flow/drought conditions are thought to exacerbate the effect of the sewage effluent, and hinders the recovery of the creek. (Quaker Creek Biological Assessment Report, Bode et al, DEC/DOW, BWAM, January 1996)

Source Assessment
The stream flows through a muckland area where onion farming is intensive. Soil erosion and other agricultural runoff from the onion farming along creek affects water clarity and aesthetics and influence water quality. (DEC/DOW, Region 3, 1996)

Section 303(d) Listing
Quaker Creek is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 3b of the List as a Water Requiring Verification of Cause/Pollutant because the specific cause of the low dissolved oxygen have not been identified.

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Stony Creek (-3), are also Class C.

Pochuck Creek and minor tribs (1306-0078) NoKnownImpct

Waterbody Location Information

Revised: 12/17/2007

Water Index No: H-139-13-61 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 16.4 Miles **Quad Map:** PINE ISLAND (P-23-4)
Seg Description: stream and select tribs, from mouth to NY-NJ state line

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 Pochuck Creek in Newport (at Newport Bridge 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. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to the NY-NJ state line. The waters of this portion of the stream are Class C. Tribs to this reach/segment are also Class C. Wawayanda Creek (-9) is listed separately.

Wawayanda Creek, Lower, and tribs (1306-0079) MinorImpacts

Waterbody Location Information

Revised: 12/17/2007

Water Index No: H-139-13-61- 9 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 36.2 Miles **Quad Map:** WAWAYANDA, NJ (Q-23-1)
Seg Description: stream and tribs, from NY-NJ state line to Warwick

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)
Known: AGRICULTURE, URBAN/STORM RUNOFF
Suspected: MUNICIPAL (Warwick WWTP)
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of Wawayanda Creek are known to experience minor impacts due to nutrients and other effects of nonpoint sources and municipal discharges. Water quality in the stream has significantly improved following the 1994 upgrade of the Warwick WWTP.

Water Quality Sampling
Biological (macroinvertebrate) assessments of Wawayanda Creek in New Milford (at Covered Bridge Road and Ryerson Road) were conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Sampling at the upstream site nearer the Warwick WWTP revealed greatly improved water quality over sampling results in 1989 that showed severe impacts. Following the WWTP upgrade in 1994 water quality showed stead improvement in sampling from 1994, 1995 and 2002. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from the NY-NJ state line to/including unnamed trib (-21) above Warwick. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Double Kill (-9), are Class C,C(T),C(TS). Unnamed trib (-15), upper unnamed trib (-20) and Upper

Wawayanda Creek are listed separately.

Wawayanda Creek, Upper, and minor tribs (1306-0015) MinorImpacts

Waterbody Location Information

Revised: 12/17/2007

Water Index No:	H-139-13-61- 9			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020007/050	**Str Class:**	B(T)*		Rondout River
Waterbody Type:	River			**Reg/County:**	3/Orange Co. (36)
Waterbody Size:	21.2 Miles			**Quad Map:**	WARWICK (P-23-3)
Seg Description:	stream and select tribs, above Warwick				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF
Possible: Construction (resident.develop.), Municipal (Warwick WWTP), On-Site/Septic Syst

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of Wawayanda Creek are known to experience minor impacts due to nutrients from nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Wawayanda Creek in Warwick (at River Street) was conducted last conducted in 1995. Sampling results indicated slightly impacted water quality conditions. This assessment is consistent with sampling conducted at the site in 1994 and 1989. Impact Source Determination indicated that nonpoint sources of nutrients were the likely factors influencing the sample. Sampling of the stream below this reach have shown a steady improvement in water quality attributed to the 1994 upgrade of the Warwick WWTP. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, December 2004)

Previous Assessment
Previously agricultural (livestock) runoff, urban inputs, golf course runoff, and failing/inadequate on-site septic systems were identified as possible nonpoint sources. Runoff from residential construction and other land development projects in the Warwick Valley may also contribute to water quality impairment. One additional point source discharge, Town

of Warwick SD#1, is also located upstream. Poor natural habitat is another factor limiting the biological community in portions of the creek. The sand and gravel substrate and lower current velocity in the stream are not ideal for macroinvertebrates. (Wawayanda Creek Biological Assessment Report, Novak et al, DEC/DOW, BWAM, March 1996)

Local school-based volunteer monitors are currently studying the creek as well. (Orange County SWCD, December 1999)

Segment description

This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-21) above Warwick. The waters of this portion of the stream are Class B(T) to just below unnamed trib (-25), Class A(T) to Long House Creek (-25), and Class B(T) for the remainder of the reach. Tribs to this reach/segment, including Lower Long House Creek (-25), are primarily Class B,B(T),B(TS); with a short portion of Lower Long House Creek designated Class A(T). Upper Long House Creek and Lower Wawayanda Creek are listed separately.

Rutgers Creek and minor tribs (1306-0006) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-13-62
Hydro Unit Code: 02020007/060 **Str Class:** C*
Waterbody Type: River
Waterbody Size: 80.1 Miles
Seg Description: entire stream and select tribs

Drain Basin: Lower Hudson River
Rondout River
Reg/County: 3/Orange Co. (36)
Quad Map: UNIONVILLE (P-22-3)

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
A biological (macroinvertebrate) assessment of Rutgers Creek in Johnson (at Ridgebury 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 sample was sorted in the lab to family level and results were found to support the field assessment. (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. Tribs to this reach/segment are primarily Class C; with one unnamed tribs (-20) designated Class B. Catlin Creek (-2) and Indigot Creek (-3) are listed separately.

Indigot Creek, Lower, and tribs (1306-0085) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-13-62- 3 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 3/Orange Co. (36)
Waterbody Size: 30.7 Miles **Quad Map:** UNIONVILLE (P-22-3)
Seg Description: stream and tribs, from mouth to near Mount Orange Road

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 Indigot Creek in Millsburg (at Millsburg 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 sample was sorted in the lab to family level and results were found to support the field assessment. (DEC/DOW, BWAM/SBU, December 2004)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to unnamed trib (-11) near Mount Orange Road. The waters of this portion of the stream are Class C. Tribs to this reach/segment are also Class C. Upper Indigot Creek is listed separately.

Rondout Creek, Middle, Main Stem (1306-0088) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14 (portion 1)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 25.3 Miles
Quad Map: ROSENDALE (N-24-3)
Seg Description: from Wallkill River to Wawarsing

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) survey of Rondout Creek at multiple sites between Rosendale and Peekamoose was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions along the stream. The assessments of the stream at the four sites along this reach showed the stream to gradually recover from slight impacts (attributed to municipal discharges above the reach) to non-impacted conditions at Accord. Extensive agricultural activity is evident along this portion of the Rondout but conditions remained non-impacted in Alligerville and Rosendale. Nutrient biotic evaluation determined the effects on the fauna at these site 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. (Rondout Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, October 2003)

Segment Description
This segment includes the waters of the main stem of the Rondout Creek from the mouth at Wallkill River (-14) to the Vernooy Kill (-35). The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment are listed separately.

Rondout Creek, Middle, and minor tribs (1306-0089) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14 (portion 2) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 9.2 Miles **Quad Map:** KERHONKSON (N-23-3)
Seg Description: stream and select tribs, from Wawarsing to Honk 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
A biological (macroinvertebrate) survey of Rondout Creek at multiple sites between Rosendale and Peekamoose was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions along the stream. An assessment of the stream in East Wawarsing (at Port Ben Road) on this reach of the Rondout was assessed as slightly impacted. This decline relative to conditions upstream is attributed to upstream municipal discharges from the Ellenville (via Sandburg Creek) and Napanoch WWTPs. Agricultural impacts may also contribute to the slight decline. However although results at this site represent a decline from very high water quality upstream, nutrient biotic evaluation determined the effects on the fauna at the East Wawarsing site 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. (Rondout Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, October 2003)

Segment Description
This segment includes the portion of the stream and all tribs from Vernooy Kill (-35) to Honk Lake (P812). The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are primarily Class C; with one small reach Class B(T). Vernooy Kill, Honk Lake, Sandburg Creek (-38) and other reaches of the Rondout are listed separately.

Rondout Creek, Middle, and tribs (1306-0091) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14 (portion 4) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 5.1 Miles **Quad Map:** RONDOUT RESERVOIR (N-23-4)
Seg Description: stream and tribs, from Honk Lake to Rondout Reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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) survey of Rondout Creek at multiple sites between Rosendale and Peekamoose was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions along the stream. An assessment of the stream in Lackawack (at Sportsman Road) on this reach of the Rondout fell within the range of non-impacted. No noticeable impoundment effects were noted in the sample; in fact, the fauna at this site indicated the highest water quality in the creek with all metrics well into the range indicating non-impacted conditions. Aquatic life is considered to be fully supported in the stream, and there are not other indications of impacts to uses. (Rondout Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, October 2003)

Segment Description
This segment includes the portion of the stream and all tribs from Honk Lake (P812) to Merriman Dam at Rondout Reservoir. The waters of this portion of the stream are Class C(TS). There are no tribs to this reach/segment. Honk Lake, Brandy Brook (-40) and other reaches of the Rondout are listed separately.

Coxing Kill and tribs (1306-0096) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14- 9
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 23.5 Miles
Quad Map: ROSENDALE (N-24-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
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 Coxing Kill in High Falls (at School Hill Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The sample was dominated by clean-water mayflies, stoneflies, caddisflies and hellgrammites. 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). Tribs to this reach/segment, including Mossy Brook (-3), are Class C.

Kripplebush Creek and tribs (1306-0099) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14-12
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 29.0 Miles
Quad Map: MOHONK LAKE (N-24-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Kripplebush Creek in Kripplebush (at Route 209) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. However the identified impacts are likely due to poor habitat composed largely of gravel and negligible current. The sample, though sparse, was dominated by clean-waters mayflies. 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 are also Class C(T),C(TS).

Peters Kill and tribs (1306-0100) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14-16
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 13.2 Miles
Quad Map: MOHONK LAKE (N-24-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Peters Kill in St. Josen (at Rock Hill Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. However the identified impacts are likely due to the abundant moss on the rocks of the riffle that was sampled. Moss is known to harbor many midge species, resulting in a skewed biological sample. Though the sample was dominated by facultative midge larvae, clean-water mayflies, stoneflies and caddisflies were also present. 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 B(T). Tribs to this reach/segment, including Fly Brook (-2), are Class B(T),C(T).

North Peters Kill, Lower, and tribs (1306-0103) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14-18 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(T)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 7.3 Miles **Quad Map:** MOHONK LAKE (N-24-4)
Seg Description: stream and tribs, from mouth to above Whitfield

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 North Peters Creek in Whitfield (at Canyon Lake Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. Despite sluggish flow, the fauna was dominated by clean-water mayflies. Stoneflies, caddisflies, hellgrammites and riffle beetles were also present.

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to/including unnamed trib (-6) above Whitfield. The waters of this portion of the stream are Class A(T). Tribs to this reach/segment are also Class A(T).

Rochester Creek and minor tribs (1306-0107) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14-20
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 56.5 Miles
Quad Map: MOHONK LAKE (N-24-4)
Seg Description: entire stream and select 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 Rochester Creek in Mill Hook (at Mettacahonts 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 sample was sorted in the lab to family level and results were found to support the field assessment. (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 A(TS). Tribs to this reach/segment, including Mettacahonts Creek (-7) and Beaver Dam Creek (-8), are Class A,A(T),A(TS). Mill Brook (-2) is listed separately.

Mill Brook and tribs (1306-0108) Need Verific

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-20- 2
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 33.4 Miles
Quad Map: KERHONKSON (N-23-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Mill Brook may experience minor impacts due to nutrient enrichment. Nonpoint sources are the suspected source.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Mill Brook in Mill Hook (at Round Valley Resort) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna contained many clean-water mayflies, but was dominated by filter feeding caddisflies. Further sampling is necessary to determine if impacts rise to the level of stressed water quality. Nonetheless, aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, June 2005)

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

Vernoy Kill, Upper, and tribs (1306-0110) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-35
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 28.3 Miles
Quad Map: KERHONKSON (N-23-3)
Seg Description: stream and tribs, above Wawarsing

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 Vernooy Kill in Wawarsing (at Route 209) 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. Lab analysis to the family level confirmed this field assessment. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs above/including Lyon Creek (-1). The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment, including Lyon Creek and West Branch Vernoy Kill (-4), are Class A,A(T). Lower Vernot Kill is included with Minor Tribs to Rondout Creek.

Sandburg Creek, Lower, and tribs (1306-0113) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-38 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(T)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 13.7 Miles **Quad Map:** ELLENVILLE (O-23-1)
Seg Description: stream and tribs, from mouth to Spring Glen

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 Sandburg Creek in Ellenville (at Canal Street) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The fauna was dominated by mayflies and all metrics were within the range for assessment as non-impacted. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from the mouth to Homowack Kill (-14) in Spring Glen. The waters of this portion of the stream are Class B(T),B(TS). Tribs to this reach/segment, including Fantine Kill (-2), Lower North Gully (-55), Lower South Gully (-6), are Class B,B(T). Shingle Gully (-2), Beer Kill (-3), Upper North Gully (-5), Upper South Gully (-6) and Leuren Kill (-9) are listed separately.

Beer Kill and minor tribs (1306-0116) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-38- 3
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 25.7 Miles
Quad Map: ELLENVILLE (O-23-1)
Seg Description: entire stream and select 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 Beer Kill in Ellenville (at Route 209) 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C(T) for a short reach from the mouth to the west boundary of Ellenville, and Class B(TS) for the remainder of the reach. Tribs to this reach/segment, including Botsford Brook (-4), are Class B,B(T). West Branch Beer Kill (-1) is listed separately.

West Branch Beer Kill and tribs (1306-0117) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-38- 3- 1
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 25.4 Miles
Quad Map: ELLENVILLE (O-23-1)
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 West Beer Kill in Ellenville (at Old Greenfield 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. Results from lab processing to the family level confirmed this field assessment. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class B(TS). Tribs to this reach/segment, including Braden Brook (-6) are Class B,B(T).

Homowack Kill and tribs (1306-0122) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-38-14
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 3/Sullivan Co. (53)
Waterbody Size: 19.2 Miles
Quad Map: ELLENVILLE (O-23-1)
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 Homowack Creek in Phillipsport (at Doolittle Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The fauna was diverse and well-balanced. The sample was processed to the family level and all criteria for waters having no known impacts were met. (DEC/DOW, BWAM/SBU, June 2005)

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

Rondout Reservoir (1306-0003) Impaired Seg

Waterbody Location Information

Revised: 05/29/2008

Water Index No:	H-139-14 (portion 5)/P815a	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020007/110 **Str Class:** AA(TS)		Rondout River
Waterbody Type:	Lake(R)	**Reg/County:**	3/Ulster Co. (56)
Waterbody Size:	2023.8 Acres	**Quad Map:**	RONDOUT RESERVOIR (N-23-4)
Seg Description:	entire reservoir		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: Nutrients, Silt/Sediment

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION
Suspected: - - -
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/NYC **Resolution Potential:** Medium
TMDL/303d Status: 2b->4a

Further Details

Overview
Fish consumption in Rondout Reservoir is considered to be impaired due to mercury contamination thought to be the result of atmospheric deposition. Water supply uses are also noted as being potentially threatened.

Fish Consumption Advisories
Fish consumption in Rondout Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger (over 16 inches) smallmouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are no other apparent sources in the lake watershed. Mercury, even at low levels tends to bio-accumulate in the aquatic food chain. However, because of its low solubility mercury is not generally found in water and consequently there is no additional impact on the water supply. The advisory for this lake was first issued in 1999-2000. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Water Supply Use
The water supply use of the Rondout Reservoir is fully supported. A Phase II Phosphorus Total Maximum Daily Load

(TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified this reservoir as having a current phosphorus load that well below the allowable load. Average phosphorus concentrations in the reservoir at the time the TMDL was less than 10 ug/l, well below the applicable 15 ug/l criterion established for source water reservoirs. (DEC/DOW, BWAM/WQAS, July 2007)

New York City Watershed

The Rondout Reservoir is a part of the Catskill/Delaware System of New York City water supply reservoirs. The Catskill/Delaware System provides about 90% of New York City water supply, the other 10% is supplied by the Croton System. The Rondout Reservoir receives water from the 95 square mile watershed of the Upper Rondout River and serves as a collecting reservoir for the water from the three other reservoirs (Cannonsville, Pepacton and Neversink) in the Delaware system. Water quality in these upstream reservoirs influences water quality in the Rondout Reservoir. The safe yield of the entire Delaware water system is 610 MGD. Water from the Rondout Reservoir travels through the Delaware Aqueduct to the West Branch Reservoir in the Croton System. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. (NYCDEP, July 2006)

Section 303(d) Listing

Rondout Reservoir is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the lake are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Rondout Creek, Upper, and minor tribs (1306-0026) NoKnownImpct

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14 (portion 6) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02020007/110 **Str Class:** A(TS) Rondout River
Waterbody Type: River **Reg/County:** 3/Sullivan Co. (53)
Waterbody Size: 18.7 Miles **Quad Map:** CLARYVILLE (N-22-2)
Seg Description: stream and select tribs, fr reservoir to E.Mountain Rd.

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) survey of Rondout Creek at multiple sites between Rosendale and Peekamoose was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions along the stream. The assessments of sites on this reach of the Upper Rondout fell within the range of non-impacted. Farther upstream slight impacts due to acid rain impacts were noted, but these impacts were not evident in this reach. Aquatic life is considered to be fully supported in the stream, and there are not other indications of impacts to uses. (Rondout Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, October 2003)

New York City Watershed
This creek feeds the Rondout Reservoir, which is a terminal reservoir of the Catskill/Delaware System of New York City water supply reservoirs (see Rondout Reservoir, Segment 1306-0003). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection. NYCDEP has reported average pH values (6.4) for the Upper Rondout Creek that fall outside the criteria for pH outlined in Addendum E of the agreement between NYC and NYSDEC for protection of the New York City water supply. (NYCDEP, July 1999)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Rondout Reservoir to/including unnamed trib (-50) near East Mountain Road. The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment, including Sugarloaf Brook (-49), are Class A(TS),B(T),B(TS),C,C(TS). Chestnut Creek (-48) is listed separately.

Rondout Creek, Upper, and minor tribs (1306-0092) MinorImpacts

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-139-14 (portion 7) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 38.9 Miles **Quad Map:** PEEKAMOOSE MOUNTAIN (N-23-1)
Seg Description: stream and select tribs, above East Mountain Road

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: ACID/BASE (PH)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of Upper Rondout Creek is thought to experience minor impacts due to low pH, the result of atmospheric deposition (acid rain).

Water Quality Sampling
A biological (macroinvertebrate) survey of Rondout Creek at multiple sites between Rosendale and Peekamoose was conducted in 2002. Sampling results indicated non-impacted to slightly impacted water quality conditions along the stream. The assessments of sites on the Upper Rondout fell mostly within the range of non-impacted, with the uppermost site reflecting slight impacts due to acid rain impacts. In spite of these minor impacts, aquatic life is considered to be fully supported in the stream. (Rondout Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, October 2003)

New York City Watershed
This creek feeds the Rondout Reservoir, which is a terminal reservoir of the Catskill/Delaware System of New York City water supply reservoirs (see Rondout Reservoir, Segment 1306-0003). A Watershed Agreement is in place between NYCDEP and the Croton Watershed communities which sets forth programs and funding for watershed protection.

NYCDEP has reported average pH values (6.4) that fall outside the criteria for pH outlined in Addendum E of the agreement between NYC and NYSDEC for protection of the New York City water supply. (NYCDEP, July 1999)

Segment Description

This segment includes the portion of the stream and all tribs above unnamed trib (-50) near East Mountain Road. The waters of this portion of the stream are Class C(T),C(TS) from unnamed tribs (-50) to unnamed trib (-57a), and Class B(TS) for the remainder of the reach. Tribs to this reach/segment, including High Falls Brook (-55), Stone Cabin/Bull Run Brook (-56), Bear Hole Brook (-57), Buttermilk Falls Brook (-58), Pickett Brook (-60), are Class C,C(T),C(TS),B(T) and with some portion in the forest preserve. East/Sundown Brook (-53) is listed separately.

Minor Tribs to Rondout Reservoir (1306-0014) MinorImpacts

Waterbody Location Information

Revised: 05/29/2008

Water Index No:	H-139-14-P815a-			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020007/110	**Str Class:**	A		Rondout River
Waterbody Type:	River			**Reg/County:**	3/Ulster Co. (56)
Waterbody Size:	15.6 Miles			**Quad Map:**	RONDOUT RESERVOIR (N-23-4)
Seg Description:	total length of select tribs, to Rondout Reservoir				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Stressed	Suspected
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: ACID/BASE (PH)
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply use and aquatic life in Trout Creek (also Sawkill Brook) are thought to experience minor impacts due to low pH attributable to atmospheric deposition (acid rain).

Water Quality Sampling
NYCDEP has reported low average pH values that fall is outside the criteria for pH outlined in Addendum E of the agreement between NYC and NYS DEC for protection of the New York City water supply. The fishery may also be affected by the low pH, but no biologic assessment has been conducted. (NYCDEP, July 1999)

New York City Watershed
This creek feeds the Rondout Reservoir, the terminal reservoir of the Delaware System of New York City water supply reservoirs (see Rondout Reservoir, Segment 1306-0003). A Watershed Agreement is in place between NYCDEP and the Delaware Watershed communities which sets forth programs and funding for watershed protection. (NYCDEP, July 1999)

Segment Description

This segment includes the total length of selected/smaller tribs to Rondout Reservoir. Tribs within this segment, including Trout Creek (-44), Deeper Kill (-46), are Class A,A(T),A(TS). Chestnut Creek (-48) and Upper Rondout Creek are listed separately.

Chestnut Creek and tribs (1306-0009) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-139-14-P815a-48
Hydro Unit Code: 02020007/110 **Str Class:** A(T)
Waterbody Type: River
Waterbody Size: 48.9 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Rondout River
Reg/County: 3/Sullivan Co. (53)
Quad Map: GRAHAMSVILLE (N-22-3)

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
A biological (macroinvertebrate) assessment of Chestnut Creek in Grahamsville (at Route 42) was conducted in 1998 and 2002. Sampling results indicated non-impacted water quality conditions. Slightly lower metrics in 1998 were attributed to headwater effects. The 2002 sampling found the fauna to be diverse and all screening criteria for waters having no known impacts were met. (DEC/DOW, BWAM/SBU, June 2005)

NYC Water Supply
Chestnut Creek is tributary to the Catskill/Delaware System of New York City water supply reservoirs (see also Rondout Reservoir, Segment 1306-0003). A Watershed Agreement is in place between NYCDEP and the Delaware Watershed communities which sets forth programs and funding for watershed protection. NYCDEP has conducted routine chemical monitoring of the stream and although these results indicate acceptable water quality, impacts from failing and/or inadequate on-site septic systems - some of which have been documented - are of some concern. (NYCDEP, July 1999)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class A(T). Tribs to this reach/segment, including Weston Brook (-1), Red Brook (-2), Bullet Brook (-3), Pepacton Brook (-5), Birch Brook (-6),

Scott Brook (-7), are Class A(T),B(T),B(TS),C,C(TS).

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Waterbody Inventory
for
Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Lower Hudson, Main Stem, Rondout River to Mohawk River/Head of Tide		
H (portion 4b)	Hudson River (Class A) (1301-0276)	**Impaired Seg**
H (portion 5)	Hudson River (Class C) (1301-0002)	**Impaired Seg**
Tribs to Lower Hudson, Rondout River to Esopus Creek		
H-141 thru 186, EOH (selected)	Minor Tribs to East of Hudson (1301-0212)	UnAssessed
H-145 thru 175, WOH (selected)	Minor Tribs to West of Hudson (1301-0213)	UnAssessed
H-158	Saw Kill and tribs (1301-0085)	**NoKnownImpct**
H-158-13- 3-P826	Sepasco Lake (1301-0214)	**MinorImpacts**
H-158-13-P825	Shooks Pond (1301-0215)	UnAssessed
H-158-17-P828	Warackamac Lake (1301-0216)	UnAssessed
H-158-P823	Red Hook Mills Pond (1301-0217)	UnAssessed
H-158-P829,P830	Spring Lakes (1301-0218)	UnAssessed
H-164	Stony Creek, Lower, and tribs (1301-0219)	**MinorImpacts**
Lower Esopus Creek Watershed		
H-171 (portion 1)	Esopus Creek, Lower, Main Stem (1307-0010)	**MinorImpacts**
H-171 (portion 2)	Esopus Creek, Middle, and minor tribs (1307-0003)	**MinorImpacts**
H-171- 2 thru 21 (selected)	Minor Tribs to Lower Esopus Creek (1307-0012)	UnAssessed
H-171-11	Plattekill Creek, Lower, and minor tribs (1307-0013)	**NoKnownImpct**
H-171-11	Plattekill Creek, Upper, and tribs (1307-0014)	UnAssessed
H-171-11-11	Yager Stream and minor tribs (1307-0015)	UnAssessed
H-171-11-11- 1	Washburn Creek and tribs (1307-0016)	UnAssessed
H-171-17	Saw Kill, Lower, and tribs (1307-0017)	**NoKnownImpct**
H-171-17	Saw Kill, Middle, and tribs (1307-0018)	UnAssessed
H-171-17	Saw Kill, Upper, adn tribs (1307-0019)	UnAssessed
H-171-17 P837,P838a	Kingston Reservoirs 1 and 2 (1307-0020)	UnAssessed
H-171-17- 7-P837a	Kingston Reservoir 4 (1307-0021)	UnAssessed
H-171-17-21-P839	Cooper Lake (1307-0022)	**NoKnownImpct**
H-171-17-P841	Echo Lake (1307-0023)	UnAssessed
H-171-22-P843	Spring Lake (1307-0024)	UnAssessed
H-171-25-P845	Onteora Lake (1307-0025)	UnAssessed
H-171-28	Stony Creek and tribs (1307-0026)	UnAssessed
H-171-30-P846	Stone Ridge Pond (1307-0027)	UnAssessed
H-171-P832	Lake Katrine (1307-0028)	UnAssessed
Ashokan Reservoir/Upper Esopus Creek Watershed		
H-171 (portion 3)/P848	Ashokan Reservoir (1307-0004)	**Impaired Seg**
H-171 (portion 4)	Esopus Creek, Upper, and minor tribs (1307-0007)	**Impaired Seg**
H-171 (portion 5)	Esopus Creek, Upper, and minor tribs (1307-0011)	**NoKnownImpct**

...Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Ashokan Reservoir/Upper Esopus Creek Watershed (con't)		
H-171/P848- 1 thru 12 (selected)	Minor Tribs to Ashokan Reservoir (1307-0005)	UnAssessed
H-171/P848- 5	Bushkill and tribs (1307-0029)	UnAssessed
H-171/P848-11-P851	Kenozia Lake (1307-0030)	UnAssessed
H-171/P848-42	Little Beaverkill and tribs (1307-0031)	UnAssessed
H-171/P848-42-P853	Yankeetown Lake (1307-0032)	UnAssessed
H-171/P848-43	Beaverkill and tribs (1307-0033)	**NoKnownImpct**
H-171/P848-43	Mink Hollow Brook and tribs (1307-0034)	UnAssessed
H-171/P848-45	Stony Clove Brook and tribs (1307-0008)	**NoKnownImpct**
H-171/P848-46	Woodland Stream and tribs (1307-0035)	UnAssessed
H-171/P848-50	Bushnellsville Creek and tribs (1307-0036)	UnAssessed
H-171/P848-52	Birch Creek and tribs (1307-0037)	**NoKnownImpct**
Tribs to Lower Hudson, Esopus Creek to Roeliff Jansen Kill		
H-172 thru ??, WOH	Minor Tribs to West of Hudson (1301-0220)	UnAssessed
H-178 thru 192, WOH	Minor Tribs to West of Hudson (1301-0221)	UnAssessed
Roeliff Jansen Kill Watershed		
H-188	Roeliff Jan Kill, Lower, and minor tribs (1308-0010)	**NoKnownImpct**
H-188	Roeliff Jan Kill, Mid, and minor tribs (1308-0011)	**NoKnownImpct**
H-188	Roeliff Jan Kill, Upper, and tribs (1308-0002)	**Need Verific**
H-188- 2	Klein Kill and tribs (1308-0012)	**NoKnownImpct**
H-188-18	Doove Kill and tribs (1308-0013)	**MinorImpacts**
H-188-18-P869	Lake Taghkanic (1308-0014)	UnAssessed
H-188-18-P869- 3-P870	Lily Pond (1308-0015)	UnAssessed
H-188-18a-P871,P872	Twin Lakes (1308-0016)	UnAssessed
H-188-39	Shekomeko Creek and tribs (1308-0017)	**NoKnownImpct**
H-188-55-P887,P888,P889	Long Pond, Lower/Upper Rhoda Ponds (1308-0018)	UnAssessed
H-188-56-P891	Miller Pond (1308-0019)	UnAssessed
H-188-57	Punch Brook and tribs (1308-0020)	UnAssessed
H-188-59	Bash Bish Brook and tribs (1308-0021)	**NoKnownImpct**
H-188-60-P901	Snyder Pond (1308-0022)	UnAssessed
H-188-63-P903	Shaver Pond (1308-0023)	**NoKnownImpct**
H-188-64-P904	Goose Pond (1308-0024)	UnAssessed
H-188-P902	Robinson Pond (1308-0003)	**Impaired Seg**
Tribs to Lower Hudson, Roeliff Jansen Kill to Catskill Creek		
H-189 thru 203, EOH	Minor Tribs to East of Hudson (1301-0222)	UnAssessed
Catskill Creek Watershed		
H-193	Catskill Creek, Lower, Main Stem (1309-0010)	UnAssessed
H-193	Catskill Creek, Middle, and minor tribs (1309-0004)	**MinorImpacts**
H-193	Catskill Creek, Upper, and minor tribs (1309-0011)	**NoKnownImpct**

...Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Catskill Creek Watershed (con't)		
H-193- 1	Van Hozen Kill and tribs (1309-0012)	UnAssessed
H-193- 1-P913	Hollster Lake (1309-0007)	**Need Verific**
H-193- 2	Kaaterskill Cr, Lower, and tribs (1309-0006)	UnAssessed
H-193- 2	Kaaterskill Cr, Upper, and minor tribs (1309-0013)	UnAssessed
H-193- 2- 9..P915	Van Luven Lake (1309-0014)	UnAssessed
H-193- 2-12	Beaver Kill and tribs (1309-0015)	UnAssessed
H-193- 2-18	Kisatom Brook and tribs (1309-0016)	UnAssessed
H-193- 2-P921,P922	South Lake, North Lake (1309-0017)	**Impaired Seg**
H-193- 7-P924	Greens Lake (1309-0018)	UnAssessed
H-193- 9	Potic Creek, Lower, and tribs (1309-0019)	**NoKnownImpct**
H-193- 9	Potic Creek, Middle, and tribs (1309-0020)	UnAssessed
H-193- 9	Potic Creek, Upper, and tribs (1309-0021)	UnAssessed
H-193- 9- 2	Cob Creek, Middle, and tribs (1309-0022)	UnAssessed
H-193- 9- 2	Cob Creek, Upper, and tribs (1309-0023)	UnAssessed
H-193- 9- 2-P925a	Potuck (Potic) Reservoir (1309-0024)	**Threatened**
H-193- 9- 4-P934a	Beaver Dam Pond (1309-0025)	UnAssessed
H-193-19	Jan DeBakkers Kill and tribs (1309-0026)	UnAssessed
H-193-20	Shingle Kill and tribs (1309-0008)	**NoKnownImpct**
H-193-29	Basic Creek, Lower, and tribs (1309-0027)	**NoKnownImpct**
H-193-29	Basic Creek, Upper, and tribs (1309-0028)	**Need Verific**
H-193-29-P950a	Basic Creek Reservoir (1309-0001)	**Impaired Seg**
H-193-33	Thorp Creek and tribs (1309-0029)	UnAssessed
H-193-41	Ten Mile Creek and tribs (1309-0030)	**NoKnownImpct**
H-193-41-P954	Myosotis Lake (1309-0031)	UnAssessed
H-193-41-P954- 2-P955	Hicks/Lincoln Pond (1309-0032)	UnAssessed
H-193-56- 3-P956	Triangle Lake (1309-0033)	UnAssessed
H-193-56-P957	Crystal Lake (1309-0034)	UnAssessed
H-193-P960b	The Vlaie (1309-0035)	UnAssessed
Tribs to Lower Hudson, Catskill Creek to Stockport/Kinderhook Creek		
H-196 thru 207, WOH (selected)	Minor Tribs to West of Hudson (1301-0223)	UnAssessed
H-201a-P1	Underhill Pond (1301-0224)	UnAssessed
H-202	Murders Creek and tribs (1301-0225)	UnAssessed
H-202-P8f	Sleepy Hollow Lake (1301-0059)	**Impaired Seg**
Stockport/Kinderhook Creek Watershed		
H-204	Stockport Creek and minor tribs (1310-0020)	UnAssessed
H-204- 2	Kinderhook Creek, Lower, and minor tribs (1310-0021)	**MinorImpacts**
H-204- 2	Kinderhook Creek, Middle, and mnr tribs (1310-0017)	**NoKnownImpct**
H-204- 2	Kinderhook Creek, Upper, and minor tribs (1310-0022)	**NoKnownImpct**
H-204- 2- 7	Valatie Kill, Lower, and tribs (1310-0023)	UnAssessed
H-204- 2- 7	Valatie Kill, Middle, and tribs (1310-0003)	**Impaired Seg**
H-204- 2- 7	Valatie Kill, Upper, and tribs (1310-0024)	**Impaired Seg**

...Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Stockport/Kinderhook Creek Watershed (con't)		
H-204- 2- 7-P24	Kinderhook Lake (1310-0002)	**Impaired Seg**
H-204- 2- 7-P34	Nassau Lake (1310-0001)	**Impaired Seg**
H-204- 2- 7-P34- 1-P35,P35a	Lyons Pond, Smith Pond (1310-0025)	UnAssessed
H-204- 2- 7-P35b	Cleveland Pond (1310-0026)	UnAssessed
H-204- 2- 7-P40	Pikes/Mud Pond (1310-0027)	UnAssessed
H-204- 2- 9	Kline Kill and tribs (1310-0028)	**NoKnownImpct**
H-204- 2- 9- 1-P42	Smith Pond (1310-0009)	**Need Verific**
H-204- 2- 9- 3-P45	Barrett Pond (1310-0029)	UnAssessed
H-204- 2- 9- 4- 4- 1-P47	Beaver Pond (1310-0030)	UnAssessed
H-204- 2-10	Stony Kill and tribs (1310-0031)	UnAssessed
H-204- 2-10- 2-P52	Southerland Pond (1310-0032)	UnAssessed
H-204- 2-10-P57	Queechy Lake (1310-0033)	**NoKnownImpct**
H-204- 2-14-P59	Bachus Pond (1310-0034)	UnAssessed
H-204- 2-18	Tackawasic Creek, Lower, and tribs (1310-0035)	**NoKnownImpct**
H-204- 2-18	Tackawasic Creek, Upper, and tribs (1310-0036)	UnAssessed
H-204- 2-18-P65	Tackawasick Lake (1310-0037)	UnAssessed
H-204- 2-18-P68	Little Bowman Pond (1310-0038)	UnAssessed
H-204- 2-25	Wyomanock Creek and tribs (1310-0039)	**NoKnownImpct**
H-204- 2-30-P79	Taplin Pond (1310-0040)	UnAssessed
H-204- 2-35-P79a	Stone Bridge Pond (1310-0041)	UnAssessed
H-204- 2-35-P79d	Stump Pond (1310-0042)	UnAssessed
H-204- 2-36	Black River and tribs (1310-0043)	**NoKnownImpct**
H-204- 2-36- 4- 1-P80	Round Pond (1310-0044)	**NoKnownImpct**
H-204- 2-36- 4-P81	Spring Lake (1310-0045)	**NoKnownImpct**
H-204- 2-36-P80b	Black River Pond (1310-0046)	UnAssessed
Claverack Creek Watershed		
H-204- 3	Claverack Creek, Lower, and minor tribs (1310-0047)	**NoKnownImpct**
H-204- 3	Claverack Creek, Upper, and minor tribs (1310-0048)	**NoKnownImpct**
H-204- 3	Claverack/Agawamuck Creek and tribs (1310-0060)	**NoKnownImpct**
H-204- 3- 1	Fitting Creek and tribs (1310-0049)	UnAssessed
H-204- 3- 1-P12	Merwin Lake (1310-0050)	UnAssessed
H-204- 3- 8	Taghkanic Creek, Lower, and tribs (1310-0015)	**Threatened**
H-204- 3- 8	Taghkanic Creek, Middle, and tribs (1310-0051)	**NoKnownImpct**
H-204- 3- 8	Taghkanic Creek, Upper, and tribs (1310-0052)	UnAssessed
H-204- 3- 8- 4- 7-P100	Bell Pond (1310-0053)	UnAssessed
H-204- 3- 8- 8-P98c	Churchtown Reservoir (1310-0054)	UnAssessed
H-204- 3- 8-22-P105	Chrysler Pond (1310-0055)	UnAssessed
H-204- 3- 8-31-P107	Forest Pond (1310-0056)	UnAssessed
H-204- 3- 8-32-P108a	Copake Lake (1310-0014)	**Impaired Seg**
H-204- 3-16	North Creek and tribs (1310-0061)	**NoKnownImpct**
H-204- 3-22-P129	Philmont Reservoir (1310-0057)	UnAssessed
H-204- 3-P116	Red Mills Pond (1310-0058)	UnAssessed
H-204- 3-P126	Philmont Pond (1310-0059)	UnAssessed

...Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Tribs to Lower Hudson, Stockport/Kinderhook Creek to Normans Kill		
H-207 thru 218, EOH (selected)	Minor Tribs to East of Hudson (1301-0226)	UnAssessed
H-208	Coxsackie Creek and minor tribs (1301-0092)	**MinorImpacts**
H-208- 4-P152b	Coxsackie Reservoir (1301-0227)	UnAssessed
H-208- 6	Bronks Lake Outlet, Upper, and tribs (1301-0228)	UnAssessed
H-208- 6-P155	Bronks Lake (1301-0229)	UnAssessed
H-209	Mill Creek and tribs (1301-0093)	**MinorImpacts**
H-212	Hannacrois Creek, Lower, and tribs (1301-0230)	**NoKnownImpct**
H-212	Hannacrois Creek, Middle, and tribs (1301-0020)	**Need Verific**
H-212	Hannacrois Creek, Upper, and tribs (1301-0231)	UnAssessed
H-212-P185	Alcove Reservoir (1301-0232)	**NoKnownImpct**
H-214	Coeymans Creek and minor tribs (1301-0095)	Minor Impact
H-214-10	Onesquethaw Creek and tribs (1301-0233)	**NoKnownImpct**
H-214-10- 3-P262a	Vly Creek Reservoir (1301-0234)	UnAssessed
H-214-10- 4-P207	Lawson Lake (1301-0235)	UnAssessed
H-214-10-P207a	Helderberg Lake (1301-0029)	**Need Verific**
H-215	Schodack Creek/Muitzes Kill and tribs (1301-0236)	UnAssessed
H-215- 3- 4-P211	Knickerbocker Lake (1301-0237)	UnAssessed
H-216 thru 220, WOH (selected)	Minor Tribs to West of Hudson (1301-0238)	UnAssessed
H-217	Vloman Kill, Lower, and tribs (1301-0239)	**Need Verific**
H-217	Vloman Kill, Upper, and tribs (1301-0240)	**NoKnownImpct**
H-218	Vlockie Kill, Upper, and tribs (1301-0241)	UnAssessed
H-219	Papscanee Creek and minor tribs (1301-0242)	UnAssessed
H-219- 1	Moordener Kill and minor tribs (1301-0243)	**NoKnownImpct**
H-219- 1- 4	North Branch Moordener Kill and tribs (1301-0244)	UnAssessed
Normans Kill Watershed		
H-221	Island Creek and minor tribs (1311-0020)	UnAssessed
H-221- 4 (portion 1)	Normans Kill, Lower, and minor tribs (1311-0010)	**MinorImpacts**
H-221- 4 (portion 2)	Normans Kill, Middle, and tribs (1311-0002)	**MinorImpacts**
H-221- 4 (portion 3)/P270	Watervliet Reservoir (1311-0001)	**Need Verific**
H-221- 4 (portion 4)	Normans Kill, Upper, and tribs (1311-0018)	UnAssessed
H-221- 4 (portion 5)	Normans Kill, Upper, and tribs (1311-0005)	UnAssessed
H-221- 4- 3	Krum Kill, Upper, and tribs (1311-0004)	**Impaired Seg**
H-221- 4- 7	Vly Creek and tribs (1311-0021)	**MinorImpacts**
H-221- 4- 8-P266	Glass Pond (1311-0003)	**Need Verific**
H-221- 4-270- 1	Bozen Kill and minor tribs (1311-0017)	**MinorImpacts**
H-221- 4-31-P290	Duanesburg Reservoir (1311-0022)	UnAssessed
H-221- 4-35-P292	Delanson Reservoir (1311-0023)	UnAssessed
H-221- 4-P270- 1- 1	Black Creek and tribs (1311-0024)	UnAssessed
H-221- 4-P270- 1- 1- 2-P274	Thompsons Lake (1311-0007)	**NoKnownImpct**
H-221- 4-P270- 1- 8-P276b	Altamont Reservoir (1311-0025)	UnAssessed
H-221- 4-P270- 1- 9-P276a	Duane Lake (1311-0006)	**Impaired Seg**
H-221- 4-P289	Mill Pond (1311-0026)	UnAssessed

...Middle Hudson River Watershed

Water Index Number	Waterbody Segment	Category
Tribs to Lower Hudson, Normans Kill to Wynants Kill		
H-222 thru 232, EOH (selected)	Minor Tribs to East of Hudson (1301-0245)	UnAssessed
H-222-P297	Hampton Manor Lake (1301-0077)	**MinorImpacts**
H-224	Mill Creek and tribs (1301-0246)	**NoKnownImpct**
H-226	Patroon Creek and tribs (1301-0030)	**Impaired Seg**
H-226-P336	Rensselaer Lake (1301-0247)	UnAssessed
H-228a thru 237, WOH	Minor Tribs to West of Hudson (1301-0027)	**Impaired Seg**
H-231-P355	Littles Lake (1301-0248)	UnAssessed
Wynants Kill Watershed		
H-235	Wynants Kill, Lower, and tribs (1301-0066)	**MinorImpacts**
H-235	Wynants Kill, Upper, and tribs (1301-0249)	**NoKnownImpct**
H-235- 8-P374	Moules Lake (1301-0250)	UnAssessed
H-235-11-P377	Snyders Lake (1301-0043)	**MinorImpacts**
H-235-13-P382	Racquet Lake (1301-0251)	UnAssessed
H-235-P366	Burdens Pond (1301-0252)	UnAssessed
H-235-P386	Burdens Lake (1301-0025)	**MinorImpacts**
H-235-P386-	Tribs to Burden Lake (1301-0253)	UnAssessed
H-235-P386- 1- 1-P391	Crystal Lake (1301-0041)	**Need Verific**
H-235-P386- 1- P397	Crooked Lake (1301-0254)	**NoKnownImpct**
H-235-P386- 1-P394	Glass Lake (1301-0042)	**Need Verific**
Poesten Kill Watershed		
H-236	Poesten Kill, Lower, and minor tribs (1301-0068)	**NoKnownImpct**
H-236	Poesten Kill, Upper, and tribs (1301-0255)	**NoKnownImpct**
H-236-13	Quacken Kill, Lower, and tribs (1301-0256)	**NoKnownImpct**
H-236-13	Quacken Kill, Upper, and tribs (1301-0257)	**NoKnownImpct**
H-236-13-11-P426,P427,P428	Mill Pond, Second Pond, Long Pond (1301-0258)	**NoKnownImpct**
H-236-13-13-P428a,P429	Lake Elizabeth, White Lily Pond (1301-0259)	UnAssessed
H-236-13-13b-P430	Cranberry Pond (1301-0260)	UnAssessed
H-236-13-P424	Shaver Pond (1301-0261)	UnAssessed
H-236-13-P425	Dunham Reservoir (1301-0262)	**Impaired Seg**
H-236-15-P433	Vosberg Pond (1301-0263)	UnAssessed
H-236-19-P435	Davitt Pond (1301-0264)	UnAssessed
H-236-22- 7-P437	Hosford Pond (1301-0265)	UnAssessed
H-236-22- 9-P440	Gravel Pond (1301-0266)	UnAssessed
H-236-22-11-P441	Forest Lake (1301-0267)	**NoKnownImpct**
H-236-22-P438,P439	Bonesteel Pond, Wager Pond/Madonna Lake (1301-0268)	UnAssessed
H-236-24- 2-P443	Hicks Pond (1301-0269)	UnAssessed
H-236-24-P444	Big Bowman Pond (1301-0270)	UnAssessed
H-236-P445	Dyken Pond (1301-0271)	**Impaired Seg**
Tribs to Lower Hudson, Poesten Kill to Mohawk River/Head of Tide		
H-238	Vanderhaden Creek and tribs (1301-0272)	UnAssessed
H-238-P454,P455	Wright Lake, Bradley Lake (1301-0273)	UnAssessed
H-238-P459	Troy Reservoir (1301-0274)	UnAssessed
H-239	Salt Kill and tribs (1301-0275)	**Need Verific**

Hudson River (Class A) (1301-0276) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No:	H (portion 4b)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/	**Str Class:**	A		Middle Hudson River
Waterbody Type:	Estuary			**Reg/County:**	3/Ulster Co. (56)
Waterbody Size:	15599.0 Acres			**Quad Map:**	KINGSTON EAST (N-25-1)
Seg Description:	from Kingston to south end of Houghtaling Island				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (Cadmium), PRIORITY ORGANICS (PCBs)
Suspected: Pathogens, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview

Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

Fish Consumption Advisories

Fish consumption in the Lower Hudson is impaired due to a NYSDOH health advisory for waters north of the Catskill Bridge that recommends eating no fish of any species, EXCEPT alewife, American shad, blueback herring, rock bass and yellow perch; consumption of these species should be limited to no more than one meal per month. American shad should be limited to no more than one meal per week. South of the Catskill bridge the advisory is to eat no gizzard shad,

channel catfish or white catfish, and no more than one meal per month of American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white perch because of elevated levels of PCBs. Advisories along this lower reach are also in place for blue crab that recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Toxics/CARP

Ongoing efforts to address the widespread contamination by PCBs, dioxin and other toxic chemicals in New York Harbor and the Hudson River include the Contamination Assessment and Reduction Project (CARP), a landmark monitoring effort bringing together federal, state and non-government partners in a determined effort to reduce contamination within the NY/NJ Harbor Estuary, particularly as it relates to dredged material management. CARP has identified and quantified major sources of contaminants of concern to the NY/NJ Harbor and Hudson Estuary. A series of numerical models have also been developed and calibrated to simulate movement of contaminants through the estuary and to predict the concentrations of these contaminants in water, sediment, and biota in future years under a variety of scenarios. The CARP data and modeling products are being used to identify which contaminants require load reductions (through Total Maximum Daily Loads) to meet appropriate water quality criteria and to develop sediment remediation strategies in connection with the U.S. Army Corps of Engineers' Hudson-Raritan Comprehensive Restoration Program and the Harbor Estuary Program's Regional Sediment Management strategy. (USEPA/HEP and Hudson River Foundation and DEC/DOW, BWAM/Priority Waters Research, May 2008)

Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of bycatch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species. (NYSDEC/DFWMR, Hudson River Fisheries, May 2008)

Water Quality Sampling

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Source (Drinking) Water Assessment

The Hudson River was assessed 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. The Hudson River

watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, eutrophication (excessive nutrients and algae) wastewater, toxic sediments. In addition, salt water can enter the lower Hudson and impact drinking water quality during periods of low flow. This more general assessment suggests an elevated susceptibility to contamination for this source of drinking water. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to the City of Poughkeepsie, Portions of Dutchess County and the Village of Millbrook. (NYSDOH, Source Water Assessment Program, 2005)

Swimmable Hudson

In response to the improvement in Hudson River water quality since the 1970s, there has been a rise in recreational use and a public call for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, the NYSDEC Hudson River Estuary Program: and Division of Water are focusing on four primary areas of water quality impact
1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with Phase II Stormwater permit program, and 4) continued support of a vessel No Discharge Zone in the Hudson. (DEC/HREP and DEC/DOW, BWAM, May 2008)

Hudson River Estuary Program

To further restore and protect the waters of the Hudson River, NYS DEC established in 1987 The Hudson River Estuary Program: to provide a holistic (watershed) approach to management of the ecosystem. The Hudson River Estuary Program: leads a unique regional partnership of agencies, organizations and the public to restore the Hudson in ways that support the quality of life so valued by Hudson Valley residents. The program focuses on conservation of natural resources, promotion of full public use and enjoyment of the river and reducing pollution that affects the ability to use and enjoy the river. The Estuary Program implements the Hudson River Estuary Action Agenda through numerous partners in government, the non-profit and business sectors, and concerned citizens. The program is built on sound science and principles of ecosystem-based management. It is guided by the Hudson River Estuary Advisory Committee, which includes representatives of the commercial fishing industry, recreational anglers, utility companies, local government, educators, researchers, conservationists and other river users. This facilitates working with many representatives of the public toward common goals. (DEC/HREP, May 2008)

Segment Description

This segment includes the waters of the Hudson from the mouth of the Rondout River in Kingston, to light no. 72 off the south end of Houghtaling Island. The size of the estuary area is taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs.

Hudson River (Class C) (1301-0002) Impaired Seg

Waterbody Location Information

Revised: 06/30/2008

Water Index No:	H (portion 5)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/	**Str Class:**	C		Middle Hudson River
Waterbody Type:	Estuary			**Reg/County:**	4/Albany Co. (1)
Waterbody Size:	3501.0 Acres			**Quad Map:**	TROY SOUTH (K-26-1)
Seg Description:	from south end of Houghtaling Island to Troy Dam				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Aquatic Life	Stressed	Known
Recreation	Stressed	Known
Habitat/Hydrolgy	Stressed	Suspected
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: PRIORITY ORGANICS (PCBs), Aesthetics (floatables), Pathogens
Suspected: Problem Species, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Comb. Sewer Overflow, Urban/Storm Runoff
Suspected: Habitat Modification, Power Generation
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/HREP **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges. A significant decline in the Hudson River fisheries, most notably American shad, in recent years has resulted in concerted efforts to assess the possible causes of the decline the determine strategies to restore the fish stocks. The suspected causes of the decline include over-fishing, habitat loss and increased populations of predatory species. At the same time, increased recreational use of the Hudson River has spurred efforts to further improve water quality to support public bathing in the river.

Fish Consumption Advisories
Fish consumption in the Lower Hudson is impaired due to a NYSDOH health advisory that recommends eating no gizzard shad, channel catfish or white catfish, and no more than one meal per month of American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white

perch because of elevated levels of PCBs. Advisories along this lower reach are also in place for blue crab that recommend eating no more than six crabs per week, and discarding hepatopancreas (mustard, liver, or tomalley), and cooking liquid. In addition to PCBs, the blue crab advisory also reflects concern about contamination by dioxin and cadmium. The contamination is considered to be the result past industrial discharges, particularly PCB discharges in the Upper Hudson River. (For more information, see the Upper Hudson River WI/PWL Report.) These restrictions have severely affected what had been at one time thriving commercial fishing industries. The advisory for this lake was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

Toxics/CARP

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Hudson River Fisheries

New York fisheries biologists have documented that American shad spawning stock have become smaller and younger and mortality has increased to excessive and unacceptable levels. Throughout the Atlantic Coast waters, shad stocks are at historic lows and, along with several other important marine species, are in need of dedicated restoration efforts. The suspected causes of this decline include over-fishing, habitat loss, entrainment/impingement at power generating plants on the river, increased populations of predatory species and increased competition for food sources. NYSDEC recently announced a new set of initiatives aimed a developing a better understanding of the Hudson estuary ecosystem and restoring the threatened fisheries. This effort will focus on continuation of American shad monitoring programs, reduction of shad mortality at water intakes, control of bycatch of shad during commercial fishing for other species, identification and restoration of critical spawning and nursery habitats, and continued ecosystem studies to understand the effects of predators and invasive species. (NYSDEC/DFWMR, Hudson River Fisheries, May 2008)

Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Hudson River in Glenmont, Albany County, is conducted annually at the PSEG raw water intake. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. The most recent Intensive Network monitoring was conducted during 2003. Water column sampling revealed water temperature to be the only parameter of concern. Biological (macroinvertebrate) sampling was assessed as moderately impacted using multiplate samplers, however higher flow conditions might have influenced these results. Toxicity testing of the water column showed no significant mortality or reproductive impacts. (DEC/DOW, BWAM/RIBS, January 2005)

Biological (macroinvertebrate) sampling reveals an apparent decline in water quality from Albany to Hudson/Catskill during the 1990s. Sites in this reach were assessed as slightly impacted in 1991 and moderately impacted in 1998 and 2002. At this point the trend remains unexplained. One suspected cause for the apparent decline is the recent increase in wet-weather flows and the impact of urban runoff and CSO-related impacts from the Albany Pool municipal communities. The sampling results may also reflect habitat impacts and other influences affecting the fishery in the Hudson. Further monitoring to assess the level and source of impacts is recommended. (DEC/DOW, BWAM/SBU, June 2008)

NYSDEC is participating with a number of other agencies and organizations in a new private/public partnership called the Hudson River Environmental Conditions Observing System (HRECOS). This collaborative monitoring network will use stations located throughout the Hudson to provide data and other information essential to the management of the estuary. Seven scientific monitoring stations have been established throughout the Hudson River at Schodack Island, Tivoli Bays North, Tivoli Bays South, Norrie Point, Piermont Pier, George Washington Bridge (NJ) and Castle Point (NJ). The network provides continuous information about the estuary's conditions including temperature, oxygen levels, salinity, weather, tides, and some types of pollution that have the potential to affect the health and well-being of the Hudson's ecosystem. (DEC/HREP, May 2008)

Swimmable Hudson

In response to the improvement in Hudson River water quality since the 1970s, there has been a rise in recreational use and a public call for increased swimming opportunities. Currently swimming occurs in popular anchoring spots along the shore, including areas not designated for swimming. However, in spite of growing use publicly available swimming areas in the Hudson remain limited. To reach the goal of a swimmable Hudson River, the NYSDEC Hudson River Estuary Program: and Division of Water are focusing on four primary areas of water quality impact
1) the need for seasonal disinfection of municipal and other wastewater discharges, 2) the reduction of CSO impacts through appropriate control strategies, 3) implementation and compliance with Phase II Stormwater permit program, and 4) continued support of a vessel No Discharge Zone in the Hudson. (DEC/HREP and DEC/DOW, BWAM, May 2008)

Hudson River Estuary Program

To further restore and protect the waters of the Hudson River, NYS DEC established in 1987 the Hudson River Estuary Program: to provide a holistic (watershed) approach to management of the ecosystem. The Hudson River Estuary Program: leads a unique regional partnership of agencies, organizations and the public to restore the Hudson in ways that support the quality of life so valued by Hudson Valley residents. The program focuses on conservation of natural resources, promotion of full public use and enjoyment of the river and reducing pollution that affects the ability to use and enjoy the river. The Estuary Program implements the Hudson River Estuary Action Agenda through numerous partners in government, the non-profit and business sectors, and concerned citizens. The program is built on sound science and principles of ecosystem-based management. It is guided by the Hudson River Estuary Advisory Committee, which includes representatives of the commercial fishing industry, recreational anglers, utility companies, local government, educators, researchers, conservationists and other river users. This facilitates working with many representatives of the public toward common goals. (DEC/HREP, May 2008)

Segment Description

This segment includes the waters of the Hudson from light no. 72 off the south end of Houghtaling Island, to the Troy Dam. The size of the estuary area is taken from NYSDEC GIS and includes river and tidal flats, and tidal tribs. (equal to 5% of total area).

Saw Kill and tribs (1301-0085) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-158
Hydro Unit Code: 02020006/220 **Str Class:** B(T)
Waterbody Type: River
Waterbody Size: 54.8 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 3/Dutchess Co. (14)
Quad Map: SAUGERTIES (M-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
Resolution Potential: n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Saw Kill Creek in Annandale-on-Hudson (below falls) was conducted in 1998. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by facultative filter-feeding caddisflies and Impact Source Determination indicated nonpoint source nutrient enrichment and/or pesticides as probable sources of impact. 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, June 2005)

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

Sepasco Lake (1301-0214) MinorImpacts

Waterbody Location Information

Revised: 04/28/2008

Water Index No: H-158-13- 3-P826
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 26.3 Acres
Quad Map: ROCK CITY (N-25-2)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH
Suspected: Nutrients
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION, Other Source (nutrient recycling)
Suspected: - - -
Possible: Agriculture

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Snyders Lake are thought to experience minor impacts due to aquatic weed growth.

Water Quality Sampling
Sepasco Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1997 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 mesotrophic, or moderately productive. The most recent sampling (2006) found the lake to be more productive than usual; additional monitoring will be needed to determine if this represents a trend or is reflective of conditions during that sampling year. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately colored, but color influences water transparency only when algae levels are very low. (DEC/DOW, BWAM/CSLAP, February 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be less favorable in recent years. The recreational suitability of the lake had been described most frequently as "excellent" to "slightly" impacted, but in 2005 and 2006 the assessments have reflected "slightly" to "substantially" impacts to recreational use. The lake itself is most often described as having "definite algal greenness," an assessment that is somewhat less favorable than suggested by measured water quality characteristics. Assessments have noted that aquatic plants regularly grow to the lake surface, and are at time quite dense. Aquatic plants growth is thought to be a primary reason for the reported impacts to recreational uses. (DEC/DOW, BWAM/CSLAP, February 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, 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.

Stony Creek, Lower, and tribs (1301-0219) MinorImpacts

Waterbody Location Information

Revised: 12/17/2007

Water Index No: H-164
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: River
Reg/County: 3/Dutchess Co. (14)
Waterbody Size: 56.2 Miles
Quad Map: SAUGERTIES (M-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS (phosphorus), Unknown Toxicity
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: UNKNOWN SOURCE

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Stony Creek are known to experience minor impacts due to nutrients from nonpoint sources and other stressors. Verification of the magnitude of the water quality impacts at this site need to be verified.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Stony Creek in Tivoli (at Kidd Lane) was conducted in 2002. Sampling results indicated moderately impacted water quality conditions. However additional sampling is recommended to verify the impacts. Low flow and other habitat conditions may have influenced the sample results. Previous sampling of the stream varied from slightly to moderately impacted with nonpoint sources and other organic and toxic characteristics, but low flow and less than ideal sampling habitat are typical of this small stream. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C(T) from the mouth to the Tivoli WWTP, then Class A,A(T), to Moore Road and Class C for the remainder of the reach. Tribs to this reach/segment are Class C.

Esopus Creek, Lower, Main Stem (1307-0010) MinorImpacts

Waterbody Location Information

Revised: 12/13/2007

Water Index No: H-171 (portion 1)
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 12.7 Miles
Quad Map: SAUGERTIES (M-25-4)
Seg Description: from mouth to Kingston

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)

Known: AGRICULTURE, HYDRO MODIFICATION, URBAN/STORM RUNOFF
Suspected: MUNICIPAL (Ulster County SIA WWTP)
Possible: - - -

Resolution/Management Information

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

Further Details

Overview

Public bathing, recreational uses and aquatic life support in this portion of Esopus Creek are known to experience minor impacts due to nutrient enrichment from urban runoff and agricultural nonpoint sources. These conditions result in heavy weed growth. Recreation is impacted by weeds throughout the reach, but is a particular problem behind Cantine Mill dam in Saugerties (V) where there is a bathing beach. There are also concerns regarding the impacts of the Ulster County Sewer Improvement Area WWTP which serves Kingston. However the stream has not been fully monitored and assessed since the plant was upgraded.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Esopus Creek in Glenerie (at Glasco Turnpike) was conducted in 1999 and 2002. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was indicated, but slow-moving water and ponded reaches throughout the Lower Esopus are though to impact sampling results as well. A 1993 Biological Stream Assessment found moderate impacts at sites below the Ulster County Sewer Improvement Area (Kingston) WWTP discharge. Prior to a plant upgrade in 1999, the plant had experienced occasional

failure of both chronic and acute toxicity tests. Water quality at these sites have not been sampled since the upgrade. (DEC/DOW, BWAM and Region 3, December 2007 and Lower Esopus Creek Biological Assessment Report, Bode et al, DEC/DOW, BWAM, November 1993)

Segment Description

This segment includes the portion of the stream from the mouth to Tannery Brook (-21) in Kingston. The waters of this portion of the stream are primarily Class B; except for a short reach from the mouth to the Cantine Dam in Saugerties that is Class C.

Esopus Creek, Middle, and minor tribs (1307-0003) MinorImpacts

Waterbody Location Information

Revised: 12/13/2007

Water Index No:	H-171 (portion 2)			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/210	**Str Class:**	B(T)		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	3/Ulster Co. (56)
Waterbody Size:	89.0 Miles			**Quad Map:**	KINGSTON WEST (N-24-2)
Seg Description:	stream and select tribs, from Kingston to Ashokan Reser				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: AGRICULTURE, HYDRO MODIFICATION (Ashokan releases)
Suspected: 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: DOW/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Public bathing, recreational uses and aquatic life support in this portion of Esopus Creek are thought to experience minor impacts due to nutrient enrichment from various nonpoint sources. These conditions result in heavy weed growth which impacts recreation throughout the reach. Limited water releases from Ashokan Reservoir, low gradient resulting in slow-moving waters and numerous ponded areas also contribute to water quality conditions in the stream.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Esopus Creek in Hurley (at Route 29A) was conducted in 1999. Sampling results indicated slightly impacted water quality conditions. Complex stressors were indicated but no specific sources were identified. Nonpoint source nutrient enrichment also impacts the stream. A 1993 Biological Stream Assessment found moderate impacts at sites below the Ashokan dam, but these impacts were largely attributed to limited water releases from the Ashokan Reservoir, the low gradient of the stream and resulting high sluggish flow and elevated water temperatures. (DEC/DOW, BWAM, December 2007 and Lower Esopus Creek Biological Assessment Report, Bode et al, DEC/DOW, BWAM, November 1993)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Tannery Brook (-21) in Kingston to the Ashokan Reservoir Dam. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment, including Keater Brook (-23), Praymayer Brook (-25) and Spillway Channel (-37), are Class C,C(T),C(TS). Stony Creek (-28) is listed separately.

Plattekill Creek, Lower, and minor tribs (1307-0013) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-171-11 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(TS)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 30.7 Miles **Quad Map:** WOODSTOCK (M-24-3)
Seg Description: stream and select tribs, from mouth to Blue Mountain

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Plattekill Creek in Mount Marion, Ulster County, (at Town Road) 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 slightly impacted water quality conditions. Field assessment found diverse fauna and the site was field assessed as having no impacts. Laboratory analysis of the sample found slight impacts, but nutrient biotic evaluation indicated these impacts to be minor and aquatic life to be fully supported. Water column sampling revealed no parameters of concern. Bottom sediment sampling results revealed PAHs 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 aquatic life and recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Plattekill Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions, based on field assessment.

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to the Saugerties Reservoir (P834) in Blue Mountain. The waters of this portion of the stream are Class B,B(TS). Tribs to this reach/segment are Class B,C and D. Yager Stream (-11) and Upper Plattekill Creek are listed separately.

Saw Kill, Lower, and tribs (1307-0017) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-171-17
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 12.3 Miles
Quad Map: KINGSTON WEST (N-24-2)
Seg Description: stream and tribs, from mouth to Zena

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 Saw Kill in Sawkill (at Sawkill Road) was conducted in 1997. Sampling results indicated non-impacted water quality conditions. The fauna was diverse and met field sampling assessment criteria with many clean-water organisms including mayflies, stoneflies, caddisflies, riffle beetles and hellgrammites. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to the Kingston Reservoir No. 1 (P837) in Zena. The waters of this portion of the stream are Class B from the mouth to a point 0.7 miles above the mouth, C(T) to unnamed trib (-2) and Class B for the remainder of the reach. Tribs to this reach/segment are Class C,C(T) and D. Middle/Upper Saw Kill are listed separately.

Cooper Lake (1307-0022) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H-171-17-21-P839
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 149.8 Acres
Quad Map: BEARSVILLE (M-24-4)
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

Source (Drinking) Water Assessment
Cooper Lake was assessed 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. The assessment area for this drinking water source contains no discrete potential contaminant sources, and land cover suggests susceptibility to contaminants is low. This water supply reservoir provides water to the City of Kingston. (NYSDOH, Source Water Assessment Program, 2005)

Ashokan Reservoir (1307-0004) Impaired Seg

Waterbody Location Information

Revised: 05/29/2008

Water Index No: H-171 (portion 3)/P848
Hydro Unit Code: 02020006/200 **Str Class:** AA(T)
Waterbody Type: Lake(R)
Waterbody Size: 8060.3 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 3/Ulster Co. (56)
Quad Map: ASHOKAN (N-24-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
FISH CONSUMPTION	Impaired	Known

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

Source(s) of Pollutant(s)
Known: ATMOSPH. DEPOSITION, STREAMBANK EROSION
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/NYC **Resolution Potential:** Medium
TMDL/303d Status: 1,2b->4a (Individual Waterbody Impairment Requiring a TMDL, more)

Further Details

Overview
Water supply and fish consumption uses in Ashokan Reservoir are impaired by silt/sedimentation for streambank erosion and by mercury, assumed to be from atmospheric deposition.

Water Supply Impacts The water supply use of the Ashokan Reservoir is impaired by high levels of turbidity. At times turbidity in the reservoir has been sufficiently high to suspend use of the reservoir as a drinking water supply. Chemical treatment has been required at times to address the problem. The primary turbidity source is streambank erosion and runoff from tributary streams. While the sediment loads in these tribs contribute to the water quality problems in the reservoir, the fisheries in the tribs themselves appear to be fully supported. The Ashokan is the terminal reservoir of the Catskill System of New York City water supply reservoirs, and receives water from the Schoharie Reservoir via the Shandaken Tunnel. Turbidity from the tributary streams in the Schoharie Watershed is also significant. NYCDEP is currently identifying other sources and implementing management techniques to reduce turbidity in the reservoir. A Phase II Phosphorus Total Maximum Daily Load (TMDL) for Reservoirs in the New York City Water Supply Watershed was established in June 2000. This TMDL identified Ashokan Reservoir as having a current phosphorus load that is below the allowable load and is therefore not water quality limited. Average phosphorus concentrations in the reservoir

at the time the TMDL was about 13 ug/l, below the applicable 15 ug/l criterion established for source water reservoirs. (NYCDEP, July 1999)

Fish Consumption Advisories

Impacts Fish consumption in Ashokan Reservoir is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger smallmouth bass (over 16 inches) taken from the reservoir due to elevated levels of mercury. The source of mercury is considered to be atmospheric deposition, as there are no other apparent sources in the lake watershed. Mercury, even at low levels tends to bio-accumulate in the aquatic food chain. However, because of its low solubility mercury is not generally found in water and consequently there is no additional impact on the water supply. The advisory for this lake was first issued in 2000-2001. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007).

New York City Watershed

The Ashokan Reservoir is a part of the Catskill/Delaware System of New York City water supply reservoirs. The Catskill/Delaware System provides about 90% of New York City water supply, the other 10% is supplied by the Croton System. The Ashokan Reservoir receives water from the 250 square mile watershed of the Upper Esopus Creek and serves as a collecting reservoir for the water from the other reservoir - Schoharie Reservoir - in the Catskill system. Water quality in this upstream reservoir influences water quality in the Ashokan Reservoir. (Water quality issues in the Schoharie Reservoir and its watershed are discussed more fully in the Mohawk River Waterbody Inventory and Priority Waterbody List.) The capacity of the Catskill water system is 550 MGD. Water from the Ashokan Reservoir travels through the Catskill Aqueduct to the Kensico Reservoir. In order to protect the New York City water supply, a comprehensive long-range watershed protection program is in place. These protections enable the city to receive a series of waivers from a federal requirement to filter water from the Catskill/Delaware supply. (NYCDEP, July 2006)

Section 303(d) Listing

The Ashokan Reservoir 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 attain water quality standards for silt/sediment. The reservoir was also included on Part 2b of the 2006 List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the reservoir is not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Segment Description

The Ashokan Reservoir is split into two basins by a dividing weir.

Esopus Creek, Upper, and minor tribs (1307-0007) Impaired Seg

Waterbody Location Information

Revised: 07/16/2008

Water Index No:	H-171 (portion 4)	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/190 **Str Class:** A(TS)		Middle Hudson River
Waterbody Type:	River	**Reg/County:**	3/Ulster Co. (56)
Waterbody Size:	42.2 Miles	**Quad Map:**	PHOENICIA (M-23-3)
Seg Description:	stream and select tribs, from Ashokan Res to Allaben		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
WATER SUPPLY	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: OTHER SOURCE (Shandaken Tunnel), STREAMBANK EROSION
Suspected: - - -
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Water supply and recreational uses in this portion of the Upper Esopus Creek are impaired by high levels of turbidity. This section of the Esopus is a significant component of the Catskill System of New York City water supply reservoirs in that it connects the Schoharie Reservoir (via the Shandaken Tunnel) with the Ashokan Reservoir. High turbidity in the Esopus, much of which comes from the Schoharie Reservoir, impairs water quality in both the river and the Ashokan Reservoir (1307-0004). Related Water quality issues in the Schoharie Reservoir and its watershed are discussed more fully in the Mohawk River Waterbody Inventory and Priority Waterbody List.

Water Quality Sampling
A biological (macroinvertebrate) survey of Upper Esopus Creek at multiple sites between Boiceville and Oliverea was conducted in 2000. Sampling results indicated non-impacted to slightly impacted water quality conditions. Tow of the three sites within this reach were assessed as non-impacted. The site downstream of the Shandaken Tunnel outlet reveal slight impacts attributable to silt/sedimentation. In spite of these minor impacts, aquatic life in the stream appears to be fully supported. Diatom assessments also reveal conditions that are fully supportive of aquatic life. (Upper Esopus Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, May 2001)

Source Assessment
The turbidity is attributed to streambank erosion and runoff from tributary streams, in both the Esopus and Schoharie Watersheds. Two tributaries to the Upper Esopus, Stony Clove Brook and Broadstreet Hollow Brook, have been cited as contributing excess turbidity to the river and reservoir. Highly erodible clay soils in both watersheds have been identified as the source of the problem and are the focus of considerable NYCDEP attention and effort. (NYCDEP, July 1999)

NYSDEC issued a SPDES discharge permit (effective September 2006) for the proposed discharge of untreated surface waters from the Shandaken Tunnel to the Esopus Creek by the New York City Department of Environmental Protection (DEP). The 18-mile Shandaken Tunnel is an integral part of the New York City drinking water supply system in the Catskills that transfers about 220 million gallons of water per day from the Schoharie Reservoir into Esopus Creek. The permit specifies seasonal action levels and limits for turbidity, temperature and phosphorus. It also includes a compliance schedule for projects that will help reduce turbidity of water entering the intake portal at the Schoharie Reservoir on a long-term basis. DEP is also required to complete other projects identified by the USEPA 2002 Filtration Avoidance Determination (FAD) for the Catskill and Delaware watersheds. These projects include enhanced stream restoration in the Schoharie Reservoir Basin and continuation of the Conservation Easement Program and other associated watershed protection programs within the Schoharie Basin. (DEC/DOW, NYC Watershed, June 2008)

New York City Watershed
NYCDEP is currently identifying other sources and implementing management techniques to reduce turbidity in the reservoir. A Watershed Agreement is in place between NYCDEP and the Catskill Watershed communities which sets forth programs and funding for watershed protection. Specifically, the NYCDEP has identified this stream as a high priority for streambank restoration work. NYCDEP has monitoring data showing the stream to be a major source of turbidity in the Esopus Creek Watershed, and ultimately affecting water supply uses in the Ashokan Reservoir. Restoration Projects are being developed with input from NYCDEP, Greene County SWCD and NYSDEC. (NYCDEP, July 1999)

Section 303(d) Listing
This portion of Upper Esopus Creek is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for silt/sedimentation. This segment first appeared on the 2002 Section 303(d) List.

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from Ashokan Reservoir (P848) to the outlet of the Shandaken Tunnel near Allaben. The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment, including Broad Street Hollow (-47), are Class B,B(T),C,C(TS), with portions in the forest preserve. Little Beaverkill (-42), Beaverkill (-43), Stony Clove Creek (-45), Woodland Stream (-46) and other portions of Esopus Creek are listed separately.

Esopus Creek, Upper, and minor tribs (1307-0011) NoKnownImpct

Waterbody Location Information

Revised: 12/12/2007

Water Index No: H-171 (portion 5) **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 66.3 Miles **Quad Map:** SHANDAKEN (M-23-4)
Seg Description: stream and select tribs, above Allaben

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) survey of Upper Esopus Creek at multiple sites between Boiceville and Oliverea was conducted in 2000. Sampling results indicated non-impacted to slightly impacted water quality conditions. Two of the three sites within this reach were determined to be non-impacted. The site at Big Indian revealed slight impacts from organic and nutrient input. These are attributed to wastewater plant discharge to Birch Creek in Pine Hill. The most upstream site exhibited low species and EPT richness, but this can be attributed to headwater effects. In spite of these minor impacts, aquatic life in the stream appears to be fully supported. Diatom assessments also reveal conditions that are fully supportive of aquatic life. (Upper Esopus Creek Biological Assessment Report, Bode, et al., DEC/DOW, BWAM/SBU, May 2001)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above the outlet of the Shandaken Tunnel near Allaben. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Peck Hollow Brook (-48), Fox Hollow Brook (-49), Seneca Hollow Stream (-51), Lost Clove Brook (-53), Hatchery Hollow Brook (-54), McKinley Hollow Brook (-55), Elk Bush Kill (-56)Maben Hollow Brook (-57), Hanging Birds Nest Brook (-58) and Giant Ledge Stream (-60), are Class B(T),B(TS),C,C(TS), with portions in the forest preserve. Bushnellsville Creek

(-50), Birch Creek (-52) and other portions of Esopus Creek are listed separately.

Beaverkill and tribs (1307-0033) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-171/P848-43 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)*
Waterbody Type: River **Reg/County:** 3/Ulster Co. (56)
Waterbody Size: 21.4 Miles **Quad Map:** PHOENICIA (M-23-3)
Seg Description: stream and tribs, mouth to Lake Hill

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 Beaver Kill in Mount Tremper (at Route 40) 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to the City of Kingston water intake near Lake Hill, above which the stream is known as Mink Hollow. The waters of the stream are Class C(TS), with portions in the forest preserve. Tribs to this reach/segment, including Grog Kill (-2), Silver Hollow Brook (-4) and Willow Brook (-7), are B(T) and C,C(T),C(TS), with portions in the forest preserve.

Stony Clove Brook and tribs (1307-0008) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-171/P848-45
Hydro Unit Code: 02020006/190 **Str Class:** B(TS)
Waterbody Type: River
Waterbody Size: 48.8 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Greene Co. (20)
Quad Map: PHOENICIA (M-23-3)

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
A biological (macroinvertebrate) assessment of Beaver Kill in Mount Tremper (at Route 40) 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. (DEC/DOW, BWAM/SBU, June 2005)

Other Issues The New York City DEP has identified this stream as a high priority for streambank restoration work. NYCDEP has monitoring data showing the stream to be a major source of turbidity in the Esopus Creek Watershed, and ultimately affecting water supply uses in the Ashokan Reservoir. Restoration Projects are being developed with input from NYCDEP, Greene County SWCD and NYSDEC. Clay exposures in the streambed and bank produce significant turbidity. (DEC/DOW, Region 4, February 2000)

This segment includes the entire stream and all tribs. The waters of the stream are Class B(TS). Tribs to this reach/segment, including Ox Clove Brook (-1), Warner Creek (-2), Hollow Tree Brook (-4), Lanes Hollow Brook (-4a), Rhine Hollow Brook (-6), Fenwick Brook (-7), Lanes Hollow Brook (-11) and Christine Brook (-12), are Class B,B(T),C,C(T),C(TS), with portions in the forest preserve.

Birch Creek and tribs (1307-0037) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-171/P848-52
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(TS)
Waterbody Type: River
Reg/County: 3/Ulster Co. (56)
Waterbody Size: 17.0 Miles
Quad Map: SHANDAKEN (M-23-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) survey of Birch Creek at multiple sites between in Big Indian and above Pine Hill was conducted in 2004. Sampling results indicated non-impacted water quality conditions at all sites. The fauna included many clean-water mayflies, stoneflies and caddisflies. The survey also included a toxicity testing component and no toxicity was evident in the samples. (Birch Creek Biological Stream assessment Report, Bode, et al., DEC/DOW, February 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class B(TS). Tribs to this reach/segment, including Ike Smith Hollow Brook (-1), Giggle Hollow Brook (-3) and Crystal Spring Brook (-4), are Class B(T) and C, with portions in the forest preserve.

Roeliff Jan Kill, Lower, and minor tribs (1308-0010) NoKnownImpct

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H-188 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 143.1 Miles **Quad Map:** CLERMONT (M-25-3)
Seg Description: stream and select tribs, from mouth to Silvernails

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Roeliff Jansen Kill in Livingston, Columbia County, (at Dales Bridge Road) 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 slightly impacted water quality conditions. Agricultural runoff were the likely source of the impacts. However nutrient biotic evaluation determined these effects ton the fauna to be minor. Water column sampling revealed only iron to be a parameter of concern. However, this substance is considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed no contaminants 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)

Previous Sampling
A biological (macroinvertebrate) survey of Roeliff Jansen Kill at multiple sites from Linlithgo to Ancram was conducted in 1992. Sampling results indicated non-impacted water quality conditions for this entire reach. Similar results were

found again in 1997 and 1998 at the downstream Linlithgo site.

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from the mouth to Shekomeko Creek (-39) in Silvernails. The waters of this portion of the stream are Class C,C(T),C(TS). Tribs to this reach/segment, including Fall Kill (-34), Ham Brook (-37), are also Class C,C(T),C(T). Klein Kill (-2), Doove Kill (-18) and Shekomeko Creek (-39) are listed separately.

Roeliff Jan Kill, Mid, and minor tribs (1308-0011) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 90.0 Miles **Quad Map:** ANCRAM (M-26-4)
Seg Description: stream and select tribs, fr Silvernails to Taconic Shrs

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) survey of Roeliff Jansen Kill at multiple sites from Linlithgo to Ancram was conducted in 1992. Sampling results indicated non-impacted water quality conditions for this entire reach. Similar results were found again in 1997 and 1998 at the downstream Linlithgo site. Based on these results, this reach is considered to have no known impacts and to fully support all uses. Due to the time since the most recent assessment and the use of sampling results downstream of this reach, the assessment of no known impacts to water quality is considered to be an evaluated assessment. (DEC/DOW, BWAM/RIBS, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from Shekomeko Creek (-39) in Silvernails to Robinson Pond (P902) in Taconic Shores. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Spaulding Furnace Brook (-40), Hoysradt Brook (-49) and Long Pond Outlet (-55), are Class C,C(T),C(T). Shekomeko Creek (-39), Punch Brook (-57) and Bash Bish Brook (-59) are listed separately.

Roeliff Jan Kill, Upper, and tribs (1308-0002) Need Verific

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188
Drain Basin: Lower Hudson River
Hydro Unit Code: 02020006/180 **Str Class:** C(TS)
Middle Hudson River
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 59.6 Miles
Quad Map: HILLSDALE (M-26-2)
Seg Description: stream and tribs, above Taconic Shores/Robinson Pond

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: D.O./Oxygen Demand, Pathogens

Source(s) of Pollutant(s)
Known: - - -
Suspected: ON-SITE/SEPTIC SYST, Agriculture
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/Reg4
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support and recreational uses in this portion of the Roeliff Jansen Kill may experience minor impacts due to nutrient loadings from agricultural and other nonpoint sources. Due to the amount of time since this segment was last sampled, the segment is listed as needing verification of impacts.

Water Quality Sampling
Biological (macroinvertebrate) assessments of the Roeliff Jansen Kill near Hillsdale (at Black Grocery Road and at Route 22) were conducted in 1993. Sampling results indicated slightly impacted water quality at the upstream site and non-impacted water quality conditions below Hillsdale. Nutrient enrichment from nonpoint sources was identified as the most likely source of impacts. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Previous concerns had been raised regarding inputs from failing and/or inadequate septic systems and agricultural activity in the area. Problems with on-site septic systems serving Hillsdale have been noted by the Columbia County Health Department as a public health nuisance and contribute to water quality concerns. The county has required both short-term actions to temporarily relieve the immediate public health concerns and a plan for wastewater collection and treatment

to address the problem in the long-term. (DEC/DOW, Region 4 and Columbia County Health Department, 1996)

Another concern is agricultural runoff from manure-sprayed fields. A past fish kill in the creek was attributed to manure runoff. However, the practices at this particular site have been improved and there have been no recent incidents. Generally, the stream is considered a productive trout fishery, with both wild and stocked populations. (DEC/DFWMR, Region 4 Fisheries, December 1999)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above Robinson Pond (P902) in Taconic Shores. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Renwick Brook (-72) and North Hillsdale Stream (-79), are Class C,C(T),C(T).

Klein Kill and tribs (1308-0012) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188- 2
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 48.0 Miles
Quad Map: HUDSON SOUTH (M-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 Klein Kill in Linlithgo (at Wire Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Nutrient enrichment was noted in the sample. Although the sample was heavily dominated by filter-feeding caddisflies, the fauna included some clean-water mayflies. 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, June 2005)

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

Doove Kill and tribs (1308-0013) MinorImpacts

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188-18
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 24.1 Miles
Quad Map: CLERMONT (M-25-3)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: - - -

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

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Doove Kill is thought to experience minor impacts due to nutrient loadings from agricultural and other nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Doove Kill in Manorton (at Route 19) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by filter-feeding caddisflies and Impact Source Determination identified nonpoint source nutrient enrichment as the primary source of impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

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

Shekomeko Creek and tribs (1308-0017) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188-39
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 54.3 Miles
Quad Map: PINE PLAINS (N-26-1)
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 Shekomeko Creek in Pine Plains (off Rudd Road) was conducted in 2002. Sampling results indicated non-impacted water quality conditions. The fauna was diverse and well-balanced . (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS). Tribs to this reach/segment, including Bean River (-8) are Class C,C(TS).

Bash Bish Brook and tribs (1308-0021) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-188-59
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 34.6 Miles
Quad Map: COPAKE (M-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
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 Bash Bish Brook in Copake Falls (at Valley View 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. (DEC/DOW, BWAM/SBU, June 2005)

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 Norster Kill (-2) and Cedar Brook (-8), are Class C,C(T),C(TS).

Shaver Pond (1308-0023) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H-188-63-P903
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 11.5 Acres
Quad Map: COPAKE (M-26-3)
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
Shaver Pond has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) most recently in 1997. An Interpretive Summary report of the findings of this sampling was published in 1998. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements meet what is 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, 1998)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake reflects relatively high water clarity and low levels of weed growth. (DEC/DOW, BWAM/CSLAP, 1998)

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.

Robinson Pond (1308-0003) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No:	H-188-P902			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/180	**Str Class:**	B(T)		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Columbia Co. (11)
Waterbody Size:	113.7 Acres			**Quad Map:**	COPAKE (M-26-3)
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, NUTRIENTS (phosphorus)
Suspected: - - -
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: AGRICULTURE, On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: 3a->1*

Further Details

Overview
Recreational uses in Robinson Pond are considered to be impaired due to algal growth and low water transparency. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are the primary contributor to recreational and aesthetic impacts. Agricultural activity and on-site (septic) systems are thought to be sources of these pollutants.

Water Quality Sampling
Robinson Pond has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1989 and continuing through 1993, and again in 2007. An Interpretive Summary report of the findings of this sampling was published in 2008. 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 typically 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; occasional high

pH does not appear to impact aquatic life. The lake water is usually weakly colored, however during most recent sampling color was high enough to influence transparency. (DEC/DOW, BWAM/CSLAP, February 2008)

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 "not quite crystal clear" to having "definite algae greenness," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface, but plant coverage is dependent upon aquatic plant management activities in the lake. (DEC/DOW, BWAM/CSLAP, February 2008)

Lake Uses

This lake waterbody is designated class B(T), 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. Section 303(d) Listing

Robinson Pond is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for phosphorus in the lake be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Catskill Creek, Middle, and minor tribs (1309-0004) MinorImpacts

Waterbody Location Information

Revised: 06/25/2012

Water Index No:	H-193			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/140	**Str Class:**	B(T)		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Greene Co. (20)
Waterbody Size:	112.1 Miles			**Quad Map:**	LEEDS (L-25-4)
Seg Description:	stream and select tribs, from Cautserkill to Freehold				

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	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), PATHOGENS, Aesthetics (odors, float.solids)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: MUNICIPAL (Catskill (T)), OTHER SANITARY DISCH
Suspected: ON-SITE/SEPTIC SYST
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg4 **Resolution Potential:** High
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in this portion of Catskill Creek are known to experience impacts from pathogens, nutrients and other pollutants due to untreated wastewater discharges and failing and/or inadequate on-site septic systems.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Catskill Creek above Leeds (above Route23B) was conducted as part of the RIBS biological screening effort in 2007. Sampling results indicated the upper range of slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be (relatively) insignificant and water quality is considered to be good. 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 2010)

A biological survey of Catskill Creek at multiple sites between Leeds and Livingstonville was also conducted in 1997. Sampling results presented in the Catskill Creek Biological Stream assessment Report (Novak, et al., September 1998) indicated slightly to non-impacted water quality conditions. Water quality throughout the stream was very good, with six of the 8 sites assessed as non-impacted. The other two sites, including one at Cairo in this reach, were assessed as slightly impacted but were very similar to the non-impacted sites. Nonpoint sources of nutrient enrichment were identified as the primary source of the impacts. 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, June 2005)

Source Assessment

Unpermitted discharges into the creek in the Hamlet of Leeds have been verified during a joint investigation by staff from NYSDEC, NYSDOH, and Town of Catskill in March 2008. Three direct connections (one active sanitary sewer, one inactive sanitary sewer, and two graywater discharges) were found. Although some efforts were made to address these discharges, in 2012 NYSDEC initiated enforcement action against individual dischargers who were found to be discharging wastewater to the waters of the state without a permit. Surveys of the surrounding area suggest that many of the on-site wastewater treatment systems serving homes in the area are quite old and may be in need of repair/maintenance. (DEC/DOW, Region 4, April 2012)

Farther upstream, the Town of Cairo is undergoing an upgrade of its WWTP to address ongoing problems. The Town constructed constructed a WWTP and collection system in 2000 to serve the area. However excessive inflow and infiltration and problems with the sand filters at the WWTP have plagued the collection/treatment system. A Consent Order was issued in 2001 (modified in 2005 and most recently in April 2008) to enforce the installation of new polishing sand filters and other upgrades. Because the design of the small diameter gravity sewer has complicated efforts to locate and address I/I issues, NYSDEC had emphasized efforts to adequately treat the additional wastewater flow conveyed to the WWTP. (DEC/DOW, Region 4, June 2012)

Section 303(d) Listing

This portion of Catskill Creek is not currently included on the NYS Section 303(d) List of Impaired/TMDL Waters. There is currently no data to suggest widespread impairment to the stream, and the nature of the documented problems are likely to be localized and are better addressed through other regulatory measures rather than a TMDL. (DEC/DOW, BWAM, June 2012)

Segment Description

This segment includes the portion of the stream from Kaaterskill Creek (-2) in Cauterskill to Basic Creek (-29) in Freehold. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment, including Bell/Little Jones Brook (-16) and Platte Kill (-22), are also/primarily Class C,C(T),C(TS). Kaaterskill Creek (-2), Potic Creek (-9), Jan DeBakkers Kill (-19), Shingle Kill (-20) and Basic Creek (-29) are listed separately.

Catskill Creek, Upper, and minor tribs (1309-0011) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-193
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 4/Greene Co. (20)
Waterbody Size: 228.6 Miles
Quad Map: FREEHOLD (L-24-3)
Seg Description: stream and select tribs, above Freehold

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) survey of Catskill Creek at multiple sites between Leeds and Livingstonville was conducted in 1997. Sampling results presented in the Catskill Creek Biological Stream assessment Report (Bode, et al., September 1998) indicated slightly to non-impacted water quality conditions. Water quality throughout the stream was very good, with six of the 8 sites assessed as non-impacted. The other two sites, including one at Preston Hollow in this reach, were assessed as slightly impacted but were very similar to the non-impacted sites. Nonpoint sources of nutrient enrichment were identified as the primary source of the impacts. 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, June 2005)

Segment Description
This segment includes the portion of the stream above Basic Creek (-29) in Freehold. The waters of this portion of the stream are Class C(T),C(TS) from Freehold to unnamed trib (-58), Class B to The Vlaie (P960b), and Class C for the remainder of the reach. Tribs to this reach/segment, including Bowry Creek (-31), Potter Hollow Creek (-48), Fox Creek (-50) and Lake Creek (-56), are Class C,C(T),C(TS). Basic Creek (-29), Thorp Creek (-22) and Ten Mile Creek (-41) are listed separately.

Hollster Lake (1309-0007) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No:	H-193- 1-P913			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/160	**Str Class:**	A		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Greene Co. (20)
Waterbody Size:	62.7 Acres			**Quad Map:**	LEEDS (L-25-4)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), SILT/SEDIMENT
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION, HYDRO MODIFICATION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Water supply uses in Hollister Lake may experience minor impacts due to aquatic weed growth and siltation. Due to the lack of any current information, conditions in the lake need to be verified.

Previous Assessment
Use of Hollister Lake as a water supply for the Village of Athens was previously reported to be stressed by excessive aquatic weed growth and siltation. These conditions were noted during an August 1993 inspection of the lake by the New York State Department of Health. On average the lake is about 3 feet deep and the spillway is in need of repair. The Greene County Soil and Water Conservation District was working with the village to conduct an inventory and evaluation of the reservoir and its watershed. (DEC/DOW, Region 4, 1999)

South Lake, North Lake (1309-0017) Impaired Seg

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-193- 2-P921,P922
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 4/Greene Co. (20)
Waterbody Size: 80.3 Acres
Quad Map: KAATERSKILL (M-24-2)
Seg Description: total area of both lakes

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA
Resolution Potential: Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview
Fish consumption use in North and South Lakes is impaired by mercury contamination attributed to atmospheric deposition.

Fish Consumption Advisories
Fish consumption in North, South Lakes is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger (over 15 inches) largemouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the lake watershed. The advisory for this lake was first issued in 2005-06. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing
North,South Lakes are included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the lake are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Potic Creek, Lower, and tribs (1309-0019) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-193- 9 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Greene Co. (20)
Waterbody Size: 6.8 Miles **Quad Map:** LEEDS (L-25-4)
Seg Description: stream and tribs, from mouth to Cob Creek

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 Potic Creek near Leeds (at Shady Lane 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to Cob Creek (-2). The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Lower Cob Creek (-2), are Class C. Middle/Upper Cob Creek (-2) and Middle/Upper Potic Creek are listed separately.

Potuck (Potic) Reservoir (1309-0024) Threatened

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H-193- 9- 2-P925a
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake(R)
Reg/County: 4/Greene Co. (20)
Waterbody Size: 53.7 Acres
Quad Map: LEEDS (L-25-4)
Seg Description: entire reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: PATHOGENS

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

Resolution/Management Information

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

Further Details

Overview
Water supply uses of Potuck (Potic) Reservoir are thought to experience threats from pathogens due to the level of agricultural pasture lands in the watershed. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Source (Drinking) Water Assessment
The Potuck (Potic) Reservoir was assessed 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 assessment found substantial potential risks to drinking water quality. The amount of pasture in the assessment area results in high susceptibility for contamination. There is also a medium density of sanitary wastewater discharges which results in medium risks for contamination, but this finding is not fully supported by the cumulative wastewater flow analysis. There are no noteworthy contamination risks associated with other contaminant sources. Finally, it should be noted that

reservoirs in general are highly sensitive to phosphorus and microbial contaminants. This water supply reservoir provides water to the Village of Catskill. (NYSDOH, Source Water Assessment Program, 2005)

Shingle Kill and tribs (1309-0008) NoKnownImpct

Waterbody Location Information

Revised: 05/29/2008

Water Index No: H-193-20
Hydro Unit Code: 02020006/140 **Str Class:** C(TS)
Waterbody Type: River
Waterbody Size: 25.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Greene Co. (20)
Quad Map: FREEHOLD (L-24-3)

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: 3a->n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Shingle Kill in Cairo (at Route 23B) 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. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Recreational uses and aesthetics of the Shingle Kill were previously reported to be affected by raw sewage discharges from private and on-site wastewater treatment systems. However the Village of Cairo has constructed a community wastewater treatment system that now serves most of the homes in the area. (DEC\DOW, Region 4, June 1998)

Section 303(d) Listing
Shingle Kill is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The waterbody is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the previous impacts to water quality have been addressed and that more recent monitoring results find conditions are fully supporting of uses are continued listing is not warranted. (DEC/DOW, BWAM, May 2008)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS), with portions in the forest preserve. Tribs to this reach/segment, including Trout Creek (-3), are Class C,C(T),C(TS), with portions in the forest preserve.

Basic Creek, Lower, and tribs (1309-0027) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-193-29 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Greene Co. (20)
Waterbody Size: 57.5 Miles **Quad Map:** GREENVILLE (L-24-2)
Seg Description: stream and tribs, from mouth to reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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) survey of Basic Creek at multiple sites between Freehold to Fords Corners was conducted in 1995. Sampling results presented in the Basic Creek Biological Stream Assessment Report (Bode, et al., May 1996) indicated slightly to non-impacted water quality conditions. Two of the three sites located in this reach below the reservoir were found to be non-impacted; the other site was slightly impacted but influenced by impoundment effects from the reservoir. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to Basic Creek Reservoir (P950a). The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Wolf Fly Creek (-10), are Class C,C(T). Upper Basic Creek is listed separately.

Basic Creek, Upper, and tribs (1309-0028) Need Verific

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-193-29 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(TS)
Waterbody Type: River **Reg/County:** 4/Albany Co. (1)
Waterbody Size: 54.1 Miles **Quad Map:** WESTERLO (K-24-3)
Seg Description: stream and tribs, above reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: - - -

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

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of Basic creek is thought to experience minor threats due to nutrient enrichment from agricultural and other nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) survey of Basic Creek at multiple sites between Freehold to Fords Corners was conducted in 1995. Sampling results presented in the Basic Creek Biological Stream Assessment Report (Bode, et al., May 1996) indicated slightly to non-impacted water quality conditions. The four site located in this reach above the reservoir were found to be slightly impacted by nonpoint source nutrient enrichment. Although aquatic life is supported in the stream, nutrient biotic evaluation suggests the level of eutrophication is sufficient to threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs above the Basic Creek Reservoir (P950a). The waters of this portion of the stream are Class A(TS) to unnamed trib (-18) above Westerlo, and Class C for the remainder of the reach. Tribs to this reach/segment are Class C. Lower Basic Creek is listed separately.

Basic Creek Reservoir (1309-0001) Impaired Seg

Waterbody Location Information

Revised: 07/15/2008

Water Index No:	H-193-29-P950a			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/140	**Str Class:**	A		Middle Hudson River
Waterbody Type:	Lake(R)			**Reg/County:**	4/Albany Co. (1)
Waterbody Size:	236.8 Acres			**Quad Map:**	GREENVILLE (L-24-2)
Seg Description:	entire reservoir				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected
PUBLIC BATHING	Impaired	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation), NUTRIENTS (phosphorus), Water Level/Flow
Suspected: - - -
Possible: D.O./Oxygen Demand, Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, HYDRO MODIFICATION, Urban/Storm Runoff
Possible: Landfill/Land Disp., On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/WQMS **Resolution Potential:** Medium
TMDL/303d Status: 3a,4c (Waterbody Requiring Verification of Impairment, more)

Further Details

Overview
Recreational uses in Basic Creek Reservoir are impaired by excessive aquatic weeds and algal growth and elevated nutrient loadings (phosphorus) from various nonpoint sources. Water supply uses of the reservoir are also considered to be threatened due to the potential for the formation of disinfection by-products when water is treated with chlorine for public water use.

Water Quality Sampling
Basic Creek Reservoir was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) Program in 2004. The results of this sampling indicate that the lake is best characterized as eutrophic, or highly productive. Phosphorus levels in the lake often exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically fail to meet what is the recommended minimum for swimming beaches. Chlorophyl measurements in the lake were also found to be quite high. (DEC/DOW, BWAM/CSLAP, October 2005)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

NYSDOH Source Waters Assessment

The NYSDOH Source Waters Assessment

Program (SWAP) 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. These reports do not address the safety or quality of treated finished potable tap water. This water supply reservoir provides water to the City of Albany. This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of pasture in the assessment area results in a high potential for contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality based on the type of discharge. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, such as landfills, mines, and other sources. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination. (NYSDOH, Source Water Assessment Program, 2005)

Previous Assessment

Impacts to the reservoir were significant enough that the City of Albany uses the reservoir only as emergency/backup source. Management of the reservoir to support the water supply use has also had impacts of the fishery, in particular an extensive fish kill in 1995. A variety of other conditions contribute to water quality issues in the reservoir. Poor conservation practices on agricultural lands in the reservoir watershed contribute heavy nutrient and sediment loads, which encourage plant growth. Also the reservoir is very shallow in some places, resulting in dense rooted aquatic weed growth that discourages recreational uses Dredging to increase reservoir capacity and improve water quality has been suggested. (DEC/DOW, Region 4, December 1997)

Section 303(d) Listing

Basic Creek Reservoir is included on the NYS 2008 Section 303(d) List of Impaired Waters. The reservoir is included on Part 3a of the List as an Impaired Water for which TMDL Development May be Deferred due to the need to verify the impairment. However this updated assessment suggests that the suspected impairments are confirmed and the reservoir be moved to Part 1 of the List as Waterbody Requiring TMDL Development (or other strategy to attain water quality standards). The reservoir is currently listed as being impaired by aesthetics (algal blooms), however the listing should be revised to indicate that phosphorus is the most significant cause of the aquatic weed and algal growth. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2008)

Ten Mile Creek and tribs (1309-0030) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-193-41
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Albany Co. (1)
Waterbody Size: 95.3 Miles
Quad Map: DURHAM (L-24-1)
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) survey of Tenmile Creek at multiple sites between Oak Hill and Rensselaerville was conducted in 1997. Sampling results presented in the Tenmile Creek Biological Stream Assessment Report (Bode, et al., April 1998) indicated slightly to non-impacted water quality conditions. Four of five sites were assessed as slightly impacted, while the farthest downstream site was found to be non-impacted. Nutrient enrichment was identified as the primary source of the impacts. 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, June 2005)

Previous Assessment
Previously reported minor impacts below the Hamlet of Rensselaerville may be the result of wastewater treatment overflows serving a small cluster of homes. Rensselaerville is now served by a community wastewater system (septic tank, sand filter with subsurface disposal). There have been no sanitary sewer overflows in the area since the system is installed. (DEC/DOW, Region 4, May 2008)

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 Eight Mile Creek (-3), are Class C,C(TS).

Sleepy Hollow Lake (1301-0059) Impaired Seg

Waterbody Location Information

Revised: 07/15/2008

Water Index No:	H-202-P8f			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/130	**Str Class:**	A		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Greene Co. (20)
Waterbody Size:	257.9 Acres			**Quad Map:**	HUDSON NORTH (L-25-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected
PUBLIC BATHING	Impaired	Known
Recreation	Stressed	Suspected
Aesthetics	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, SILT/SEDIMENT
Suspected: Nutrients
Possible: Pesticides

Source(s) of Pollutant(s)

Known: - - -
Suspected: STREAMBANK EROSION, 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/WQMS **Resolution Potential:** Medium
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview
Public bathing use in Sleepy Hollow Lake is impaired and other recreational uses impacted by excessive aquatic weeds and algal growth, elevated turbidity and silt/sediment loadings from various nonpoint sources. Water supply use of the reservoir is also considered to be threatened due to the elevated turbidity. Moderate nutrient levels in the lake also result in a potential for the formation of disinfection by-products when water is treated with chlorine for public water use.

Water Quality Sampling
Sleepy Hollow Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) Program in 2004. The results of this sampling indicate that the lake is best characterized as mesoeutrophic, or moderately highly productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically fail to meet what is the recommended minimum for swimming beaches. Chlorophyl measurements in the lake were found to be in a range indicative of mesotrophic conditions. (DEC/DOW, BWAM/CSLAP, October 2005)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

NYSDOH Source Waters Assessment

The NYSDOH Source Waters Assessment

Program (SWAP) 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. These reports do not address the safety or quality of treated finished potable tap water. This water supply reservoir provides water to the Sleepy Hollow Water Company and is an alternate supply for the Village of Athens. This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of pasture in the assessment area results in a high potential for contamination. There is also a moderate density of sanitary wastewater discharges which results in elevated susceptibility for all contaminate categories. However, the total amount of wastewater discharged to surface water in this assessment area is not high enough to further raise the potential for contamination. There are also noteworthy contamination potential associated with other discrete contaminant sources, such as chemical storage, hazardous waste sites and other sources. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination. (NYSDOH, Source Water Assessment Program, 2005)

Source Assessment

Various nonpoint sources are the most significant contributor of pollutant loadings the lake. Storm runoff from increasing areas of residential development and streambank erosion contribute to siltation and increased sediment loads. Agricultural activity (dairy, cropland) in the watershed is another source of sediment and nutrient loads to the lake. There is also some concern about pesticides from former orchard lands in the watershed. Water and sewer districts serve the Sleepy Hollow community. (DEC/DOW, Region 4, 1999)

Water Quality Management

The Sleepy Hollow Lake Association directs lake watershed management activities in cooperation with the Greene County SWCD.

Section 303(d) Listing

Sleepy Hollow Lake 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 Requiring TMDL Development (or other strategy to attain water quality standards). The lake is currently listed as being impaired by silt/sediment. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2008)

Kinderhook Creek, Lower, and minor tribs (1310-0021) MinorImpacts

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H-204- 2 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 41.0 Miles **Quad Map:** STOTTVILLE (L-26-4)
Seg Description: stream and select tribs, from mouth near Valatie

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS, THERMAL CHANGES
Possible: Metals (lead)

Source(s) of Pollutant(s)
Known: - - -
Suspected: AGRICULTURE, HABITAT MODIFICATION
Possible: Tox/Contam. Sediment

Resolution/Management Information

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

Further Details

Overview
Aquatic life support and recreational uses in this portion of Kinderhook Creek are thought to experience minor impacts due to nutrient loadings from agricultural and other nonpoint sources. Aquatic habitat in the stream may also be affected by elevated temperatures and the removal of riparian vegetation.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Kinderhook Creek in Rossman, Columbia County, (at Rossman Hill Road) 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 slightly impacted water quality conditions. Nutrient enrichment was the most likely factor in this assessment. Water column sampling revealed iron, aluminum and water temperature to be parameters of concern. However, these substances may be considered to be naturally occurring and not a significant source of water quality impacts. Bottom sediment sampling results revealed lead 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 has minor impacts, but is generally supportive of the water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Kinderhook Creek was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results at that time indicated non-impacted water quality conditions. (DEC/DOW, BWAM/RIBS, January 2005)

These results are consistent with findings of a survey of Kinderhook Creek conducted at multiple sites between Rossman and Garfield in 2000. Sampling results presented in the Kinderhook Creek Biological Stream assessment Report (Bode, et al., May 2001) indicated non-impacted water quality conditions at all but the most upstream and downstream sites; however two of the three sites within this downstream reach (at Rossman and Stuyvesant Falls) were found to be slightly impacted. In spite of these minor impacts nutrient biotic indices indicate aquatic life support is fully supported in the stream. (DEC/DOW, BWAM/SBU, June 2005)

Other Issues/Threats
Aquatic life support in this portion of the Kinderhook Creek may be affected by occasional high temperatures. While somewhat higher water temperatures during the summer months are to be expected, the removal of riparian buffer and canopy vegetation along the creek may be exacerbating the problem. Kinderhook Creek is a popular trout water and has been designated a "priority" watershed by the Columbia County WQCC. The county has raised concerns about potential threats from agricultural activity runoff, streambank erosion, subdivision construction/development and road salting/sanding that may also affect aquatic life including the fishery. The county has received funding to conduct Agricultural Environmental Management (AEM) assessments in the watershed and is pursuing funding to form a watershed advisory committee. (Columbia County WQCC, June 1998)

Fishery Assessment Below Valatie the stream is designated as and considered a warmwater fishery and is not generally supportive of trout populations. (DEC/DFWMR, Region 4, November 1999)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs from the mouth to Klein Kill (-9) near Valatie. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Brophy Creek (-8), are Class C,C(T). Valatie Kill (-7), Klein Kill (-9) and Middle/Upper Kinderhook Creek are listed separately.

Kinderhook Creek, Middle, and mnr tribs (1310-0017) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No:	H-204- 2			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/100	**Str Class:**	C(T)		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Columbia Co. (11)
Waterbody Size:	72.0 Miles			**Quad Map:**	EAST CHATHAM (L-26-2)
Seg Description:	stream and select tribs, from nr Valatie to East Nassau				

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) survey of Kinderhook Creek at multiple sites between Rossman and Garfield was conducted in 2000. Sampling results presented in the Kinderhook Creek Biological Stream assessment Report (Bode, et al., May 2001) indicated non-impacted water quality conditions at all but the most downstream sites, including the two sites within this reach at Chatham Center and Brainard. 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, June 2005)

Other Issues/Threats
Aquatic life support in this portion of the Kinderhook Creek may be affected by occasional high temperatures. While somewhat higher water temperatures during the summer months are to be expected, the removal of riparian buffer and canopy vegetation along the creek may be exacerbating the problem. Kinderhook Creek is a popular trout water and has been designated a "priority" watershed by the Columbia County WQCC. The county has raised concerns about potential threats from agricultural activity runoff, streambank erosion, subdivision construction/development and road salting/sanding that may also affect aquatic life including the fishery. The county has received funding to conduct Agricultural Environmental Management (AEM) assessments in the watershed and is pursuing funding to form a watershed advisory committee. (Columbia County WQCC, June 1998)

Fishery Assessment NYS DEC Fisheries considers the segment to support trout populations and stocks portions of Kinderhook Creek. Below Valatie the stream is designated as and considered a warmwater fishery and is not generally supportive of trout populations. (DEC/DFWMR, Region 4, November 1999)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Klein Kill (-9) to Tackawasic Creek (-18) in East Nassau. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Angel Brook (-12) and Green Brook (-15), are Class C,C(T),C(TS). Klein Kill (-9), Stony Kill (-10), Tackawasic Creek (-18) and Lower, Middle Kinderhook Cree are listed separately.

Kinderhook Creek, Upper, and minor tribs (1310-0022) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 2 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 4/Rensselaer Co. (42)
Waterbody Size: 150.3 Miles **Quad Map:** CANAAN (L-27-1)
Seg Description: stream and select tribs, above East Nassau

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) survey of Kinderhook Creek at multiple sites between Rossman and Garfield was conducted in 2000. Sampling results presented in the Kinderhook Creek Biological Stream assessment Report (Bode, et al., May 2001) indicated non-impacted water quality conditions at all but the most downstream sites, including the two sites within this reach at West Lebanon and Garfield. These upstream sites revealed some indication of nutrient enrichment, but 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, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above Tackawasic Creek (-18) in East Nassau. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Black Brook (-20), Roaring Brook (-35), East Creek (-39), West Brook (Kinderhook Creek is called West Brook above East Creek) and East Brook (-40), are also/primarily Class C,C(T),C(TS). Wyomanock Creek (-25), Black River (-36) and Lower/Middle Kinderhook Creek are listed separately.

Valatie Kill, Middle, and tribs (1310-0003) Impaired Seg

Waterbody Location Information

Revised: 05/29/2008

Water Index No: H-204- 2- 7
Hydro Unit Code: 02020006/120 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 38.8 Miles
Seg Description: stream and tribs, from Kinderhook Lake to Rosecrans Pk

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Rensselaer Co. (42)
Quad Map: KINDERHOOK (L-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)
Known: PRIORITY ORGANICS (PCBs)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: LANDFILL/LAND DISP. (Dewey Loeffel)
Suspected: Tox/Contam. Sediment
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/DER **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview
Fish consumption and recreational uses in this portion of Valatie Kill are considered to be impaired due to PCB contamination from past hazardous waste land disposal.

Fish Consumption Advisories
Fish consumption in this portion of Valatie Kill is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of American eel, bluegill and redbreasted sunfish because of elevated PCB levels. The source of contamination has been identified as the Dewey Loeffel hazardous waste disposal site. This advisory applies to the entire segment from Kinderhook Lake to Nassau Lake. The advisory was first issued prior to 1998-99. (2007-08 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2007)

Hazardous Waste Site Impacts
The Dewey Loeffel inactive hazardous waste disposal site (Site No. 4-42-006) has been identified as a source of both surface and groundwater contamination in the Nassau Lake watershed. This industrial waste site was used to dispose of industrial solvents, PCB contaminated oils, paints and other chemicals until it was closed in 1970. Construction of

source containment measures were completed in 1984; however PCB contamination in off-site drainage and elevated PCBs in fish from Nassau Lake were subsequently identified. Elevated levels of trichloroethene, methyl chloride and benzene were also reported in the groundwater near the site in 1993. Numerous investigations have been completed to date. These include an engineering evaluation followed by design and construction of a slurry wall and containment cell cap to address contaminant source controls within the landfill; RI/FS documents and Record of Decision (ROD) dated January 2001 addressing groundwater contamination and enhanced source controls; and RI/FS documents and ROD dated January 2002 addressing surface water PCB-contamination that has impacted water, sediment and biota in the Nassau Lake drainage basin. Construction of a replacement Nassau Lake dam and pumping from the off-site groundwater plume began in early 2008. Currently, the design to address the groundwater contamination (OU2) is underway and is expected to be completed in 2008. Locations with elevated PCB-contamination in the drainage basin has been mitigated. Long term site management continues and includes continued pump out and off-site disposal of leachate collected from the containment cell, groundwater monitoring to assess containment cell integrity and tracking of the off-site groundwater plume and surface water drainage basin monitoring. Fish sampling continue to show elevated levels of PCBs, resulting in the NYSDOH advisory. However, levels of PCB in sediment are low and recreational use of the lake is not restricted. (DEC/DER, Environmental Site Remediation Database, 2008)

Section 303(d) Listing

This portion of Valatie Kill is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water. This waterbody was first listed prior to the 2002 Section 303(d) List. (DEC/DOW, BWAM, May 2008)

Segment Description

This segment includes the portion of the stream and all tribs from Kinderhook Lake (P24) to Nassau Lake (P34) in Rosecrans Park. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C. Lower/Upper Valatie Kill are listed separately.

Valatie Kill, Upper, and tribs (1310-0024) Impaired Seg

Waterbody Location Information

Revised: 05/29/2008

Water Index No: H-204- 2- 7
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 30.5 Miles
Quad Map: NASSAU (K-26-3)
Seg Description: stream and tribs, above Nassau Lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Precluded	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

Known: PRIORITY ORGANICS (PCBs)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: LANDFILL/LAND DISP. (Dewey Loeffel)
Suspected: Tox/Contam. Sediment
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/DER
Resolution Potential: Medium
TMDL/303d Status: n/a->2b*

Further Details

Overview
Fish consumption and recreational uses in this portion of Valatie Kill are considered to be impaired due to PCB contamination from past hazardous waste land disposal.

Fish Consumption Advisories
Fish consumption in this portion of Valatie Kill is impaired due to a NYSDOH health advisory that recommends eating no fish (all species) because of elevated PCB levels. The source of contamination has been identified as the Dewey Loeffel hazardous waste disposal site. This advisory extends from Nassau Lake to County Route 18. The advisory was first issued prior to 1998-99. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006)

Hazardous Waste Site Impacts
The Dewey Loeffel inactive hazardous waste disposal site (Site No. 4-42-006) has been identified as a source of both surface and groundwater contamination in the Nassau Lake watershed. This industrial waste site was used to dispose of industrial solvents, PCB contaminated oils, paints and other chemicals until it was closed in 1970. Construction of source containment measures were completed in 1984; however PCB contamination in off-site drainage and elevated

PCBs in fish from Nassau Lake were subsequently identified. Elevated levels of trichloroethene, methyl chloride and benzene were also reported in the groundwater near the site in 1993. Numerous investigations have been completed to date. These include an engineering evaluation followed by design and construction of a slurry wall and containment cell cap to address contaminant source controls within the landfill; RI/FS documents and Record of Decision (ROD) dated January 2001 addressing groundwater contamination and enhanced source controls; and RI/FS documents and ROD dated January 2002 addressing surface water PCB-contamination that has impacted water, sediment and biota in the Nassau Lake drainage basin. Construction of a replacement Nassau Lake dam and pumping from the off-site groundwater plume began in early 2008. Currently, the design to address the groundwater contamination (OU2) is underway and is expected to be completed in 2008. Locations with elevated PCB-contamination in the drainage basin has been mitigated. Long term site management continues and includes continued pump out and off-site disposal of leachate collected from the containment cell, groundwater monitoring to assess containment cell integrity and tracking of the off-site groundwater plume and surface water drainage basin monitoring. Fish sampling continue to show elevated levels of PCBs, resulting in the NYSDOH advisory. However, levels of PCB in sediment are low and recreational use of the lake is not restricted. (DEC/DER, Environmental Site Remediation Database, 2008)

Water Quality Sampling

A biological (macroinvertebrate) assessment of this portion of Valatie Kill in Nassau (at Mead Road) was conducted in 1997. Sampling results indicated non-impacted water quality conditions. The fauna was dominated by caddisflies and mayflies were sparse, but most indices were favorable. (DEC/DOW, BWAM/SBU, June 2005)

Section 303(d) Listing

This portion of Valatie Kill is not 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 next (2010) List. It is recommended that a listing for PCBs be added to Part 2b (Fish Consumption Waters) of the List. (DEC/DOW, BWAM, May 2008)

Segment Description

This segment includes the portion of the stream and all tribs above Nassau Lake, including unnamed tribs (-1) to Nassau Lake. The waters of this portion of the stream are Class C(T),C. Tribs to this reach/segment are Class C. Lower/Middle Valatie Kill are listed separately.

Kinderhook Lake (1310-0002) Impaired Seg

Waterbody Location Information

Revised: 05/01/2008

Water Index No:	H-204- 2- 7-P24			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/120	**Str Class:**	B		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Columbia Co. (11)
Waterbody Size:	344.6 Acres			**Quad Map:**	KINDERHOOK (L-26-1)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: - - -
Suspected: ON-SITE/SEPTIC SYST, TOX/CONTAM. SEDIMENT, Agriculture, Landfill/Land Disp. (Dewey Loeffel), 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/DER **Resolution Potential:** Medium
TMDL/303d Status: 1,2b (Individual Waterbody Impairment Requiring a TMDL, more)

Further Details

Overview
Fish consumption and recreational uses in Kinderhook Lake are considered to be impaired due to PCB contamination and aquatic weed and algal growth and low water transparency. A fish consumption advisory has been issued for the lake due to impacts from past land disposal. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are considered the primary contributors to the recreational and aesthetic impacts. Previous assessments noted that failing and/or inadequate on-site septic systems serving lake shore homes as well as agricultural nonpoint sources may be contributing to the water quality problems.

Fish Consumption Advisories
Fish consumption in Kinderhook Lake is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of American eel because of elevated PCB levels. This advisory was first issued prior to 1998-99. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006)

Hazardous Waste Site Impacts The Dewey Loeffel Inactive Hazardous Waste Disposal site (Site No. 4-42-006) located along Nassau Lake just upstream has been identified as the source of PCB contamination in Kinderhook Lake. This industrial waste site was used to dispose of industrial solvents, PCB contaminated oils, paints and other chemicals until it was closed in 1970. Construction of source containment measures were completed in 1984; however PCB contamination in off-site drainage and elevated PCBs in fish from Nassau Lake were subsequently identified. Fish sampling continue to show elevated levels of PCBs, resulting in the NYSDOH advisory. However, levels of PCB in sediment are low and recreational use of the lake is not restricted. See also the listing for Nassau Lake. (DEC/DER, Environmental Site Remediation Database, 2008)

Water Quality Sampling

Kinderhook Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1996 through 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as 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 regularly 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; occasionally high pH does not appear to impact aquatic life. (DEC/DOW, BWAM/CSLAP, November 2002)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be fairly favorable. The recreational suitability of the lake is described most frequently as "excellent" or "slightly" impacted for most recreational uses, and assessment the is inconsistent with measured water quality conditions and suggesting the reduced water quality is perceived as normal. The lake itself is most often described as having "definite algae greenness." Assessments have noted that aquatic plants occasionally grow to the lake surface and are not thought to significantly impact recreation. (DEC/DOW, BWAM/CSLAP, November 2002)

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 public bathing use is generally the responsibility of state and/or local health departments.

Section 303(d) Listing

Kinderhook Lake is currently included on the NYS 2008 Section 303(d) List of Impaired Waters; it is included on Part 1 of the List as a waterbody with Impairment Requiring TMDL Development due to phosphorus and on Part 2b of the List as a Fish Consumption Water. (DEC/DOW, BWAM/WQAS, May 2008)

Nassau Lake (1310-0001) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No:	H-204- 2- 7-P34			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/120	**Str Class:**	B		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Rensselaer Co. (42)
Waterbody Size:	171.7 Acres			**Quad Map:**	NASSAU (K-26-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation), NUTRIENTS (phosphorus), PRIORITY ORGANICS (PCBs)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION, LANDFILL/LAND DISP. (Dewey Loeffel), TOX/CONTAM. SEDIMENT
Suspected: ON-SITE/SEPTIC SYST, URBAN/STORM RUNOFF
Possible: Agriculture

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/DER **Resolution Potential:** Medium
TMDL/303d Status: 1*,2b,4c*

Further Details

Overview
Fish consumption and recreational uses in Nassau Lake are considered to be impaired due to PCB contamination and aquatic weed and algal growth and low water transparency. A fish consumption advisory has been issued for the lake due to impacts from past land disposal. Elevated nutrient (phosphorus) loads attributed to nonpoint sources are considered the primary contributors to the recreational and aesthetic impacts. Previous assessments noted that failing and/or inadequate on-site septic systems serving lake shore homes as well as agricultural nonpoint sources may be contributing to the water quality problems.

Fish Consumption Advisories
Fish consumption in Nassau Lake is impaired due to a NYSDOH health advisory that recommends eating no fish (all species) because of elevated PCB levels. This advisory was first issued prior to 1998-99. (2006-07 NYSDOH Health

Advisories and DEC/DFWMR, Habitat, December 2006)

Hazardous Waste Site Impacts The Dewey Loeffel Inactive Hazardous Waste Disposal site (Site No. 4-42-006) has been identified as a source of both surface and groundwater contamination in the Nassau Lake watershed. This industrial waste site was used to dispose of industrial solvents, PCB contaminated oils, paints and other chemicals until it was closed in 1970. Construction of source containment measures were completed in 1984; however PCB contamination in off-site drainage and elevated PCBs in fish from Nassau Lake were subsequently identified. Elevated levels of trichloroethene, methyl chloride and benzene were also reported in the groundwater near the site in 1993. Numerous investigations have been completed to date. These include an engineering evaluation followed by design and construction of a slurry wall and containment cell cap to address contaminant source controls within the landfill; RI/FS documents and Record of Decision (ROD) dated January 2001 addressing groundwater contamination and enhanced source controls; and RI/FS documents and ROD dated January 2002 addressing surface water PCB-contamination that has impacted water, sediment and biota in the Nassau Lake drainage basin. Construction of a replacement Nassau Lake dam and pumping from the off-site groundwater plume began in early 2008. Currently, the design to address the groundwater contamination (OU2) is underway and is expected to be completed in 2008. Locations with elevated PCB-contamination in the drainage basin has been mitigated. Long term site management continues and includes continued pump out and off-site disposal of leachate collected from the containment cell, groundwater monitoring to assess containment cell integrity and tracking of the off-site groundwater plume and surface water drainage basin monitoring. Fish sampling continue to show elevated levels of PCBs, resulting in the NYSDOH advisory. However, levels of PCB in sediment are low and recreational use of the lake is not restricted. (DEC/DER, Environmental Site Remediation Database, 2008)

Water Quality Sampling

Nassau Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1982 through 1990, and from 1996 through 2000. An Interpretive Summary report of the findings of this sampling was published in 2001. 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 typically 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; occasionally high pH does not appear to impact aquatic life. (DEC/DOW, BWAM/CSLAP, June 2001)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be fairly favorable. The recreational suitability of the lake is described most frequently as "excellent" for most recreational uses. The lake itself is most often described as "not quite crystal clear" to having "definite algae greenness." These assessments are higher than expected based on measured water quality characteristics. Assessments have noted that aquatic plants do not typically grow to the lake surface and are not thought to significantly impact recreation. (DEC/DOW, BWAM/CSLAP, June 2001)

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.

Section 303(d) Listing

Nassau Lake is currently included on the NYS 2008 Section 303(d) List of Impaired Waters; it is included on Part 2b of teh List as a Fish Consumption Water. This updated assessment suggests it is appropriate to also include this waterbody on the 2010 List due to impairments to recreation from nutrients in the lake. 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)

Kline Kill and tribs (1310-0028) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 2- 9
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 67.9 Miles
Quad Map: KINDERHOOK (L-26-1)
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 Kline Kill in Chatham (at Merwin 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS). Tribs to this reach/segment, including Indian Creek (-3) and Punsit Creek (-4), are Class C,C(T),C(TS).

Smith Pond (1310-0009) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-204- 2- 9- 1-P42
Hydro Unit Code: 02020006/120 **Str Class:** C
Waterbody Type: Lake
Waterbody Size: 26.9 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Columbia Co. (11)
Quad Map: CHATHAM (L-26-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH
Possible: Nutrients, Salts, Silt/Sediment

Source(s) of Pollutant(s)
Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Smith Pond may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns and conditions in the lake need to be verified.

Previous Assessment
Aesthetics in the lake were reported as being affected by excessive aquatic weed growth and odors. Storm sewers in the Village of Chatham that contributing floatables, silt/sediment, nutrients and various other pollutants to the pond were cited as the suspected source. (Columbia County SWCD, 1996)

Queechy Lake (1310-0033) NoKnownImpct

Waterbody Location Information

Revised: 04/16/2008

Water Index No: H-204- 2-10-P57
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: Lake
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 137.2 Acres
Quad Map: CANAAN (L-27-1)
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
Queechy Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and most recently in 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. The most recent data (2006) suggest conditions typical of an oligotrophic or unproductive lake. Phosphorus levels in the lake are significantly below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements that greatly exceed the recommended minimum for swimming beaches. Measurements of pH are typically high relative to the state water quality range of 6.5 to 8.5, but this does not result in ecological impacts. The lake water is moderately to weakly 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 since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "crystal clear" to "not quite crystal clear," an assessment that is

consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. (DEC/DOW, BWAM/CSLAP, April 2007)

Lake Uses

This lake waterbody is designated class B(T), suitable for use as a public bathing beach, general recreation and aquatic life support, but not as 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.

Tackawasic Creek, Lower, and tribs (1310-0035) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 2-18 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** B(T)
Waterbody Type: River **Reg/County:** 4/Rensselaer Co. (42)
Waterbody Size: 1.5 Miles **Quad Map:** NASSAU (K-26-3)
Seg Description: stream and tribs, from mouth to Tackawasic 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
A biological (macroinvertebrate) assessment of Tackawasick Creek in Hoags Corners (at Route 21) 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to Tackawasic Lake (P65). The waters of this portion of the stream are Class B(T). Tribs to this reach/segment are Class C. Upper Tackawasic Creek is listed separately.

Wyomanock Creek and tribs (1310-0039) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 2-25 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 47.6 Miles **Quad Map:** CANAAN (L-27-1)
Seg Description: entire stream and tribs, within NYS

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Wyomanock Creek in West Lebanon (at Adamas Crossing 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs, within NYS. The waters of the stream are Class C(TS). Tribs to this reach/segment, including South Branch/Shaker Brook (-3), are Class C,C(T),C(TS).

Black River and tribs (1310-0043) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 2-36
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 22.6 Miles
Quad Map: STEPHENTOWN CENTER (K-27-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Black River near Garfield (at Route 28) 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. (DEC/DOW, BWAM/SBU, June 2005)

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

Round Pond (1310-0044) NoKnownImpct

Waterbody Location Information

Revised: 04/16/2008

Water Index No: H-204- 2-36- 4- 1-P80
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 12.6 Acres
Quad Map: TABORTON (K-27-1)
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
Round Pond has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 and most recently 2007. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive, although more recent phosphorus levels are more typical of unproductive lakes. Phosphorus levels in the lake only occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements consistently exceed what is the recommended minimum for swimming beaches. Measurements of pH are occasionally below the state water quality range of 6.5 to 8.5 and levels should continue to be monitored. The lake water is moderately colored, and both color and algae appear to influence water transparency. (DEC/DOW, BWAM/CSLAP, March 2008)

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 generally favorable, although these assessments have been less favorable in recent years. The recreational suitability of the lake were described most frequently as "could not be nicer" to "excellent" in most years, but more frequently as "slightly" impacted in more recent years. The lake itself is most often described as

"not quite crystal clear" to "having "definite algae greenness." These assessments are less favorable than expected given the measured water quality characteristics in the lake. Assessments have noted that aquatic plants occasionally grow to the lake surface, but do not impact recreational uses. (DEC/DOW, BWAM/CSLAP, March 2008)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Spring Lake (1310-0045) NoKnownImpct

Waterbody Location Information

Revised: 04/14/2008

Water Index No: H-204- 2-36- 4-P81
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 25.8 Acres
Quad Map: TABORTON (K-27-1)
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
Spring Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1998 and continuing through 2002. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately to highly unproductive. Low algal level and high clarity are typical of the lake. Phosphorus levels in the lake are consistently below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements meet what is recommended for swimming beaches. Measurements of pH are somewhat low but typically fall within the state water quality range of 6.5 to 8.5. The lake water is slightly colored, but this is considered to be natural and does not appear to influence lake clarity. (DEC/DOW, BWAM/CSLAP, November 2002)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as either "crystal clear" or "not quite crystal clear." Assessments have noted that rooted aquatic plants densities have increased slightly over the sampling period, conditions that have at times been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, November

2002)

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.

Claverack Creek, Lower, and minor tribs (1310-0047) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 37.7 Miles **Quad Map:** STOTTVILLE (L-26-4)
Seg Description: stream and select tribs, from mouth to near Claverack

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Claverack Creek in Stockport, Columbia County, (at Route 25) 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, with a diverse and well-balanced fauna containing a large number of clean-water mayflies. Water column sampling revealed only iron to be a parameter of concern. However, this substance is considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed no contaminants to be exceeding levels of concern. 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 (has minor impacts, but is -or- is fully) s supportive of the water's aquatic life support and recreational use. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Claverack Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results also indicated non-impacted water quality conditions, with a diverse and well-balanced fauna. (DEC/DOW, BWAM/SBU, September 2005)

Segment Description

This segment includes the entire stream and selected/smaller tribs from the mouth in Stockport, to Taghkanic Creek (-8) near Claverack. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Mud Creek (-5), are Class C,C(T). Fitting Creek (-1) and Upper Claverack Creek are listed separately.

Claverack Creek, Upper, and minor tribs (1310-0048) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 90.1 Miles
Quad Map: CLAVERACK (M-26-1)
Seg Description: stream and select tribs, above Claverack

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 Claverack Creek in Stockport (at Route 25) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The impacts appeared to be the result of nonpoint sources. 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, June 2005)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above Taghkanic Creek (-8) near Claverack, to/including unnamed trib (-20) above Philmont. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Hollowville Creek (-11), are Class C,C(T),C(TS). North Creek (-16), Lower Claverack Creek and Agawamuck Creek (with is the name of the main stem above Trib (-20)) are listed separately.

Claverack/Agawamuck Creek and tribs (1310-0060) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River (Low Flow)
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 40.3 Miles
Quad Map: HILLSDALE (M-26-2)
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 Agawamuck Creek above Philmont (at Stevens Crossing Road) was conducted in 2002. Field sampling results indicated non-impacted water quality conditions. The fauna was diverse and all screening criteria for waters having no known impacts were met. (DEC/DOW, BWAM/SBU, July 2004)

Segment Description
This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-20) above Philmont. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Hollowville Creek (-11), are Class C,C(T),C(TS). Lower Claverack is listed separately.

Taghkanic Creek, Lower, and tribs (1310-0015) Threatened

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3- 8
Hydro Unit Code: 02020006/110 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 123.1 Miles
Seg Description: stream and tribs, from mouth to New Forge

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Columbia Co. (11)
Quad Map: CLAVERACK (M-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrolgy	Threatened	Known

Type of Pollutant(s)
Known: - - -
Suspected: WATER LEVEL/FLOW, THERMAL CHANGES
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: HYDRO MODIFICATION
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Hydrologic/habitat uses in Taghkanic Creek are thought to be impacted by drinking water withdrawals upstream by the City of Hudson. These withdrawals reduce flow in the creek and result in thermal stresses on the fishery during the summer. Under adequate flow conditions Fisheries staff indicates that this is a productive trout stream and should be protected. (DEC\FWMR, Region 4, 1996)

Water Quality Sampling
A biological (macroinvertebrate) assessment of Taghkanic Creek in Linlithgo (at Water 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth near Claverack to/including Suydam Creek (-21) in New Forge. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Loomis Creek (-2), Mud Creek (-4) and Suydam Creek (-21) are Class C,C(T),C(TS). Middle/Upper Taghkanic Creek are listed separately.

Taghkanic Creek, Middle, and tribs (1310-0051) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3- 8 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** A(TS)
Waterbody Type: River **Reg/County:** 4/Columbia Co. (11)
Waterbody Size: 26.5 Miles **Quad Map:** ANCRAM (M-26-4)
Seg Description: stream and tribs, from New Forge to East Taghkanic

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 Taghkanic Creek in New Forge (at New Forge 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. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from Suydam Creek (-21) in New Forge to unnamed tribs (-23) in East Taghkanic. The waters of this portion of the stream are Class A(TS). Tribs to this reach/segment, are Class A and C,C(T),C(TS). Lower/Upper Taghkanic Creek are listed separately.

Copake Lake (1310-0014) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No:	H-204- 3- 8-32-P108a	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/110 **Str Class:** B		Middle Hudson River
Waterbody Type:	Lake	**Reg/County:**	4/Columbia Co. (11)
Waterbody Size:	420.2 Acres	**Quad Map:**	HILLSDALE (M-26-2)
Seg Description:	entire lake		

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: n/a->4c*

Further Details

Overview
Recreational uses in Copake Lake are considered to be impaired due to aquatic weed and algal growth and low water transparency. Somewhat elevated nutrient (phosphorus) loads attributed to nonpoint sources contribute to recreational uses and aesthetic.

Water Quality Sampling
Copake Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1996 through 2000. An Interpretive Summary report of the findings of this sampling was published in 2001. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive, based on low water transparency, and elevated nutrient (primarily phosphorus) and algae levels. Phosphorus levels in the lake consistently exceed the state phosphorus guidance value indicating impacted/stressed recreational uses. Corresponding transparency measurements occasionally fail to meet what is recommended for swimming beaches. Eutrophication indicators showed some improving in the most recent sampling years. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasionally high pH does not appear to impact aquatic life. The lake water color does not appear to

influence transparency. (DEC/DOW, BWAM/CSLAP, June 2001)

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 only somewhat favorable. 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 somewhat lower than indicated by measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface, and are reported as being dense. Rooted aquatic growth appears to be driving the recreational assessment. (DEC/DOW, BWAM/CSLAP, June 2001)

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

Residential development along the lake shore has increased the concern regarding lawn runoff, and inadequate on-site septic systems as potential sources. (A few homes that previously discharged raw sewage to the lake now discharge to a holding tank.) Nutrient and fertilizer runoff from a nearby golf course may also contribute to water quality problems. (Columbia County WQCC, 1996)

Section 303(d) Listing

Copake Lake is not currently included on the NYS 2008 Section 303(d) List of Impaired Waters. While this updated assessment suggests it is appropriate to consider the lake to be impaired due to aquatic weed growth, more recent sampling to verify nutrient levels in the lake is recommended before listing the waterbody for phosphorus. (DEC/DOW, BWAM/WQAS, May 2008)

North Creek and tribs (1310-0061) NoKnownImpct

Waterbody Location Information

Revised: 11/06/2007

Water Index No: H-204- 3-16
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River (Low Flow)
Reg/County: 4/Columbia Co. (11)
Waterbody Size: 49.2 Miles
Quad Map: STOTTVILLE (L-26-4)
Seg Description:

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 North Creek Mellenville (at Route 217) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The fauna was dominated by filter-feeding caddisflies and nonpoint nutrient enrichment was indicated. 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, June 2005)

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

Coxsackie Creek and minor tribs (1301-0092) MinorImpacts

Waterbody Location Information

Revised: 05/29/2008

Water Index No:	H-208			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/130	**Str Class:**	C		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Greene Co. (20)
Waterbody Size:	55.0 Miles			**Quad Map:**	RAVENA (L-25-2)
Seg Description:	entire stream and select tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (odors, aquatic vegetation), Nutrients
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: PRIVATE/COMM/INST (trailer park), On-Site/Septic Syst, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Coxsackie Creek are thought to experience minor impacts/threats due to aquatic weed growth, nutrient loadings and other pollutants from small private treatment facilities.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Coxsackie Creek in Otter Hook (near Route 61) was conducted in 1998. Sampling results indicated slightly impacted water quality conditions. The fauna was heavily dominated by filter-feeding caddisflies, however the stream substrate was primarily bedrock, suggesting that habitat factors may have influenced the results to some degree. Nutrient biotic evaluation determined these effects on the fauna to be minor. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Aesthetics in Coxsackie Creek and a tributary, Climax Creek (Trib -4), were previously (1999) reported to be impacted by odors and excessive aquatic weed growth. The suspected cause/source of the problem at the time was a private wastewater system (adsorption bed) serving a trailer park along Climax Creek just above its confluence with Coxsackie Creek. However the extent of the impact on Coxsackie Creek is undetermined and requires further investigation. There

have been no recent indications of problems or complaints regarding conditions in the creek. Other on-site and/or private systems may also be affecting water quality in the creek. (DEC/DOW, Region 4, May 2008)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Sickles Creek (-1), Climax Creek (-4), Coxsackie Reservoir Outlet/Inlet (-4) and Bronks Lake Outlet (-6), are primarily Class C,C(T), with a short trib to Coxsackie Reservoir designated Class A. A short reach of Bronks Lake Outlet (-6) is listed separately. Lower tidal portions of this trib is included with the Hudson Main Stem.

Mill Creek and tribs (1301-0093) MinorImpacts

Waterbody Location Information

Revised: 10/05/1999

Water Index No: H-209
Hydro Unit Code: 02020006/080 **Str Class:** C
Waterbody Type: River
Waterbody Size: 22.8 Miles
Seg Description: entire stream and tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Columbia Co. (11)
Quad Map: HUDSON NORTH (L-25-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: NUTRIENTS, Aesthetics, Silt/Sediment
Suspected: D.O./Oxygen Demand, Pathogens
Possible: - - -

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

Resolution/Management Information

Issue Resolvability: ()
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: ext/SWCD
Resolution Potential: n/a
TMDL/303d Status: n/a

Further Details

Overview
The fishery as well as aesthetics of Mill Creek are thought to be affected by agricultural runoff in the watershed. Visual impairment of the creek has been reported by regional staff. The "J and J" dairy farm in Stuyvesant has been identified through the NYS Ag & Markets and the Statewide Soil and Water Conservation Committee's AEM program as needing implementation of agricultural BMPs to protect water quality. (DEC\DOW, Region 4, June 1998)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Stuyvesant Brook (-1), are also Class C. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Hannacrois Creek, Lower, and tribs (1301-0230) NoKnownImpct

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-212 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Albany Co. (1)
Waterbody Size: 9.6 Miles **Quad Map:** RAVENA (L-25-2)
Seg Description: stream and tribs, from mouth to Deans Mill

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 Hannacrois Creek in Ravena (at New Baltimore Road) was conducted in 1998. Sampling results indicated slightly impacted water quality conditions, but metrics were very close to the range of non-impacted. The fauna was diverse and well-balanced, and had the highest affinity to natural communities. The lowered metrics may have been caused by habitat (bedrock) conditions. 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.

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to the Ravena water supply dam in Deans Mill. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are Class C. Middle/Upper Hannacrois Creek is listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Hannacrois Creek, Middle, and tribs (1301-0020) Need Verific

Waterbody Location Information

Revised: 05/30/2008

Water Index No: H-212
Drain Basin: Lower Hudson River
Hydro Unit Code: 02020006/070 **Str Class:** A(TS)
Middle Hudson River
Waterbody Type: River
Reg/County: 4/Albany Co. (1)
Waterbody Size: 74.0 Miles
Quad Map: RAVENA (L-25-2)
Seg Description: stream and tribs, from Deans Mill to Alcove

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: WATER LEVEL/FLOW
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: HYDRO MODIFICATION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/Reg4
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Water Quality Sampling
A biological (macroinvertebrate) assessment of Hannacrois Creek in Ravena (at New Baltimore Road) was conducted in 1998. Sampling results indicated slightly impacted water quality conditions, although the results were very close to the non-impacted range. The fauna was diverse and well-balanced and had highest affinity to natural communities. 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)

Hydrologic Issues
Hydrologic modification in the stream below the Alcove Reservoir has been raised as a concern in previous (1996) assessments. Limited reservoir releases impact flow in the creek during dry weather. In light of the increasing growth in the surrounding Towns of Guilderland and Bethlehem, water demands on the reservoir are expected to increase. (DEC/DOW, Region 4, 1996)

Segment Description
This segment includes the portion of the stream and all tribs from the Ravena water supply dam in Deans Mill to Alcove

Reservoir in Alcove. The waters of this portion of the stream are Class A(T),A(TS). Tribs to this reach/segment are Class C,C(T),C(TS). Lower/Upper Hannacrois Creek are listed separately.

Alcove Reservoir (1301-0232) NoKnownImpct

Waterbody Location Information

Revised: 07/25/2008

Water Index No: H-212-P185
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake(R)
Reg/County: 4/Albany Co. (1)
Waterbody Size: 1363.4 Acres
Quad Map: ALCOVE (L-25-1)
Seg Description: entire reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Source (Drinking) Water Assessment
The Alcove Reservoir was assessed 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 assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of pasture in the assessment area results in a high potential for contamination. No permitted discharges are found in the assessment area. There are no noteworthy contamination threats associated with other contaminant sources. This assessment is typical of many water supplies that experience no impacts to water supply use and reflects the need to protect the resource. This water supply reservoir provides water to the City of Albany. (NYSDOH, Source Water Assessment Program, 2005)

Coeymans Creek and minor tribs (1301-0095) Minor Impact

Waterbody Location Information

Revised: 06/03/2008

Water Index No: H-214
Hydro Unit Code: 02020006/060 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 69.6 Miles
Seg Description: entire stream and select tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: RAVENA (L-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), SILT/SEDIMENT
Suspected: Metals
Possible: Unknown Toxicity

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, URBAN/STORM RUNOFF
Possible: Industrial, Municipal

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Coeymans Creek is known to experience minor impacts due to nutrient enrichment, siltation and other pollutants from agricultural and other nonpoint sources. More complex municipal/industrial sources are indicated in the upper creek.

Water Quality Sampling
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Coeymans Creek in Coeymans, Albany County, (at Route 144) 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 slightly impacted water quality conditions. Water column sampling revealed nutrients (nitrate), total dissolved solids and iron to be parameters of concern. However, iron is considered to be naturally occurring and not a source of water quality impacts. Bottom sediment sampling results revealed several metals 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 has minor impacts, but is generally supportive of aquatic life support and recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Coeymans Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results at that time indicated moderately slightly impacted water quality conditions. Nonpoint source nutrient enrichment was indicated as the primary source of impacts to the stream. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, September 2005)

Previous Sampling

A biological (macroinvertebrate) survey of Coeymans and Onesquethaw Creeks conducted in 1998 also revealed slightly impacted water quality at most sites. Though slight impact is generally reflective of good water quality, the sampling sites along Coeymans Creek showed signs of nutrient enrichment from nonpoint source runoff, municipal/industrial inputs and siltation effects. Sites on Onesquethaw Creek, though slightly impacted, had invertebrate communities reflecting natural conditions. (Onesquethaw/Coeymans Creek Biological Assessment, Bode et al, DEC/DOW, BWAM, SBU, November 1998)

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 Mosher Brook (-4) and Feuri Spruyt (-8), are Class C,C(T),C(TS). Onesquethaw Creek (-10) is listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Onesquethaw Creek and tribs (1301-0233) NoKnownImpct

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-214-10
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Albany Co. (1)
Waterbody Size: 25.1 Miles
Quad Map: CLARKSVILLE (K-25-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

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

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Onesquethaw Creek is thought to experience minor impacts due to nutrient enrichment, siltation and other pollutants from agricultural and other nonpoint sources. The habitat, particularly the loss of stream flow through fractures in limestone stream bed, may influence the sample results.

Water Quality Sampling
A biological (macroinvertebrate) survey of Coeymans and Onesquethaw Creeks conducted in 1998 revealed slightly impacted water quality at most sites. Nonpoint source nutrient enrichment was considered to be the primary sources of impacts. The Onesquethaw/Coeymans Creek Biological Assessment (Bode et al, DEC/DOW, BWAM, SBU, November 1998) noted that the sites on Onesquethaw Creek, though slightly impacted, had invertebrate communities reflecting natural conditions. 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, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs. The waters of this portion of the stream are Class

C,C(T),C(TS). Tribs to this reach/segment, including Vly Creek (-3), are Class C,C(T).

Helderberg Lake (1301-0029) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-214-10-P207a
Hydro Unit Code: 02020006/060 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 29.2 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: WESTERLO (K-24-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH
Possible: Nutrients

Source(s) of Pollutant(s)
Known: - - -
Suspected: HABITAT MODIFICATION, HABITAT MODIFICATION
Possible: Agriculture

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Helderburg Lake may experience minor impacts due to aquatic weed growth. Due to the lack of any current information, conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, fishing, boating) were previously thought to be restricted by excessive weed growth. Weed control chemicals have been used in the lake. The local lake association conducts regular monitoring of the lake for dissolved oxygen and pH. Nutrients are also sampled occasionally. (Albany County WQCC, 1996)

Vloman Kill, Lower, and tribs (1301-0239) Need Verific

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-217 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Albany Co. (1)
Waterbody Size: 26.9 Miles **Quad Map:** DELMAR (K-25-3)
Seg Description: stream and tribs, from mouth to Mallorys Corners

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: UNKNOWN SOURCE

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Vlomon Kill may experience minor impacts. However the most recent sampling of this site is rather dated and was considered to be somewhat inconclusive at that time. Additional monitoring to verify any impacts is recommended.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Vloman Kill in Selkirk (at Route 144) was conducted in 1998. Sampling results indicated moderately impacted water quality conditions. However much of the impact may be due to poor sampling habitat (bedrock). Sampling at an alternate site above this segment in New Scotland found non-impacted conditions.

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to/including Phillipine Kill (-6) in Mallorys Corners. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Dowers Kill (-3) and Phillipine Kill (-6), are Class C. Upper Vloman Kill is listed separately. The lower tidal portion of this trib is included with the Hudson Main Stem.

Vloman Kill, Upper, and tribs (1301-0240) NoKnownImpct

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-217 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(T)
Waterbody Type: River **Reg/County:** 4/Albany Co. (1)
Waterbody Size: 47.4 Miles **Quad Map:** DELMAR (K-25-3)
Seg Description: stream and tribs, above Mallorys Corners

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 Vloman Kill in New Scotland (at Five Rivers Center) was conducted in 1998. Sampling results indicated non-impacted water quality conditions. This site was sampled as an alternative to a downstream site in Selkirk that had poor sampling habitat. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs above Phillipine Kill (-6) in Mallorys Corners. The waters in this portion of the stream are Class C,C(T). Tribs to this reach/segment are Class C. Lower Vloman Kill is listed separately.

Moordener Kill and minor tribs (1301-0243) NoKnownImpct

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-219- 1
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 33.0 Miles
Quad Map: EAST GREENBUSH (K-26-4)
Seg Description: entire stream and select 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 Moordener Kill in Brookview (at Brookview Station Road) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment and siltation were identified as primary sources of the impact. 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. A biological survey of the stream conducted in 1999 found mostly non-impacted water quality at 8 sites on the stream and tribs. A concurrent fish survey also found excellent water quality at most sites, and a healthy population of brown trout was documented. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T),C(TS). Tribs to this reach/segment are Class C,C(T). North Branch Moordener Kill (-4) is listed separately.

Normans Kill, Lower, and minor tribs (1311-0010) MinorImpacts

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-221- 4 (portion 1) **Drain Basin:** Lower Hudson River
Hydro Unit Code: 02020006/030 **Str Class:** C Middle Hudson River
Waterbody Type: River **Reg/County:** 4/Albany Co. (1)
Waterbody Size: 44.7 Miles **Quad Map:** ALBANY (K-25-2)
Seg Description: stream and select tribs, from mouth to nr Voorheesville

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

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

Source(s) of Pollutant(s)
Known: STREAMBANK EROSION, URBAN/STORM RUNOFF
Suspected: Construction (resid/comm development)
Possible: Comb. Sewer Overflow

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of the Normans Kill is thought to experience minor impacts from silt/sediment and nutrient enrichment. A variety of nonpoint sources contribute to the impacts. Considerable residential and commercial development has occurred in the watershed. Urban runoff and streambank erosion are known, and lawn and golf course runoff are potential sources. The creek runs quite turbid at times.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Normans Kill in Delmar (at Delaware Avenue) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment and siltation are the primary sources of the impacts. Similar results were found in 1997 and 1998 sampling. Although aquatic life is supported in the stream, nutrient biotic evaluation suggests the level of eutrophication is sufficient to threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Results Biological (macroinvertebrate) sampling was conducted along the main stem of the Normans Kill and its larger

tributaries in August 1993. Multiple locations exhibited some slight impacts, but the character of the stream (slow moving water, upstream reservoir influences) make rapid biological assessment less reliable. Nonetheless, no significant water quality problems were noted. Several small municipal WWTPs discharge to the creek and its tribs, and various nonpoint sources may affect the creek. CSO discharges have also been reported by regional staff. The unknown toxic pollutants cited refer to inputs detected in some of the tributaries. (Normans Kill Biological Stream Assessment Report, Bode et al, January 1994)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to Vly Creek (-7) near Voorheesville. The waters of this portion of the stream are Class C from the mouth to Route 43 and Class B for the remainder of the reach. Tribs to this reach/segment, including Lower Krum Kill (-3), are Class C,C(T). Upper Krum Kill (-3), Vly Creek (-7) and Middle/Upper Normans Kill are listed separately.

Normans Kill, Middle, and tribs (1311-0002) MinorImpacts

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-221- 4 (portion 2)
Hydro Unit Code: 02020006/030 **Str Class:** B
Waterbody Type: River
Waterbody Size: 29.5 Miles
Seg Description: stream and tribs, fr nr Voorheesville to reservoir

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: VOORHEESVILLE (K-25-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: SILT/SEDIMENT
Suspected: WATER LEVEL/FLOW, NUTRIENTS
Possible: - - -

Source(s) of Pollutant(s)
Known: HYDRO MODIFICATION, STREAMBANK EROSION, URBAN/STORM RUNOFF
Suspected: Construction
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in this portion of the Normans Kill is thought to experience minor impacts from silt/sediment and nutrient enrichment. A variety of nonpoint sources contribute to the impacts. Considerable residential and commercial development has occurred in the watershed. Urban runoff and streambank erosion are known, and lawn and golf course runoff are potential sources. The creek runs quite turbid at times. Hydrologic impacts related to reservoir releases and the impact on the fishery is also a concern below the Watervliet Reservoir.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Normans Kill in Delmar (at Delaware Avenue) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment and siltation are the primary sources of the impacts. Similar results were found in 1997 and 1998 sampling. Although aquatic life is supported in the stream, nutrient biotic evaluation suggests the level of eutrophication is sufficient to threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Previous Assessment
Results Biological (macroinvertebrate) sampling was conducted along the main stem of the Normans Kill and its larger

tributaries in August 1993. Multiple locations exhibited some slight impacts, but the character of the stream (slow moving water, upstream reservoir influences) make rapid biological assessment less reliable. Nonetheless, no significant water quality problems were noted. Several small municipal WWTPs discharge to the creek and its tribs, and various nonpoint sources may affect the creek. CSO discharges have also been reported by regional staff. The unknown toxic pollutants cited refer to inputs detected in some of the tributaries. (Normans Kill Biological Stream Assessment Report, Bode et al, January 1994)

Hydrologic Impacts Previously DEC Regional staff reported impacts to aquatic life support including fish populations in this portion of the Normans Kill below the Watervliet Reservoir as a result of hydrologic modification. Specifically, no water is released from the reservoir to the creek during dry weather, a regular summertime occurrence, causing the creek to go dry. In light of the increasing growth in the surrounding areas, water demands on the reservoir are expected to increase. (DEC/DOW, Region 4, 1996)

Segment Description
This segment includes the portion of the stream and all tribs from Vly Creek (-7) near Voorheesville to Watervliet Reservoir (P270). The waters of this portion of the stream are Class C from Vly Creek (-7) to Route 43 and Class B for the remainder of the reach. Tribs to this reach/segment, including Hunger Kill (-8), are Class C,C(T). Vly Creek (-7) and Lower/Upper Normans Kill are listed separately.

Watervliet Reservoir (1311-0001) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-221- 4 (portion 3)/P270
Hydro Unit Code: 02020006/030 **Str Class:** A
Waterbody Type: Lake(R)
Waterbody Size: 383.7 Acres
Seg Description: entire reservoir

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: VOORHEESVILLE (K-25-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: ALGAL/WEED GROWTH (algal blooms, vegetation)
Suspected: - - -
Possible: D.O./Oxygen Demand, Nutrients

Source(s) of Pollutant(s)
Known: - - -
Suspected: HABITAT MODIFICATION
Possible: Agriculture, Construction (resid/comm development)

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Water supply, aquatic life and recreational uses in Watervliet Reservoir may experience minor impacts due to algal blooms and aquatic weed growth. Due to the lack of any current information, conditions in the lake need to be verified.

Previous Assessment
Various uses of the Watervliet Reservoir, including water supply, recreation, fishery and aesthetics were previously reported to be limited by occasional algal blooms and excessive aquatic weed growth. Water chestnuts proliferated to the point that they needed to be harvested on a regular basis. Low dissolved oxygen and high turbidity that may restrict the fishery were also noted. Suspected sources of nutrient and other pollutant loads included upstream sewage treatment plant discharges from the Village of Altamont and Thatcher State Park plants. Urban runoff from various residential and commercial development projects in the watershed may also affect water quality in the reservoir. Storm sewers in an industrial park discharge into Black Creek (Trib -1-1), a trib to the Bozen Kill and the reservoir. Some agriculture activity still exists in the watershed but it is not extensive. (DEC/DEW, Region 4, 1996)

Source (Drinking) Water Assessment

The Watervliet Reservoir was assessed 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 assessment found substantial potential risks to drinking water quality. Land cover within the assessment area does not increase the susceptibility to contamination. However, the elevated density of sanitary wastewater discharges results in high risks for contamination. There are also noteworthy contamination risks associated with other discrete contaminant sources, such as landfills, transportation routes (roads and rail), industrial parks, and golf courses. This water supply reservoir provides water to the City of Watervliet. (NYSDOH, Source Water Assessment Program, 2005)

Krum Kill, Upper, and tribs (1311-0004) Impaired Seg

Waterbody Location Information

Revised: 11/05/2007

Water Index No:	H-221- 4- 3			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/030	**Str Class:**	A		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Albany Co. (1)
Waterbody Size:	0.4 Miles			**Quad Map:**	ALBANY (K-25-2)
Seg Description:	stream and tribs, above McKnownville				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known

Type of Pollutant(s)

Known: - - -
Suspected: UNKNOWN TOXICITY
Possible: D.O./Oxygen Demand, Nutrients

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: COMB. SEWER OVERFLOW
Possible: Industrial

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: 3a (Waterbody Requiring Verification of Impairment)

Further Details

Overview
Aquatic life support in Krum Kill is impaired by toxic inputs. The source of these impacts are thought to be municipal/industrial sources and urban runoff. The stream flows through a highly developed urban/commercial area of Albany County.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Krum Kill in Albany (at Russell Road) was conducted in 1997. Sampling results indicated moderately impacted water quality conditions. Impact Source Determination indicated municipal/industrial inputs and urban runoff as likely sources. These results are similar to 1993 sampling findings of the Normanskill Stream Assessment Report (Bode et al, January 1994) which revealed a community dominated by organisms often associated with toxic inputs, and specific conductednce in the stream that was substantially higher than other streams in the area. Although specific sources of the moderate impact could not be determined, regional staff previously reported that a pump station in the vicinity has been known to experience operational problems. Urban runoff from the surrounding area may also contribute to impairment of the creek. (DEC/DOW, BWAM/SBU, January 2005)

Section 303(d) Listing

Krum Kill Creek is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for unknown toxics in the stream be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Segment Description

This segment includes the portion of the stream and all tribs above/including unnamed pond (P256) in McKnownville. The waters of this portion of the stream are Class A. Tribs to this reach/segment are also Class A. Lower Krum Kill is listed with the Lower Normans Kill segment.

Vly Creek and tribs (1311-0021) MinorImpacts

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-221- 4- 7
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(T)
Waterbody Type: River
Reg/County: 4/Albany Co. (1)
Waterbody Size: 20.4 Miles
Quad Map: VOORHEESVILLE (K-25-1)
Seg Description: entire stream and tribs

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: - - -
Suspected: NUTRIENTS
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: - - -
Suspected: MUNICIPAL (Voorheesville WWTP), 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: DOW/Reg4
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support in Vly Creek is thought to experience minor impacts due to nutrient loadings from municipal point sources. Urban runoff and other nonpoint sources likely contribute to impacts as well.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Vly Creek in Voorheesville (near Normanskill Road) was conducted in 1993. Sampling results indicated slightly impacted water quality conditions. The fauna contained mayflies, stoneflies and caddisflies, but was dominated by facultative midges. The stream receives discharge from the Village of Voorheesville WWTP, which is thought to be contributing to these minor impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

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

Glass Pond (1311-0003) Need Verific

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-221- 4- 8-P266
Hydro Unit Code: 02020006/030 **Str Class:** C(T)
Waterbody Type: Lake
Waterbody Size: 16.2 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: VOORHEESVILLE (K-25-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: SILT/SEDIMENT, Water Level/Flow, Thermal Changes
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: HYDRO MODIFICATION, Construction (resident.develop.)
Possible: Resource Extraction

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life in Glass Pond may experience minor impacts due to siltation and sediment loadings that result in temperature and habitat modifications. Due to the lack of any current information, conditions in the lake need to be verified.

Previous Assessment
In previous assessments aquatic life support in Glass Pond was thought to be limited due to siltation and sediment loads and resulting hydrologic and temperature modification. Land clearing for residential development and roadway construction in the surrounding area were the suspected sources of sediment loads. The pond has become quite shallow and is more supportive of warmwater fish populations. An illegal surface mining operation may also contribute to problems. Further verification and coordination with Mineral Resources is needed. (DEC/DOW, Region 4, December 1997)

Bozen Kill and minor tribs (1311-0017) MinorImpacts

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-221- 4-270- 1
Hydro Unit Code: 02020006/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 75.2 Miles
Seg Description: entire stream and select tribs

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: VOORHEESVILLE (K-25-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: D.O./Oxygen Demand, Ammonia

Source(s) of Pollutant(s)
Known: - - -
Suspected: MUNICIPAL (Altamont WWTP)
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg4
TMDL/303d Status: n/a
Resolution Potential: Medium

Further Details

Overview
Aquatic life support in Bozen Kill are known to experience minor impacts due to nutrient and organic loads believed to be from municipal sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Bozen Kill in Altamont (at Route 158) was conducted in 1997. Sampling results indicated slightly impacted water quality conditions. This impacts are likely the result of municipal discharges from the Village of Altamont WWTP. Previous operational problems and ammonia violations led to plant upgrading in 1990. Subsequent biological (macroinvertebrate) sampling in 1993 revealed an enriched stream, but one that was assessed as only slightly impacted. This assessment represented a significant improvement in water quality since the plant upgrade. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C. Tribs to this reach/segment are primarily Class C, with a small portion designated Class A. Black Creek (-1) is listed separately.

Thompsons Lake (1311-0007) NoKnownImpct

Waterbody Location Information

Revised: 04/14/2008

Water Index No: H-221- 4-P270- 1- 1- 2-P274
Hydro Unit Code: 02020006/030 **Str Class:** A(T)
Waterbody Type: Lake
Waterbody Size: 130.9 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Albany Co. (1)
Quad Map: ALTAMONT (K-24-2)

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

Further Details

Water Quality Sampling
Thompson Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1994 and continuing through 2000. An Interpretive Summary report of the findings of this sampling was published in 2001. These data indicate that the lake continues to be best characterized as oligotrophic, or unproductive. These conditions have been relatively stable during the sampling period. Phosphorus levels in the lake do not exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements 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, June 2001)

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 since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is best characterized as good to excellent. The lake itself is most often described as between "crystal clear" and "not quite crystal clear," an assessment that is consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. More recent assessments have noted that aquatic plants grow to the lake surface more frequently than in previous years, although this growth does

not appear to impact recreational use. (DEC/DOW, BWAM/CSLAP, June 2001)

Lake Uses

This lake waterbody is designated class A(T), suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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. Water from the lake is used as a drinking water supply for Thatcher State Park.

Source (Drinking) Water Assessment

The NYSDOH Source Waters Assessment Program (SWAP) 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 assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. However, there is reason to believe that land cover data may over estimate the percentage of row crops in the assessment area. There is also a high density of sanitary wastewater discharges which results in elevated susceptibility for all contaminate categories. In addition, it is appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination. This assessment is typical of many water supplies and reflects the need to protect the resource. This water supply reservoir provides water to John Boyd Thatcher State Park (NYSDOH, Source Water Assessment Program, 2005)

Duane Lake (1311-0006) Impaired Seg

Waterbody Location Information

Revised: 04/30/2008

Water Index No:	H-221- 4-P270- 1- 9-P276a	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/030 **Str Class:** B		Middle Hudson River
Waterbody Type:	Lake	**Reg/County:**	4/Schenectady Co. (47)
Waterbody Size:	116.8 Acres	**Quad Map:**	ALTAMONT (K-24-2)
Seg Description:	entire lake		

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: n/a->1*,4c*

Further Details

Overview
Recreational uses in Duane 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. Previous assessments noted that failing and/or inadequate on-site septic systems serving lake shore homes may be contributing to the water quality problems.

Water Quality Sampling
Orange Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1992 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as 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; occasionally high pH does not appear

to impact aquatic life. The lake water is weakly to moderately colored, however color is not thought to influence transparency due to high algae levels. (DEC/DOW, BWAM/CSLAP, October 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This most recent assessment indicates recreational suitability of the lake to be unfavorable. The recreational suitability of the lake is described most frequently as "slightly" to "substantially" impacted for most recreational uses. The lake itself is most often described as "not quite crystal clear" to 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

Duane 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)

Hampton Manor Lake (1301-0077) MinorImpacts

Waterbody Location Information

Revised: 07/11/2008

Water Index No:	H-222-P297			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/040	**Str Class:**	C		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Rensselaer Co. (42)
Waterbody Size:	11.7 Acres			**Quad Map:**	EAST GREENBUSH (K-26-4)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (algal blooms, vegetation), Nutrients, Silt/Sediment
Possible: D.O./Oxygen Demand, Salts

Source(s) of Pollutant(s)

Known: - - -
Suspected: 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: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational use in Hampton Manor Lake are thought to experience minor impacts due to excessive aquatic vegetation, algal growth and poor water clarity . The lake suffers from significant infestation of Eurasian milfoil and nutrient loadings from nonpoint sources are also thought to contribute to water quality problems. The most recent assessment of this lake is more than ten years old so it is recommended that the condition of the lake be verified.

Previous Assessment
The recreational use (swimming, boating, fishing), and aesthetics in Hampton Manor Lake were previously reported to be reduced by occasional algal blooms, aquatic vegetation and high turbidity. Oxygen depletion in portions of the lake are also noted as a concern. Field measurements found secchi disc readings to be less than 1 meter; and water chemistry sampling indicates high levels of dissolved ions and total phosphorus. The lake is a generally shallow and lies at the lowest point in an urban/residential area. In effect, it serves as a stormwater runoff collection basin. Chemical treatment with aquatic herbicide (Sonar) to control Eurasian milfoil and curly-leaf pondweed has been conducted in the past. (Rensselaer County WQCC, 1996)

Mill Creek and tribs (1301-0246) NoKnownImpct

Waterbody Location Information

Revised: 11/05/2007

Water Index No: H-224
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 40.9 Miles
Quad Map: TROY SOUTH (K-26-1)
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) survey of Mill Creek at multiple sites between Rensselaer and Best was conducted in 2001. Sampling results indicated mostly non-impacted water quality conditions. At the most downstream end of the stream in the City of Rensselaer moderate impacts were indicated, likely the result of urban runoff and/or municipal/industrial sources. The assessment of this stream as having No Known Impacts reflects the condition in over 90% of the reach. Impacts in the lower mile of the creek are included in the receiving Hudson River (and tidal tributaries) segment. (DEC/DOW, BWAM/SBU, June 2005)

High turbidity was observed in the lower reach of Mill Creek in 2001. An investigation traced the turbidity to a construction site. Subsequent action by the DEC Regional Office resulted in a SPDES permit for the site, erosion and sedimentation controls and post-construction measures to limit future impacts. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(TS). Tribs to this reach/segment are also Class C,C(TS). Lower tidal portions of this trib are included with the Hudson Main Stem.

Patroon Creek and tribs (1301-0030) Impaired Seg

Waterbody Location Information

Revised: 11/02/2007

Water Index No:	H-226			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/030	**Str Class:**	C(T)		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Albany Co. (1)
Waterbody Size:	13.6 Miles			**Quad Map:**	ALBANY (K-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
Fish Consumption	Stressed	Possible
AQUATIC LIFE	Impaired	Suspected
RECREATION	Impaired	Suspected
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: Aesthetics, Ammonia, Nutrients
Suspected: D.O./OXYGEN DEMAND, Metals, Pathogens, Silt/Sediment, Unknown Toxicity
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: OTHER SANITARY DISCH, Industrial (MERECO, others), Private/Comm/Inst, Tox/Contam. Sediment
Possible: Chemical Leak/Spill, Construction, Unknown Source

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: 3a (Waterbody Requiring Verification of Impairment)

Further Details

Overview
Aquatic life support and recreational uses in Patroon Creek are known to be impacted by a variety of sources/causes that are typical of urban waterways. The stream runs through commercial/industrial sections of the Town and Village of Colonie and a highly urban area of the City of Albany. It is subject to impacts from combined sewer overflows (CSOs), other sanitary discharges, storm sewers, urban runoff, and past and current industrial activities.

Water Quality Sampling
Biological (macroinvertebrate) assessments of Patroon Creek in Albany (at Pleasant Street) was conducted annually from 1997 through 2000, and again in 2002. This sampling was in response to findings of severe impact in 1993 and 1994, which was traced to long-standing sewage discharge (by-pass). The discharge was eliminated in 1995, and the annual sampling was initiated to monitor stream recovery. Additional sources were also addressed during the period, but presently all known sewage inputs have been removed. As a result water quality in the stream has shown steady improvement. The most recent assessment found only slightly impacted water quality conditions, with caddisflies,

mayflies, beetles and a stonefly at the site. (DEC/DOW, RIBS/SBU, January 2005)

Previous Assessment

Previous biological sampling of the creek in 1991, '93 and '94 revealed severely impacted conditions in the lower section of the creek, from Patroon Creek Reservoir (P327), or I-90 Pond/Robinson Pond, to the mouth. The cause of the impact in the lower reach was attributed to sewage, ammonia and low dissolved oxygen. Municipal (sewage) and industrial discharges were identified as the likely primary sources. Above the reservoir, conditions were assessed as moderately impacted. Upstream impoundment affects were noted as the primary cause, but toxics and possibly sewage were listed as likely contributing to the effects. Nonpoint discharges are known to enter the creek and are likely responsible for this impact. (Patroon Creek Biological Assessment Report, Bode et al, DEC\DOW BWAM, August 1995)

US Geological Survey sampling of the creek in 1994 as part of its Hudson River NAWQA Study found similar results. Water column sampling revealed high levels of fecal coliform, and ammonia, and elevated levels of various heavy metals in the bottom sediment and biologic macroinvertebrate tissue. Regional staff suggest an industrial discharge (MERECO Inc) may contribute to the metals contamination. The biologic tissue samples also revealed moderate levels of PCBs. (Hudson River NAWQA Study, USGS, New York District, 1995)

Follow-up investigations at the time revealed a sewage discharge from a construction diversion pipe connected to a main interceptor that entered the creek 0.2 miles above the severely impacted site (Pleasant Street). This overflow was corrected in 1995. (T. Murphy, Albany County Sewer District, letter to R.Streeter, DEC/DOW Region 4, May 1995) Follow-up sampling in 1997 and 1998 showed substantial improvements, although water quality remains moderately impacted. (DEC/DOW, BWAM, SBU, December 1999)

Section 303(d) Listing

Patroon Creek is currently included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment indicates that water quality in the stream has significantly improved since it was originally listed. Nonetheless, it is recommended that the stream remain on the list until more recent sampling can document improved water quality is being maintained. (DEC/DOW, BWAM, August 2007)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are also Class C,C(T). Lower tidal portions of this trib are included with the Hudson Main Stem. Significant sections of the creek flow through conduits underground.

Minor Tribs to West of Hudson (1301-0027) Impaired Seg

Waterbody Location Information

Revised: 05/30/2008

Water Index No:	H-228a thru 237, WOH	**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/030 **Str Class:** C		Middle Hudson River
Waterbody Type:	River	**Reg/County:**	4/Albany Co. (1)
Waterbody Size:	25.6 Miles	**Quad Map:**	TROY SOUTH (K-26-1)
Seg Description:	total length of select tribs, from Albany to Green Isl		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

Known: UNKNOWN TOXICITY
Suspected: Metals
Possible: - - -

Source(s) of Pollutant(s)

Known: INDUSTRIAL (Al Tech)
Suspected: TOX/CONTAM. SEDIMENT, 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: DOW/Reg4 **Resolution Potential:** Medium
TMDL/303d Status: 3a->1

Further Details

Overview
Aquatic life and recreational uses in the Kromma Kill are considered to be impaired by unspecified toxicity attributed to industrial sources.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Kromma Kill in Watervliet (at Route 32) was conducted in 1997, 98, 99 and 2002. Sampling results indicated moderately impacted water quality conditions. The fauna was very limited and dominated by toxic-tolerant midges. Impacts have been attributed to the Al Tech Specialty Steel operation. Runoff and waste discharges from the two sites - neither of which were in compliance with permits conditions and were under Consent Orders - were considered the likely sources of contamination. Macroinvertebrate tissue samples showed elevated levels of copper, nickel and selenium. The plant has now closed but metals and toxicity in stream sediments remain a concern. (DEC/DOW, BWAM/SBU, June 2005)

Section 303(d) Listing
The Kromma Kill is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included

on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impairments to water quality and uses are verified and it is recommended that this listing for unknown toxics in the stream be moved to Part 1 of the List, indicating a waterbody with an impairment requiring TMDL development. (DEC/DOW, BWAM/WQAS, May 2008)

Segment Description

This segment includes the total length of selected/smaller tribs to the West of Hudson from Patroon Creek (-226) in Albany to Salt Kill (-239) in Green Island. Tribs within this segment, including Kromma Kill (-234), are primarily Class C with some portions designated as Class C(T). Patroon Creek, and Salt Kill are listed separately. Lower tidal portions of these tribs are included with the Hudson Main Stem.

Wynants Kill, Lower, and tribs (1301-0066) MinorImpacts

Waterbody Location Information

Revised: 11/02/2007

Water Index No:	H-235			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/020	**Str Class:**	C(T)		Middle Hudson River
Waterbody Type:	River			**Reg/County:**	4/Rensselaer Co. (42)
Waterbody Size:	4.0 Miles			**Quad Map:**	TROY SOUTH (K-26-1)
Seg Description:	stream and tribs, from mouth to Albia				

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: - - -
Suspected: NUTRIENTS, SILT/SEDIMENT, Metals, Priority Organics
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF
Possible: On-Site/Septic Syst, Streambank Erosion, Tox/Contam. Sediment, Other Sanitary Disch

Resolution/Management Information

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

Further Details

Overview
Aquatic life support in Wynants Kill are thought to experience minor impacts due to metals, organics and nutrient loadings from urban runoff, past historical contamination and other nonpoint sources.

Water Quality Sampling
A biological (macroinvertebrate) survey of Wynants Kill at multiple sites between West Sand Lake and Troy was conducted in 2001. Sampling results indicated slightly impacted water quality conditions in the two sites along the lower reach. At these sites urban and municipal inputs as well as more general nonpoint sources were identified as likely source of impacts. Previous sampling at the downstream site in Troy found moderately impacted conditions and elevated levels of metals and PAHs in tissue samples. These contaminants were thought to be the result of past historical contamination and urban runoff. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates impacts are sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, Wynants Kill Biological Stream Assessment, February 2002)

Previous Assessment
Previously local agencies have expressed concerns about gravel mining operations, suburban residential growth and other

development activities in the Wynants Kill watershed that result in increased sediment loads and thermal changes that may affect the fishery and aesthetics of the stream. The stream appears to satisfactorily support a stocked trout fishery. However high sediment and turbidity has been noted in the stream. Streambank erosion, urban/stormwater runoff and area landfills have also been cited as possible contributing sources. (Rensselaer County WQCC, 1996)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to the outlet of unnamed pond (P372) in Albia. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are primarily Class C,C(T),C(TS), with one small trib designated Class A. Upper Wynants Kill is listed separately. Lower tidal portions of this trib are included with the Hudson Main Stem.

Wynants Kill, Upper, and tribs (1301-0249) NoKnownImpct

Waterbody Location Information

Revised: 11/02/2007

Water Index No: H-235
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B(T)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 37.6 Miles
Quad Map: AVERILL PARK (K-26-2)
Seg Description: stream and tribs, above Albia

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

Overview

A biological (macroinvertebrate) survey of Wynants Kill at multiple sites between West Sand Lake and Troy was conducted in 2001. Sampling results indicated water quality conditions that ranged from non- to slightly impacted. Nonpoint sources were identified as most likely source of impacts. 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, Wynants Kill Biological Stream Assessment, February 2002)

Segment Description

This segment includes the portion of the stream and all tribs above the outlet of unnamed pond (P372) in Albia. The waters of this portion of the stream are Class B(T),B(TS). Tribs to this reach/segment are Class C,C(T). Lower Wynants Kill is listed separately.

Snyders Lake (1301-0043) MinorImpacts

Waterbody Location Information

Revised: 04/25/2008

Water Index No:	H-235-11-P377			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/020	**Str Class:**	B		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Rensselaer Co. (42)
Waterbody Size:	108.1 Acres			**Quad Map:**	TROY SOUTH (K-26-1)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation)
Suspected: NUTRIENTS (phosphorus)
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: - - -
Suspected: OTHER SOURCE (nutrient recycling)
Possible: - - -

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Snyders Lake are thought to experience minor impacts due to occasional algal blooms and weed growth related to seasonal phosphorus releases from lake bottom sediments.

Water Quality Sampling
Snyders Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1997 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. These conditions have been relatively stable during the sampling period. Phosphorus levels in the lake only occasionally exceed the state guidance values indicating impacted/stressed recreational uses. However corresponding transparency measurements meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to result in ecological impacts. (DEC/DOW, BWAM/CSLAP, November 2002)

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

recreational suitability of the lake to be very favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is best characterized as "excellent" to "slightly" impacted for most uses. The lake itself is most often described as between "not quite crystal clear," an assessment that is consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. More recent assessments have noted that rooted aquatic plants grow to the lake surface but do not impact recreational use. Native and less invasive plants have replaced Eurasian milfoil, a result attributed to 1998 herbicide treatment of the lake. The greatest impact of recreational assessments continues to be sporadic but occasionally intense algal blooms. (DEC/DOW, BWAM/CSLAP, November 2002)

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.

Previous Assessment

Recreational use impacts due to excessive aquatic weed growth and algal blooms, have been cited in previous assessments. Treatment of the lake with aquatic herbicide (Sonar) has been used to control Eurasian milfoil and curly-leaf pondweed. Historically, failing and/or inadequate on-site septic systems serving homes along the lake were a significant sources of water quality impairment. Construction of a sewer system for lakeshore residents to address this source was completed in 1980s. (DEC/DOW, BWAM/SWMS, 2007)

Section 303(d) Listing

Snyders Lake is currently included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a Water Requiring a TMDL for phosphorus, however this updated assessment indicates that phosphorus levels only occasionally exceed the criteria reflecting stressed recreational uses and along with recreational assessment do not suggests that these impacts to water quality and uses are sufficient to warrant continued listing. (DEC/DOW, BWAM/WQAS, March 2008)

Burdens Lake (1301-0025) MinorImpacts

Waterbody Location Information

Revised: 04/28/2008

Water Index No:	H-235-P386			**Drain Basin:**	Lower Hudson River
Hydro Unit Code:	02020006/020	**Str Class:**	B		Middle Hudson River
Waterbody Type:	Lake			**Reg/County:**	4/Rensselaer Co. (42)
Waterbody Size:	355.5 Acres			**Quad Map:**	NASSAU (K-26-3)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic veg, algal blooms)
Suspected: Nutrients
Possible: D.O./Oxygen Demand, Pathogens

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: Other Source (nutrient recycling)
Possible: On-Site/Septic Syst

Resolution/Management Information

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

Further Details

Overview
Recreational uses in Burden Lake are thought to experience minor impacts due to aquatic week growth and occasional algal blooms. Nutrient loads to the lake are fairly low, but phosphorus releases from lake bottom sediments may have impact.

Water Quality Sampling
Third Burden Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1996 and again most recently in 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasional high pH does not appear to cause any ecological impacts. The lake water is weakly colored, and not likely to influence clarity of the lake. (DEC/DOW, BWAM/CSLAP, September 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 generally favorable since the lake was first evaluated and continuing through the most recent assessment. 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 "not quite crystal clear" or having "definite algal greenness," assessments that are consistent with measured water quality characteristics. The more favorable assessment may be influenced by the lack of impact from aquatic weed growth. Assessments have noted that aquatic plant growth reaches the lake surface. Recreational use impacts due to aquatic weed growth have also been noted. The lakes are treated with aquatic herbicide (Sonar) to control Eurasian milfoil and pondweed. (DEC/DOW, BWAM/CSLAP, September 2007)

Previous Assessment

Impacts on recreational uses of Burden Lake by various inputs related to residential development along the lake were noted previously. Excessive weed growth, poor water clarity and algal blooms were attributed to silt/sediment and nutrient loads. Failing and/or inadequate on-site septic systems serving some homes along the lake were identified as possible source. However sampling indicates these sources are more of future threat, than actual source of current impacts. (DEC/DOW, BWAM/WQAS, 2008)

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.

Crystal Lake (1301-0041) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-235-P386- 1- 1-P391
Hydro Unit Code: 02020006/020 **Str Class:** B(T)
Waterbody Type: Lake
Waterbody Size: 59.6 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Rensselaer Co. (42)
Quad Map: AVERILL PARK (K-26-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)
Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation)
Possible: Nutrients

Source(s) of Pollutant(s)
Known: - - -
Suspected: HABITAT MODIFICATION
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview
Recreational uses in Crystal Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns an conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. The primary concern is Eurasian milfoil, a non-native plant first noted in the lake in the late 1980s. (Rensselaer County WQCC, 1996)

Crooked Lake (1301-0254) NoKnownImpct

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-235-P386- 1- P397
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 108.0 Acres
Quad Map: NASSAU (K-26-3)
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

Overview
The most recent NYSDEC sampling effort indicates favorable water quality and no known impacts to uses. However this assessment is based on sampling conducted more than ten years ago; it is recommended that conditions in the lake be verified with more recent sampling.

Water Quality Sampling
Crooked Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 and continuing through 1997. An Interpretive Summary report of the findings of this sampling was published in 1998. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet what is the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, 1998)

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

recreational suitability of the lake to be favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear." Assessments have noted that aquatic plants occasionally grow to the lake surface. (DEC/DOW, BWAM/CSLAP, 1998)

Lake Uses

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

Glass Lake (1301-0042) Need Verific

Waterbody Location Information

Revised: 07/11/2008

Water Index No: H-235-P386- 1-P394
Hydro Unit Code: 02020006/020 **Str Class:** B(T)
Waterbody Type: Lake
Waterbody Size: 125.0 Acres
Seg Description: entire lake

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Rensselaer Co. (42)
Quad Map: AVERILL PARK (K-26-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), PROBLEM SPECIES
Possible: Nutrients, Salts, Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: HABITAT MODIFICATION, Urban/Storm Runoff
Possible: Deicing (stor/appl), On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
TMDL/303d Status: n/a
Resolution Potential: Medium

Further Details

Overview
Recreational uses in Glass Lake may experience minor impacts/threats due to excessive aquatic vegetation and/or algal growth. This assessment is based on previously reported concerns an conditions in the lake need to be verified.

Previous Assessment
Recreational uses (swimming, boating) and aesthetics in the lake were reported as being affected by excessive aquatic weed growth. The primary concern is Eurasian milfoil, a non-native plant first noted in the lake in the late 1980s. Another water quality concern is the runoff of salt into the lake from roadways during winter road maintenance. Sampling by the county reveals evidence of increasing chloride levels in the lake. (Rensselaer County WQCC, 1996)

Poesten Kill, Lower, and minor tribs (1301-0068) NoKnownImpct

Waterbody Location Information

Revised: 11/02/2007

Water Index No: H-236
Hydro Unit Code: 02020006/010 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 59.2 Miles
Seg Description: stream and select tribs, from mouth to Poestenkill

Drain Basin: Lower Hudson River
Middle Hudson River
Reg/County: 4/Rensselaer Co. (42)
Quad Map: TROY SOUTH (K-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
NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Poestenkill Creek in Troy, Rensselaer County, (at Spring Avenue) 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 slightly impacted water quality conditions. Nonpoint sources and nutrient enrichment was indicated as the likely source of the impacts. 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. Water column sampling revealed no parameters of concern. Bottom sediment sampling results revealed lead and nickel 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 aquatic life and recreational uses. (DEC/DOW, BWAM/RIBS, January 2005)

A biological (macroinvertebrate) assessment of Poestenkill Creek at this site was also conducted in 2002 during the Biological Screening effort in the basin. Sampling results also indicated slightly impacted water quality conditions, with evidence of nutrient enrichment and siltation. (DEC/DOW, BWAM/SBU, September 2005)

A biological (macroinvertebrate) survey of Poesten Kill at multiple sites between Troy and East Poesten Kill was conducted in 2001. Sampling results indicated generally non-impacted water quality conditions. The one exception along this reach is an assessment of slight impact at the farthest downstream site in Troy. However some indices at this site remained high and it is thought the impoundment effects from a pond above the site may influence the sampling results. Nutrient biotic evaluation determined the effects on the fauna at all sites 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, Poesten Kill Biological Stream Assessment, April 2002)

Previous Assessment

Local agencies have previously expressed concerns about silt and sediment impacts from streambank erosion. Steep banks along the stream are prone to erosion, particularly at higher flows. Residential construction and commercial development in the watershed are also suspected potential sources of sediment. There is some concern about failing and/or inadequate on-site septic systems along the stream as well. The county reports there are areas where illegal dumping of trash and debris has occurred, reducing aesthetics of the creek. (Rensselaer County WQCC, 1996)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to/including unnamed tribs (-17) in Poestenkill. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Sweet Milk Creek (-7) and Newfoundland Creek (-15), are Class C,C(T),C(TS). Quacken Kill (-13) and Upper Poesten Kill are listed separately. Lower tidal portions of this trib are included with the Hudson Main Stem.

Poesten Kill, Upper, and tribs (1301-0255) NoKnownImpct

Waterbody Location Information

Revised: 11/02/2007

Water Index No: H-236
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C(TS)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 64.6 Miles
Quad Map: TROY SOUTH (K-26-1)
Seg Description: stream and tribs, above Poestenkill

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

Overview
A biological (macroinvertebrate) survey of Poesten Kill at multiple sites between Troy and East Poesten Kill was conducted in 2001. Sampling results indicated generally non-impacted water quality conditions. The one exception along this reach is an assessment of slight impact at the farthest downstream site in Troy, which is below this reach. 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, Poesten Kill Biological Stream Assessment, April 2002)

Segment Description
This segment includes the portion of the stream and all tribs above unnamed trib (-17) in Poestenkill. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Bonesteel Brook (-22), are Class C,C(T),C(TS). Lower Poesten Kill is listed separately.

Quacken Kill, Lower, and tribs (1301-0256) NoKnownImpct

Waterbody Location Information

Revised: 11/02/2007

Water Index No: H-236-13 **Drain Basin:** Lower Hudson River
Hydro Unit Code: **Str Class:** C(TS)
Waterbody Type: River **Reg/County:** 4/Rensselaer Co. (42)
Waterbody Size: 26.5 Miles **Quad Map:** TROY SOUTH (K-26-1)
Seg Description: stream and tribs, from mouth to near Quackenkill

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

Overview
A biological (macroinvertebrate) survey of Quacken Kill at multiple sites from below Brunswick to Quacken Kill was conducted in 2006. Sampling results indicated non-impacted water quality conditions at all sites. The fauna was diverse with clean-water organisms indicating no known impacts. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to outlet of unnamed pond P422a in Quackenkill. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Clum Corners Creek (-4), are Class C,C(T). Upper Quacken Kill is listed separately.

Quacken Kill, Upper, and tribs (1301-0257) NoKnownImpct

Waterbody Location Information

Revised: 11/02/2007

Water Index No: H-236-13
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(TS)
Waterbody Type: River
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 19.5 Miles
Quad Map: GRAFTON (J-27-4)
Seg Description: stream and tribs, above Quackenkill

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

Overview

A biological (macroinvertebrate) survey of Quacken Kill at multiple sites from below Brunswick to Quacken Kill was conducted in 2006. Sampling results indicated non-impacted water quality conditions at all sites, including the one site in Quaken Kill and the downstream end of this reach. The fauna was diverse with clean-water organisms indicating no known impacts. (DEC/DOW, BWAM/SBU, June 2005)

Segment Description

This segment includes the portion of the stream and all tribs above outlet of unnamed pond P422a in Quackenkill. The waters of this portion of the stream are Class A,A(TS). Tribs to this reach/segment, including Shaver Pond Outlet (-9), Long Pond Outlet (-11) and Lake Elizabeth Outlet (-13), are Class A and C(TS). Lower Quacken Kill is listed separately.

Mill Pond, Second Pond, Long Pond (1301-0258) NoKnownImpct

Waterbody Location Information

Revised: 04/14/2008

Water Index No: H-236-13-11-P426,P427,P428
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A(T)
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 158.9 Acres
Quad Map: GRAFTON (J-27-4)
Seg Description: total area of all three 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
Long Pond has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1994 and most recently 2003. An Interpretive Summary report of the findings of this sampling was published in 2004. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. Water quality conditions in the most recent year indicated slightly higher productivity, but the changes are thought to be within the normal range of variability. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements the typically and easily 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 slightly colored, which is considered natural and does not influence lake clarity. (DEC/DOW, BWAM/CSLAP, August 2004)

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 since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with the

perceived water quality conditions in the lake and its measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. (DEC/DOW, BWAM/CSLAP, August 2004)

Lake Uses

Long Pond (the largest of these waterbodies) and Second Pond are designated class A(T); Mill Pond is Class A. These classifications indicate the lakes are suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Dunham Reservoir (1301-0262) Impaired Seg

Waterbody Location Information

Revised: 05/28/2008

Water Index No: H-236-13-P425
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake(R)
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 97.2 Acres
Quad Map: GRAFTON (J-27-4)
Seg Description: entire reservoir

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION, UNKNOWN SOURCE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA
Resolution Potential: Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview
Fish consumption use in Dunham Reservoir is impaired by mercury contamination attributed to atmospheric deposition.

Fish Consumption Advisories
Fish consumption in Dunham Reservoir is impaired due to a NYSDOH health advisory that recommends eating no walleye and no more than one meal per month of smallmouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the lake watershed. Mercury levels for this reservoir are higher than most lakes affected by atmospheric mercury. The advisory for this lake was first issued in 2005-06. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

Section 303(d) Listing
Dunham Reservoir is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water/Atmospheric Deposition (Acid Rain). However, the mercury impairment was addressed in the Northeast Regional Mercury TMDL that was established in 2007. Therefore the listing for mercury for the lake are not included in the 2008 NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, March 2008)

Forest Lake (1301-0267) NoKnownImpct

Waterbody Location Information

Revised: 04/25/2008

Water Index No: H-236-22-11-P441
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: A
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 18.9 Acres
Quad Map: TABORTON (K-27-1)
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
Forest Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2003 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. Phosphorus levels in the lake are consistently below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements meet what is the recommended minimum for swimming beaches. Measurements of pH occasionally fall below the state water quality range of 6.5 to 8.5, but are adequate to support aquatic life. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment
Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable, although less favorable in more recent years. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted in recent years. The lake itself is most often described as "not quite crystal clear" to having "definite algal greenness." These assessments are somewhat less favorable given measured water quality characteristics of the lake. Assessments have noted increasing

aquatic plants, but were not identified as growing densely at the lake surface. (DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. 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.

Dyken Pond (1301-0271) Impaired Seg

Waterbody Location Information

Revised: 01/28/2008

Water Index No: H-236-P445
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: B
Waterbody Type: Lake
Reg/County: 4/Rensselaer Co. (42)
Waterbody Size: 184.5 Acres
Quad Map: TABORTON (K-27-1)
Seg Description: entire lake

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)
Known: METALS (mercury)
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/EPA
Resolution Potential: Medium
TMDL/303d Status: 2b*

Further Details

Overview
Fish consumption in Dyken Pond is impaired by health advisories that recommend restricting the consumption of fish from the lake. Mercury contamination from atmospheric deposition is the suspected source of the impairment.

Fish Consumption Advisories
Fish consumption in Dyken Pond is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of largemouth bass because of elevated mercury levels. The source of mercury is considered to be atmospheric deposition, as there are not other apparent sources in the lake watershed. The advisory for this lake was first issued in 2006-07. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, January 2008).

Section 303(d) Listing
Dyken Pond is not included on the NYS 2006 Section 303(d) List of Impaired Waters. Due to the recently issued fish consumption advisory the lake was included in the Draft 2008 Section 303(d) List. However the Northeast Regional Mercury TMDL which was approved in 2007 provides coverage for waters that are subsequently identified as being impaired by mercury from atmospheric deposition. NYSDEC is currently considering delisting this waterbody because of coverage under this TMDL. (DEC/DOW, BWAM, January 2008)

Salt Kill and tribs (1301-0275) Need Verific

Waterbody Location Information

Revised: 11/01/2007

Water Index No: H-239
Drain Basin: Lower Hudson River
Hydro Unit Code:
Str Class: C
Waterbody Type: River
Reg/County: 4/Albany Co. (1)
Waterbody Size: 7.7 Miles
Quad Map: TROY SOUTH (K-26-1)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)
Known: - - -
Suspected: OTHER POLLUTANTS
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: UNKNOWN SOURCE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
Resolution Potential: Medium
TMDL/303d Status: n/a

Further Details

Overview
Aquatic life support and recreational uses in Salt Kill may be impacted. The most recent assessment of this stream was 15 years ago and although there were signs of impact, the assessment was inconclusive.

Water Quality Sampling
A biological (macroinvertebrate) assessment of Salt Kill in Cohoes (at Route 32) was attempted in 1992. However that sample produced inadequate sample size for an assessment. The lack of sample organisms was attributed to a combination of poor substrate of unstable gravel and clay, intermittent flow conditions and apparent poor water quality. These factors - in conjunction with the fact the site visit was quite some time ago - leads to the assessment of the segment as Needing Verification of Impact. (DEC/DOW, RIBS/SBU, July 2007)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream are Class D. Tribs to this reach/segment are also Class D. Lower tidal portions of this trib are included with the Hudson Main Stem.

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Summary Listing of Priority Waters

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Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
H (portion 1) **2008 Section 303(d) Listed Water**	Hudson River (Class I) (1301-0006) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	New York	6751.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	I	Impaired Seg
H (portion 2a) **2008 Section 303(d) Listed Water**	Hudson River (Class SB), portion (1301-0005) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Bronx	1662.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	SB	Impaired Seg
H (portion 2b) **2008 Section 303(d) Listed Water**	Hudson River (Class SB), portion (1301-0094) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Westchester	31593.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	SB	Impaired Seg
H (portion 3) **2008 Section 303(d) Listed Water**	Hudson River (Class B) (1301-0003) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Orange	8910.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	B	Impaired Seg
H (portion 4a) **2008 Section 303(d) Listed Water**	Hudson River (Class A) (1301-0001) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Orange	10306.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	A	Impaired Seg
H (portion 4b) **2008 Section 303(d) Listed Water**	Hudson River (Class A) (1301-0276) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Ulster	15599.0 Acre	Estuary Causes: Metals, Priority Organics Sources: Tox/Contam. Sediment	A	Impaired Seg

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H (portion 5) **2008 Section 303(d) Listed Water**	Hudson River (Class C) (1301-0002) Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Habitat/Hydrolgy SUSPECTED of being STRESSED	Albany	3501.0 Acre	Estuary	C	Impaired Seg Causes: Priority Organics Sources: Tox/Contam. Sediment
H- 4 **2008 Section 303(d) Listed Water**	Saw Mill River, Lower, and tribs (1301-0007) Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Habitat/Hydrolgy KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED	Westchester	2.9 Mile	River	C	Impaired Seg Causes: Aesthetics, D.O./Oxygen Demand, Priority Organics, Pesticide... Sources: Tox/Contam. Sediment, Urban/Storm Runoff
H- 4	Saw Mill River, Middle, and tribs (1301-0100) Public Bathing KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Habitat/Hydrolgy KNOWN to be STRESSED	Westchester	5.1 Mile	River	A	Impaired Seg Causes: Aesthetics, D.O./Oxygen Demand, Priority Organics, Pesticide... Sources: Tox/Contam. Sediment, Other Sanitary Disch, Urban/Storm Runo...
H- 4	Saw Mill River, Upper, and tribs (1301-0101) Fish Consumption KNOWN to be IMPAIRED Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Westchester	25.3 Mile	River	B(T)*	Impaired Seg Causes: Pesticides Sources: Tox/Contam. Sediment
H- 13	Sparkill Creek, Lower (1301-0088) Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Rockland	2.2 Mile	River	C	Impaired Seg Causes: Pathogens, D.O./Oxygen Demand, Silt/Sediment, Unknown Toxici... Sources: Urban/Storm Runoff
H- 13	Sparkill Creek, Upper, and minor tribs (1301-0106) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED	Rockland	4.2 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 28	Sing Sing Creek and tribs (1301-0118) Aquatic Life SUSPECTED of being STRESSED	Westchester	9.0 Mile	River	C	MinorImpacts Causes: Unknown Toxicity Sources: Urban/Storm Runoff
H- 31-P44 (portion 1)	New Croton Reservoir (1302-0010) Water Supply KNOWN to be IMPAIRED	Westchester	1949.0 Acre	Lake(R)	AA	Impaired Seg Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44 (portion 2)	Muscoot/Upper New Croton Reservoir (1302-0042) Water Supply KNOWN to be IMPAIRED	Westchester	770.1 Acre	Lake(R)	A	Impaired Seg Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-14	Muscoot River, Lower, and minor tribs (1302-0049) Water Supply SUSPECTED of being IMPAIRED Public Bathing KNOWN to be IMPAIRED Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Westchester	10.0 Mile	River	A(TS)	Impaired Seg Causes: D.O./Oxygen Demand, Ammonia Sources: Municipal, Urban/Storm Runoff
H- 31-P44-14- 7-P52	Kirk Lake (1302-0080) Recreation SUSPECTED of being STRESSED	Putnam	123.5 Acre	Lake	B	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-14-P50	Amawalk Reservoir (1302-0044) Water Supply KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED	Westchester	566.6 Acre	Lake(R)	A	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-14-P50- 2- P50a	Lake Shenorock (1302-0083) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	15.2 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 31-P44-17- 5-P57a **2008 Section 303(d) Listed Water**	Lake Lincolndale (1302-0089) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	20.9 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, On-Site/Septic Syst, Urban/Storm Runof...

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 31-P44-23 (portion 2)/P59	Croton Falls Reservoir (1302-0026) Water Supply KNOWN to be IMPAIRED	Putnam	573.6 Acre	Lake(R)	A(T)	Impaired Seg Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-23 (portion 4)/P67	West Branch Reservoir (1302-0022) Fish Consumption KNOWN to be IMPAIRED Water Supply SUSPECTED of being THREATENED	Putnam	695.6 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-23 (portion 6)/P76	Boyd Corners Reservoir (1302-0045) Fish Consumption KNOWN to be IMPAIRED Water Supply SUSPECTED of being THREATENED	Putnam	217.8 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-23-P59- 3-P61	Lake Gilead (1302-0024) Water Supply SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Putnam	116.3 Acre	Lake	A(T)	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-23-P59- 4 thru 10	Minor Tribs to Croton Falls Reservoir (1302-0001) Public Bathing KNOWN to be IMPAIRED Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Putnam	4.8 Mile	River	B	Impaired Seg Causes: D.O./Oxygen Demand, Nutrients Sources: Municipal
H- 31-P44-23-P59- 6 (portion 2)/P62	Middle Branch Reservoir (1302-0009) Water Supply KNOWN to be IMPAIRED	Putnam	399.6 Acre	Lake(R)	A	Impaired Seg Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-23-P59- 6-P62..P62a **2008 Section 303(d) Listed Water**	Lake Carmel (1302-0006) Recreation KNOWN to be IMPAIRED Public Bathing KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Putnam	186.6 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, On-Site/Septic Syst, Urban/Storm Runof...
H- 31-P44-23..P67..P74	Lake Gleneida (1302-0025) Recreation SUSPECTED of being STRESSED Water Supply POSSIBLY THREATENED	Putnam	166.5 Acre	Lake	AA(T)	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 31-P44-24 (portion 2)/P83	Diverting Reservoir (1302-0046) Water Supply KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED	Putnam	124.8 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-24 (portion 3)	East Branch Croton, Middle, and tribs (1302-0055) Public Bathing SUSPECTED of being STRESSED Aquatic Life SUSPECTED of being STRESSED Water Supply KNOWN to be THREATENED	Putnam	12.8 Mile	River	A(T)	Threatened Causes: Priority Organics Sources: Landfill/Land Disp.
H- 31-P44-24 (portion 4)/P89	East Branch Reservoir (1302-0040) Water Supply KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED	Putnam	41.0 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-24- 1	Holly Stream and tribs (1302-0125) Aquatic Life SUSPECTED of being STRESSED	Putnam	9.0 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-24- 9-P86	Bog Brook Reservoir (1302-0041) Fish Consumption KNOWN to be IMPAIRED Water Supply SUSPECTED of being THREATENED	Putnam	379.9 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-24- P89-10-P93 **2008 Section 303(d) Listed Water**	Peach Lake (1302-0004) Public Bathing KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	241.9 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients, Pathogens Sources: Habitat Modification, Habitat Modification, On-Site/Septic S...
H- 31-P44-24-17-P93a,P93b	Lost Lake, Putnam Lake (1302-0053) Public Bathing SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Putnam	222.1 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth Sources: On-Site/Septic Syst, Urban/Storm Runoff
H- 31-P44-26/P103	Titicus Reservoir (1302-0035) Water Supply KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED	Westchester	672.3 Acre	Lake(R)	AA	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 31-P44-31- 3-P107a	Lake Katonah (1302-0136) Recreation KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	23.0 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 31-P44-35-P109	Cross River Reservoir (1302-0005) Fish Consumption KNOWN to be IMPAIRED Water Supply SUSPECTED of being THREATENED	Westchester	898.6 Acre	Lake(R)	AA(T)	Impaired Seg Causes: Metals, Nutrients Sources: Atmosph. Deposition, Urban/Storm Runoff
H- 31-P44-35-P109- 6- 7-P114	Lake Kitchawan (1302-0002) Water Supply SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Westchester	96.6 Acre	Lake	B	MinorImpacts Causes: Nutrients Sources: Urban/Storm Runoff
H- 31-P44-35-P109- 6-13-P115a	Truesdale Lake (1302-0054) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	82.4 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 31-P44-35-P109- 6..P118,P119	Lake Oscaleta, Lake Rippowam (1302-0141) Recreation SUSPECTED of being STRESSED	Westchester	93.6 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Other Source, Urban/Storm Runoff
H- 31-P44-43	Kisco River, Upper, and tribs (1302-0061) Aquatic Life SUSPECTED of being IMPAIRED Recreation KNOWN to be STRESSED	Westchester	31.7 Mile	River	C(T)	Impaired Seg Causes: D.O./Oxygen Demand, Nutrients Sources: Urban/Storm Runoff
H- 31-P44-54-P128a	Teatown Lake (1302-0150) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	40.2 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 43- 1-11- 9-P150d	Breakneck Pond (1301-0123) Fish Consumption KNOWN to be IMPAIRED	Rockland	63.0 Acre	Lake	AA	Impaired Seg Causes: Metals Sources: Atmosph. Deposition

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 49a-P160 **2008 Section 303(d) Listed Water**	Lake Meahagh (1301-0053) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	79.4 Acre	Lake	C	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff, On-Site/Septic Sys...
H- 55- 1-P165	Wallace Pond (1301-0140) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	18.5 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 55- 2	Canopus Creek and tribs (1301-0141) Aquatic Life SUSPECTED of being STRESSED	Westchester	29.2 Mile	River	B(T)	MinorImpacts Causes: Nutrients Sources: Agriculture
H- 55- 7-P171	Lake Peekskill (1301-0147) Recreation KNOWN to be STRESSED Aquatic Life SUSPECTED of being STRESSED	Putnam	58.5 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Urban/Storm Runoff
H- 55- 8-P175 **2008 Section 303(d) Listed Water**	Oscawana Lake (1301-0035) Public Bathing SUSPECTED of being IMPAIRED Recreation SUSPECTED of being IMPAIRED	Putnam	363.8 Acre	Lake	A	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Urban/Storm Runoff
H- 55-11-P179	Lake Mohegan (1301-0149) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Westchester	103.8 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Urban/Storm Runoff
H- 55-20-P183d	Lake Ossi (1301-0156) Recreation KNOWN to be STRESSED	Putnam	10.4 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Urban/Storm Runoff
H- 55-P183e	Lake Tibet (1301-0034) Public Bathing KNOWN to be STRESSED Recreation KNOWN to be STRESSED	Putnam	37.4 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth Sources: Habitat Modification

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 62 thru 92, EOH (selected)	Minor Tribs to East of Hudson (1301-0168) Aquatic Life SUSPECTED of being STRESSED	Putnam	25.3 Mile	River	B	MinorImpacts Causes: Nutrients Sources: Agriculture
H- 71	Highland Brook and tribs (1301-0172) Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Orange	7.1 Mile	River	A(T)	MinorImpacts Causes: Nutrients, Unknown Toxicity Sources: Urban/Storm Runoff
H- 89	Moodna Creek, Upper, and minor tribs (1303-0011) Aquatic Life SUSPECTED of being STRESSED	Orange	131.5 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Agriculture, Urban/Storm Runoff
H- 89- 7	Woodbury Creek and tribs (1303-0014) Aquatic Life KNOWN to be STRESSED	Orange	38.4 Mile	River	C	MinorImpacts Causes: Nutrients, Salts Sources: Deicing (stor/appl), Urban/Storm Runoff, Municipal
H- 89-20	Otter Kill/Black Meadow Creek and tribs (1303-0025) Habitat/Hydrolgy KNOWN to be THREATENED	Orange	99.1 Mile	River	C*	Threatened Causes: Water Level/Flow, Thermal Changes Sources: Construction, Habitat Modification
H- 94 **2008 Section 303(d) Listed Water**	Quassaic Creek, Lower, and minor tribs (1301-0079) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED	Orange	39.7 Mile	River	C	MinorImpacts Causes: Nutrients, Unknown Toxicity Sources: Comb. Sewer Overflow, Urban/Storm Runoff
H- 94- 6-P340	Orange Lake (1301-0008) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Orange	411.8 Acre	Lake	B	Impaired Seg Causes: Nutrients Sources: Habitat Modification, On-Site/Septic Syst, Urban/Storm Runof...
H- 95	Fishkill Creek, Lower, and tribs (1304-0003) Aquatic Life SUSPECTED of being STRESSED	Dutchess	17.4 Mile	River	C	MinorImpacts Causes: Nutrients, Unknown Toxicity Sources: Municipal, Other Sanitary Disch, Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H- 95-10- 1b-P345g **2008 Section 303(d) Listed Water**	Hillside Lake (1304-0001) Recreation KNOWN to be IMPAIRED Public Bathing KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Dutchess	25.9 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Agriculture, On-Site/Septic Syst, Urba...
H- 95-14-P354	Sylvan Lake (1304-0029) Public Bathing KNOWN to be STRESSED Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Habitat/Hydrolgy KNOWN to be THREATENED	Dutchess	113.3 Acre	Lake	B(T)	MinorImpacts Causes: D.O./Oxygen Demand, Nutrients Sources: On-Site/Septic Syst, Other Source, Private/Comm/Inst
H-101 (portion 2)/P365 **2008 Section 303(d) Listed Water**	Wappingers Lake (1305-0001) Public Bathing KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Dutchess	80.2 Acre	Lake	B	Impaired Seg Causes: Nutrients, Silt/Sediment Sources: Urban/Storm Runoff
H-105	Casper Creek and tribs (1301-0195) Aquatic Life SUSPECTED of being STRESSED	Dutchess	16.2 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Agriculture, Urban/Storm Runoff
H-114 **2008 Section 303(d) Listed Water**	Fall Kill and tribs (1301-0087) Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED	Dutchess	41.3 Mile	River	C	Impaired Seg Causes: Nutrients Sources: Urban/Storm Runoff, Municipal
H-116	Twaalfskill Creek and tribs (1301-0199) Aquatic Life SUSPECTED of being STRESSED	Ulster	22.0 Mile	River	C	MinorImpacts Causes: D.O./Oxygen Demand, Nutrients Sources: Industrial, Municipal
H-128-P437	Chodikee Pond (1301-0208) Fish Consumption KNOWN to be IMPAIRED	Ulster	61.9 Acre	Lake	A	Impaired Seg Causes: Metals Sources: Atmosph. Deposition

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-136	Landsman Kill and minor tribs (1301-0209) Aquatic Life SUSPECTED of being STRESSED	Dutchess	12.6 Mile	River	C	MinorImpacts Causes: Unknown Toxicity Sources: Unknown Source
H-136- 6	Rhinebeck Kill and tribs (1301-0210) Aquatic Life SUSPECTED of being STRESSED	Dutchess	25.6 Mile	River	C	MinorImpacts Causes: Unknown Toxicity Sources: Unknown Source
H-139-13 (portion 2)	Wallkill River, Lower, Main Stem (1306-0027) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Fish Consumption POSSIBLY STRESSED	Ulster	17.1 Mile	River	B	MinorImpacts Causes: Nutrients, Silt/Sediment Sources: Agriculture
H-139-13 (portion 3)	Wallkill River, Middle, Main Stem (1306-0038) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Fish Consumption POSSIBLY STRESSED	Orange	28.0 Mile	River	B	MinorImpacts Causes: Nutrients, Silt/Sediment Sources: Agriculture
H-139-13 (portion 4)	Wallkill River, Upper, and minor tribs (1306-0017) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Fish Consumption POSSIBLY STRESSED	Orange	59.7 Mile	River	C	MinorImpacts Causes: Nutrients, Silt/Sediment Sources: Agriculture
H-139-13-19- 7	Dwaar Kill and tribs (1306-0052) Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Ulster	18.1 Mile	River	B(T)	MinorImpacts Causes: D.O./Oxygen Demand, Nutrients Sources: Agriculture
H-139-13-19-28-P491,P492	Shawangunk Lake/Highland Lake (1306-0060) Water Supply POSSIBLY THREATENED	Orange	218.1 Acre	Lake	AA	Threat(Poss) Causes: Other Pollutants Sources: Other Source
H-139-13-33	Tin Brook, Lower, and tribs (1306-0068) Aquatic Life SUSPECTED of being STRESSED	Orange	11.4 Mile	River	A	MinorImpacts Causes: Nutrients, Silt/Sediment Sources: Municipal, Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-139-13-51	Masonic Creek and tribs (1306-0072) Aquatic Life KNOWN to be STRESSED	Orange	23.2 Mile	River	B	MinorImpacts Causes: Nutrients, Unknown Toxicity Sources: Agriculture, Urban/Storm Runoff
H-139-13-52	Monhagen Brook and tribs (1306-0074) Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED	Orange	25.9 Mile	River	C	Impaired Seg Causes: Nutrients, Unknown Toxicity Sources: Urban/Storm Runoff
H-139-13-59 **2008 Section 303(d) Listed Water**	Quaker Creek and tribs (1306-0025) Aquatic Life KNOWN to be IMPAIRED Aesthetics SUSPECTED of being STRESSED	Orange	41.5 Mile	River	C	Impaired Seg Causes: D.O./Oxygen Demand, Water Level/Flow, Nutrients Sources: Agriculture, Hydro Modification
H-139-13-61- 9	Wawayanda Creek, Lower, and tribs (1306-0079) Aquatic Life KNOWN to be STRESSED	Orange	36.2 Mile	River	C(T)	MinorImpacts Causes: Nutrients Sources: Agriculture, Urban/Storm Runoff, Municipal
H-139-13-61- 9	Wawayanda Creek, Upper, and minor tribs (1306-0015) Aquatic Life KNOWN to be STRESSED	Orange	21.2 Mile	River	B(T)*	MinorImpacts Causes: Nutrients Sources: Agriculture, Urban/Storm Runoff
H-139-14 (portion 5)/P815a	Rondout Reservoir (1306-0003) Fish Consumption KNOWN to be IMPAIRED Water Supply POSSIBLY THREATENED	Ulster	2023.8 Acre	Lake(R)	AA(TS)	Impaired Seg Causes: Metals Sources: Atmosph. Deposition
H-139-14 (portion 7)	Rondout Creek, Upper, and minor tribs (1306-0092) Aquatic Life KNOWN to be STRESSED	Ulster	38.9 Mile	River	C(T)	MinorImpacts Causes: Acid/Base (pH) Sources: Atmosph. Deposition
H-139-14-P815a-	Minor Tribs to Rondout Reservoir (1306-0014) Water Supply SUSPECTED of being STRESSED Aquatic Life SUSPECTED of being STRESSED	Ulster	15.6 Mile	River	A	MinorImpacts Causes: Acid/Base (pH) Sources: Atmosph. Deposition

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-158-13- 3-P826	Sepasco Lake (1301-0214) Recreation KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Dutchess	26.3 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth Sources: Habitat Modification
H-164	Stony Creek, Lower, and tribs (1301-0219) Aquatic Life KNOWN to be STRESSED	Dutchess	56.2 Mile	River	A	MinorImpacts Causes: Nutrients Sources: Unknown Source
H-171 (portion 1)	Esopus Creek, Lower, Main Stem (1307-0010) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED	Ulster	12.7 Mile	River	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Agriculture, Hydro Modification, Urban/Storm Runoff, Municip...
H-171 (portion 2)	Esopus Creek, Middle, and minor tribs (1307-0003) Public Bathing SUSPECTED of being STRESSED Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Ulster	89.0 Mile	River	B(T)	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Agriculture, Hydro Modification
H-171 (portion 3)/P848 **2008 Section 303(d) Listed Water**	Ashokan Reservoir (1307-0004) Water Supply KNOWN to be IMPAIRED Fish Consumption KNOWN to be IMPAIRED	Ulster	8060.3 Acre	Lake(R)	AA(T)	Impaired Seg Causes: Metals, Silt/Sediment Sources: Atmosph. Deposition, Streambank Erosion
H-171 (portion 4) **2008 Section 303(d) Listed Water**	Esopus Creek, Upper, and minor tribs (1307-0007) Water Supply KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Ulster	42.2 Mile	River	A(TS)	Impaired Seg Causes: Silt/Sediment Sources: Other Source, Streambank Erosion
H-188-18	Doove Kill and tribs (1308-0013) Aquatic Life SUSPECTED of being STRESSED	Columbia	24.1 Mile	River	C(T)	MinorImpacts Causes: Nutrients Sources: Agriculture
H-188-P902 **2008 Section 303(d) Listed Water**	Robinson Pond (1308-0003) Recreation KNOWN to be IMPAIRED Public Bathing KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Columbia	113.7 Acre	Lake	B(T)	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, Agriculture

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-193	Catskill Creek, Middle, and minor tribs (1309-0004) Public Bathing KNOWN to be STRESSED Recreation KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Greene	112.1 Mile	River	B(T)	MinorImpacts Causes: Nutrients, Pathogens Sources: Municipal, Other Sanitary Disch, On-Site/Septic Syst
H-193- 2-P921,P922	South Lake, North Lake (1309-0017) Fish Consumption KNOWN to be IMPAIRED	Greene	80.3 Acre	Lake	B	Impaired Seg Causes: Metals Sources: Atmosph. Deposition
H-193- 9- 2-P925a	Potuck (Potic) Reservoir (1309-0024) Water Supply SUSPECTED of being THREATENED	Greene	53.7 Acre	Lake(R)	A	Threatened Causes: Pathogens Sources: Agriculture
H-193-29-P950a **2008 Section 303(d) Listed Water**	Basic Creek Reservoir (1309-0001) Public Bathing KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Water Supply SUSPECTED of being THREATENED	Albany	236.8 Acre	Lake(R)	A	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Agriculture, Hydro Modification
H-202-P8f **2008 Section 303(d) Listed Water**	Sleepy Hollow Lake (1301-0059) Public Bathing KNOWN to be IMPAIRED Recreation SUSPECTED of being STRESSED Aesthetics SUSPECTED of being STRESSED Water Supply SUSPECTED of being THREATENED	Greene	257.9 Acre	Lake	A	Impaired Seg Causes: Algal/Weed Growth, Silt/Sediment Sources: Streambank Erosion, Urban/Storm Runoff
H-204- 2	Kinderhook Creek, Lower, and minor tribs (1310-0021) Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED Habitat/Hydrolgy POSSIBLY STRESSED	Columbia	41.0 Mile	River	C	MinorImpacts Causes: Nutrients, Thermal Changes Sources: Agriculture, Habitat Modification
H-204- 2- 7 **2008 Section 303(d) Listed Water**	Valatie Kill, Middle, and tribs (1310-0003) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Rensselaer	38.8 Mile	River	C(T)	Impaired Seg Causes: Priority Organics Sources: Landfill/Land Disp.

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-204- 2- 7	Valatie Kill, Upper, and tribs (1310-0024) Fish Consumption KNOWN to be PRECLUDED Recreation KNOWN to be IMPAIRED	Rensselaer	30.5 Mile	River	C(T)	Impaired Seg Causes: Priority Organics Sources: Landfill/Land Disp.
H-204- 2- 7-P24 **2008 Section 303(d) Listed Water**	Kinderhook Lake (1310-0002) Fish Consumption KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED Aesthetics SUSPECTED of being STRESSED Aquatic Life POSSIBLY STRESSED	Columbia	344.6 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients, Priority Organics Sources: On-Site/Septic Syst, Tox/Contam. Sediment
H-204- 2- 7-P34 **2008 Section 303(d) Listed Water**	Nassau Lake (1310-0001) Fish Consumption KNOWN to be PRECLUDED Recreation KNOWN to be IMPAIRED Aesthetics SUSPECTED of being STRESSED Aquatic Life POSSIBLY STRESSED	Rensselaer	171.7 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients, Priority Organics Sources: Habitat Modification, Landfill/Land Disp., Tox/Contam. Sedim...
H-204- 3- 8	Taghkanic Creek, Lower, and tribs (1310-0015) Habitat/Hydrolgy KNOWN to be THREATENED	Columbia	123.1 Mile	River	C(T)	Threatened Causes: Water Level/Flow, Thermal Changes Sources: Hydro Modification
H-204- 3- 8-32-P108a	Copake Lake (1310-0014) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Columbia	420.2 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, On-Site/Septic Syst, Urban/Storm Runof...
H-208	Coxsackie Creek and minor tribs (1301-0092) Recreation SUSPECTED of being STRESSED	Greene	55.0 Mile	River	C	MinorImpacts Causes: Algal/Weed Growth Sources: Private/Comm/Inst
H-209	Mill Creek and tribs (1301-0093) Aesthetics KNOWN to be STRESSED Aquatic Life SUSPECTED of being STRESSED	Columbia	22.8 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Agriculture
H-214	Coeymans Creek and minor tribs (1301-0095) Aquatic Life KNOWN to be STRESSED	Albany	69.6 Mile	River	C(T)	Minor Impact Causes: Nutrients, Silt/Sediment Sources: Agriculture, Urban/Storm Runoff

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-221- 4 (portion 1)	Normans Kill, Lower, and minor tribs (1311-0010) Aquatic Life KNOWN to be STRESSED Aquatic Life KNOWN to be STRESSED	Albany	44.7 Mile	River	C	MinorImpacts Causes: Silt/Sediment, Nutrients Sources: Streambank Erosion, Urban/Storm Runoff
H-221- 4 (portion 2)	Normans Kill, Middle, and tribs (1311-0002) Aquatic Life KNOWN to be STRESSED	Albany	29.5 Mile	River	B	MinorImpacts Causes: Silt/Sediment, Water Level/Flow, Nutrients Sources: Hydro Modification, Streambank Erosion, Urban/Storm Runoff
H-221- 4- 3 **2008 Section 303(d) Listed Water**	Krum Kill, Upper, and tribs (1311-0004) Aquatic Life KNOWN to be IMPAIRED	Albany	0.4 Mile	River	A	Impaired Seg Causes: Unknown Toxicity Sources: Urban/Storm Runoff, Comb. Sewer Overflow
H-221- 4- 7	Vly Creek and tribs (1311-0021) Aquatic Life SUSPECTED of being STRESSED	Albany	20.4 Mile	River	C(T)	MinorImpacts Causes: Nutrients Sources: Municipal
H-221- 4-270- 1	Bozen Kill and minor tribs (1311-0017) Aquatic Life KNOWN to be STRESSED	Albany	75.2 Mile	River	C	MinorImpacts Causes: Nutrients Sources: Municipal
H-221- 4-P270- 1- 9-P276a	Duane Lake (1311-0006) Recreation KNOWN to be IMPAIRED Aesthetics KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Schenectady	116.8 Acre	Lake	B	Impaired Seg Causes: Algal/Weed Growth, Nutrients Sources: Habitat Modification, On-Site/Septic Syst, Urban/Storm Runof...
H-222-P297	Hampton Manor Lake (1301-0077) Recreation SUSPECTED of being STRESSED	Rensselaer	11.7 Acre	Lake	C	MinorImpacts Causes: Algal/Weed Growth Sources: Urban/Storm Runoff
H-226 **2008 Section 303(d) Listed Water**	Patroon Creek and tribs (1301-0030) Aquatic Life SUSPECTED of being IMPAIRED Recreation SUSPECTED of being IMPAIRED Aesthetics KNOWN to be STRESSED Fish Consumption POSSIBLY STRESSED	Albany	13.6 Mile	River	C(T)	Impaired Seg Causes: D.O./Oxygen Demand Sources: Urban/Storm Runoff, Other Sanitary Disch

Lower Hudson River Basin Priority Waterbodies List Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category Cause/Source Information
H-228a thru 237, WOH **2008 Section 303(d) Listed Water**	Minor Tribs to West of Hudson (1301-0027) Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Albany	25.6 Mile	River	C	Impaired Seg Causes: Unknown Toxicity Sources: Industrial, Tox/Contam. Sediment, Urban/Storm Runoff
H-235	Wynants Kill, Lower, and tribs (1301-0066) Aquatic Life SUSPECTED of being STRESSED	Rensselaer	4.0 Mile	River	C(T)	MinorImpacts Causes: Nutrients, Silt/Sediment Sources: Urban/Storm Runoff
H-235-11-P377 **2008 Section 303(d) Listed Water**	Snyders Lake (1301-0043) Recreation SUSPECTED of being STRESSED	Rensselaer	108.1 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth, Nutrients Sources: Other Source
H-235-P386	Burdens Lake (1301-0025) Recreation SUSPECTED of being STRESSED	Rensselaer	355.5 Acre	Lake	B	MinorImpacts Causes: Algal/Weed Growth Sources: Habitat Modification
H-236-13-P425	Dunham Reservoir (1301-0262) Fish Consumption KNOWN to be IMPAIRED	Rensselaer	97.2 Acre	Lake(R)	A	Impaired Seg Causes: Metals Sources: Atmosph. Deposition, Unknown Source
H-236-P445 **2008 Section 303(d) Listed Water**	Dyken Pond (1301-0271) Fish Consumption KNOWN to be IMPAIRED	Rensselaer	184.5 Acre	Lake	B	Impaired Seg Causes: Metals Sources: Atmosph. Deposition

The Waterbody Inventory Priority Waterbodies List Assessment Methodology

Appendix A

Assessment Methodology refers to what monitoring tools are used and how resulting data and information are interpreted to determine the level of support of designated uses and to arrive at an overall assessment of water quality. In some cases a lack of use support is apparent (e.g., beaches closed to public bathing or acid rain lakes devoid of fish). However, in most cases, designated use support is evaluated using established water quality criteria or surrogate indicators of water quality. The assessment methodology presented here outlines various water quality monitoring tools and considers other aspects of the resulting data and information, such as the type of data and information generated (numerical, observational/narrative or anecdotal), the source of the data/information, and the level of confidence in the data/information. The methodology also outlines specific criteria that relates water quality monitoring data and information to the degree of use support. Such criteria are critical to providing a balanced and consistent assessment of the quality of waters throughout New York State.

Types of Assessment Criteria

The methodology outlined here relies on a combination of three categories of assessment criteria:

- Use Restriction Orders,
- Numerical and Narrative Standards and Criteria, and
- Surrogate Water Quality Indicators

Use Restriction Orders are administrative restrictions or closures of waters to specific uses. These orders are issued by regulatory agencies charged with protecting particular aspects of public health and are based on data collected through monitoring activities directed by those agencies. While the restriction orders are based on monitoring data, the raw data itself is not usually re-interpreted by NYSDEC in making the use support decisions; rather the level of restricted use already in place drives the use support determination. Examples of use restriction orders include fish consumption advisories, closed shellfishing areas, seasonal or conditional shellfishing areas, public bathing beach closures, etc.

Numerical (and narrative) Water Quality Standards and Criteria represent parameter-specific thresholds for establishing limits regarding the discharge of substances to the waters of the state such that various water uses are protected. In New York State, such standards are adopted in the state Code of Rules and Regulations while criteria are established through development of formal DEC guidance. For many substances the standard or criterion exists as a numeric value; for other parameters, the standard/criterion is more descriptive (narrative) in nature (e.g., *no increase in turbidity that will cause a substantial visible contrast to natural conditions*). Although the use of standards and criteria (particularly numeric standards/criteria) would seem to be directly applicable to determining use support in ambient waters, an assessment methodology is necessary to address issues such as appropriate sampling methods, location, frequency or sample size, natural or background conditions, mixing zones, and so on.

Surrogate Water Quality Indicators are other measures of water quality conditions that are not established in standards or formal criteria. These are often used when an exact determination of use support is not possible. For example, it is difficult to say exactly when a waterbody moves from supporting to not supporting recreational activities. The use of water quality indicators, such as nutrient levels and Secchi disc measurements, bring added consistency to the evaluation. Biological assessments, sediment toxicity evaluations, Section 319 nonpoint source assessments, source water assessments, dilution calculations and predictive models all reflect levels of water quality condition and use support without reliance on standards. Even where these indicators are more subjective, indicator-specific criteria help to maintain a degree of consistency and allow for the incorporation of additional information/data sets into water quality assessments.

Waterbody Inventory/Priority Waterbodies List

NYSDEC maintains information regarding use support, including impaired waters and lesser water quality impacts, through its *Waterbody Inventory/Priority Waterbodies List (WI/PWL)* database. The *Waterbody Inventory* refers to a listing of all waters, identified as specific individual waterbodies or Assessment Units, within the state. The Waterbody Inventory includes both assessed and currently unassessed waters. The *Priority Waterbodies List* is the subset of waters in the Waterbody Inventory that have documented water quality impairments, minor impacts and/or threats. The WI/PWL assessments provide the foundation for both the compilation of the biennial Section 305(b) Water Quality Report on all waters of the state, and for the development of the state Section 303(d) List, which is comprised of waters that do not meet water quality standards and do not support water uses and require development of a TMDL. More detail regarding the WI/PWL assessment effort can be found at http://www.dec.ny.gov/chemical/23846.html.

As well as providing the basis of the New York State Section 305(b)/303(d) integrated assessment, the water quality assessment information in the WI/PWL is also instrumental in directing other water quality efforts. It is used to prioritize monitoring, permitting and compliance activities, to provide a comprehensive inventory of water quality conditions suitable for establishing funding priorities, to enlist participation of other agencies and local partners, and to track progress toward improving the state's water resources. The methodology outlined here goes beyond Section 305(b)/303(d) Integrated Reporting and reflects the use of the WI/PWL in supporting these additional needs. The methodology specific to developing the Section 303(d) List of Impaired/TMDL waters is discussed in more detail in the Section 303(d) *Listing Methodology*.

As well as providing the basis of the New York State Section 305(b)/303(d) integrated assessment, the water quality assessment information in the WI/PWL is also instrumental in directing other water quality efforts. The methodology outlined here goes beyond Section 305(b)/303(d) integrated reporting and reflects the use of the WI/PWL in supporting these additional needs.

To accommodate a thorough evaluation including public participation, the review and updating of the WI/PWL follows a continuing rotating basin schedule in which two or three of the 17 drainage areas in the state are scheduled for reassessment each year. These basin reassessments typically follow the same basin five year rotation schedule employed by the NYSDEC Rotating Integrated Basin Studies (RIBS) monitoring program (http://www.dec.ny.gov/chemical/30951.html). This continuous rotating basin schedule allows for comprehensive solicitation of available data and information, meaningful public participation and review, and more thoughtful dialogue and consideration of water quality assessments. In addition, it is easier to manage than a biennial review of all waters of the state.

To incorporate recent well-documented information, particularly for waters that have not undergone a WI/WPL update during the two-year Integrated Reporting cycle, **NYSDEC will establish September 30 of the year prior to the issuing of a Section 305(b)/303(d) Integrated Report as the cut-off date to receive data and information to be considered for inclusion in the Section 305(b)/303(d) assessment.** Establishing a September 30 "cut-off" date (6 months before the Integrated Report is due) allows both an opportunity for consideration of additional data as well as sufficient time for consideration and comment by all parties on any proposed revisions to existing water quality assessments, and time for a public review component comparable to the WI/PWL process.

Segmentation of Waterbodies

The delineation of waterbodies (Assessment Units) must strike a balance between being too specific (resulting in more segments than can be assessed with finite resources) and too general (resulting in segments that are too large and diverse and difficult to assess accurately). Determining specific boundaries for individual waterbody segments is based on a number of considerations. These factors, which correspond to those outlined in *EPA Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act* (July 21, 2003), include:

Waterbody Type Different waterbody types are not combined into single waterbody segments. That is, lakes (including reservoirs and ponds) are not combined with river reaches to form one segment. Similarly, estuary waters, ocean coastline and Great Lakes shoreline are distinct waterbody types that must be tracked as separate Assessment Units.

Stream Classification A change in the stream class (A, B, C) of a waterbody usually necessitates the division of the waterbody into separate segments, since the two different classes of waters will be assessed for the support of different designated uses. However, differences regarding trout support (T, TS waters) do not require designation of a separate segment. In the case of trout/trout spawning and non-trout portions of the same segment, the assessment reflects the support of the appropriate corresponding fish community. Similarly, Class AA, AA-Spcl or A-Spcl may be grouped with Class A waters in one segment, and Class I waters may be combined with Class SC waters which support similar uses. Note however that some small reaches of Class A or B waters might be combined with a Class C waterbody (and vice versa), if these small reaches are unlikely to be assessed separately.

Hydrologic Drainage Waterbodies that cross 8-digit Hydrologic Unit Code (HUC) and 11-digit watershed boundaries are usually broken into separate waterbody segments at the boundaries.

Waterbody Length/Size As a practical matter, waterbodies should not be too large or too small. There should also be some consistency with regard to segment size. Length/size of particular types of waterbody segments are outlined below.

Rivers and Streams - River and stream segments may be limited to main stem waters, or may include tributaries. Typically 5th order streams and above – which are significantly larger than their direct tributaries – are listed as main stem segments and tributary waters are listed as separate segments. Larger tributaries (or portions of tributaries) are considered as separate segments but in most cases include smaller tributary waters. Occasionally, smaller tributary waters to a larger main stem or lake are combined into one segment, where land use, hydrologic boundaries and other commonality indicate this is appropriate. Generally, river segments include between 10 and 25 miles of stream.

Lakes and Reservoirs - Lakes/reservoirs must be greater than 6.4 acres (0.01 square mile) to be included in the Waterbody Inventory. This is consistent with the threshold for inclusion in the New York State Lake Gazetteer. Lakes are generally listed as "entire lake." However, some very large lakes (e.g., Lake Champlain) may be segmented into separate portions. Conversely, some lake chains and/or smaller lakes in more remote watersheds may be joined together as a single segment, if land use and other commonality indicate this is appropriate.

Estuary Waters - Estuary segments are defined by physical features and stream classification with less consideration to consistency of size. Homogeneity of the waters within a segment is a key consideration.

Great Lakes/Ocean Coastline - Segments are delineated to reflect classification, hydrologic unit boundaries, and political boundaries, with an attempt to be consistent in regard to size.

Land Use and Character In addition, all waters within a single waterbody segment should drain areas of generally similar land use and character. If land use and other character changes, a separate segment is considered.

Waterbody segments are **not** defined solely upon the length/size of area impacted by a water quality problem. Estimates of the extent of water quality impacts are often inexact and may change regularly. Therefore, using this information to establish segment boundaries would make the Waterbody Inventory/Priority Waterbodies List considerably more difficult to manage and update, while providing little added benefit. Flexibility in the segmenting of waterbodies is allowed in order to provide sufficient protection of all designated uses.

WI/PWL Water Uses

- Drinking Water Supply
- Shellfishing
- Public Bathing
- Recreation
- Fish Consumption
- Aquatic Life
- Habitat/Hydrology
- Aesthetics

Evaluation of Water Use Support

The assessment of New York State water resources is based on the ability of waters to support a range of specific designated uses (see box). The particular uses that a specific waterbody is expected to support are dependent upon the classification of that waterbody. For example, only specifically designated waterbodies are considered to have best uses of *Drinking Water Supply* (Class A, AA), *Shellfishing* (Class SA) and *Public Bathing* (Class A, SA, B, SB). (See Appendix B, *New York State Water Quality Classifications*.)

The determination of use support and degree of water quality impact is drawn from a wide range of available data sources and relies on various criteria. These sources and criteria include use restriction orders (drinking water restrictions, bathing beach closures, fish consumption and shellfishing advisories), comparison of data (from NYSDEC ambient monitoring network as well as other agency, local or public/citizen monitoring program) with parameter-specific criteria that reflect water quality standards, the use of surrogate indicators, and qualitative perception and observational information (stream habitat assessments, recreational use or fishery resource surveys, citizen complaints). Given the growing involvement of local agency and citizen volunteers in water quality monitoring, the WI/PWL updating process has expanded to include a significant public participation and outreach component. This effort relies on a network of local Water Quality Coordinating Committees working in conjunction with the NYSDEC staff to capture additional available water quality information. To help ensure consistency in the assessments, basin update efforts begin with a regional WI/PWL workshop with other agency and local partners to introduce the assessment methodology and solicit water quality information.

After all readily available water quality information is collected, judgments and evaluations are made regarding:

- what specific use(s), if any, is/are affected,
- the severity of the impact on the use(s), and
- the level of documentation that corresponds to the use impact/impairment.

The focus of a water quality assessment is based on whether a specific use is restricted. If this is the case, then the severity of use impact (i.e., the degree to which the use is restricted) is evaluated as either *Precluded*, *Impaired*, *Stressed* or *Threatened* (see box). The water use impact and level of severity are also identified as *Known*, *Suspected* or *Possible* (see box) based upon available documentation. The severity of use impacts and the corresponding levels of documentation are dependent upon a number of factors, including the *magnitude* of the impact, the *frequency* of occurrence or *extent* of affected area, and *confidence* of data.

The *magnitude* of water quality impacts or degrees of use restrictions are reflected in the WI/PWL level of severity; the more significant the impact, the greater the severity. For example, fish consumption advisories may recommend eating no more than one fish per week (*Stressed*), eating no more than one meal per month (*Impaired*), or eating no fish at all (*Precluded*). With regard to water quality monitoring and its evaluation against criteria, in-stream concentrations may be below, near, at, above or well above applicable water quality criteria. Such conditions correspond to varying degrees of impact ranging from *No Known Impact*, *Threatened*, *Stressed*, *Impaired* or *Precluded*.

The *frequency* with which water quality conditions occurs, is also reflected in the WI/PWL level of severity. The more frequently a specific condition occurs, the more significant – or severe – the effect on related water resource uses. Similarly, the spatial *extent* of the water quality condition (i.e., the percent of total waterbody affected) is also reflected in the severity. For example, a bay where shellfishing is restricted in one small cove is less severely impacted than if shellfishing were restricted in the entire bay.

WI/PWL Level of Documentation

Known - Water quality monitoring data and/or *studies have been completed and conclude* that the use of the waterbody is restricted to the degree indicated by the listed severity.

Suspected - Reasonably strong evidence, supported by best professional judgment of DEC staff, *suggests* the use of the waterbody is impacted. However, water quality data/studies that establish an impact *have not been completed* or there is *conflicting information*.

Possible - Anecdotal evidence, public perception and/or specific citizen complaints indicate that the use of the waterbody *may be restricted*. However, there is *currently very little, if any, documentation* of an *actual* water quality problem.

WI/PWL Severity of Use Impact

PRECLUDED
Frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation *prevents all aspects* of a specific waterbody use.

IMPAIRED
Occasional water quality, or quantity, conditions and/or habitat characteristics *periodically prevent* specific uses of the waterbody, or;
Waterbody uses are not precluded, but some aspects of the use are *limited or restricted*, or;
Waterbody uses are not precluded, but *frequent/persistent* water quality, or quantity, conditions and/or associated habitat degradation *discourage* the use of the waterbody, or;
Support of the waterbody use *requires additional/advanced* measures or treatment.

STRESSED
Waterbody uses are not significantly limited or restricted (i.e. uses are *Fully Supported*), but *occasional* water quality, or quantity, conditions and/or associated habitat degradation *periodically discourage* specific uses of the waterbody.

THREATENED
Water quality supports waterbody uses and ecosystem exhibits no obvious signs of stress, however *existing or changing land use patterns* may result in restricted use or ecosystem disruption, or;
Data reveals decreases in water quality or presence of toxics below the level of concern, or;

Frequency of occurrence and spatial extent also influence the WI/PWL level of documentation. For example, if a specific condition occurs less than 10% of the time (or in less than 10% of the waterbody), the overall water quality impacts for the total waterbody are less certain than if the frequency/extent of the condition is greater than 50%. As general guidelines, if frequency/extent of conditions are less than 10%, the level of documentation for impacts to uses corresponding to that condition is considered *Possible*. If the frequency or extent is between 10 and 25%, the level of documentation should be considered *Suspected*. If greater than 25%, the impact should be considered *Known*.

However, the use of the 10% and 25% thresholds outlined above assumes that the frequency/extent of a condition is well-established. For some measures of impact, this is not very difficult (e.g., fish consumption advisories are in effect 100% of the time, for beaches that are closed 14 days out of a 100 day season the frequency is 14%, for estuary segments where shellfishing is restricted in 40 of 200 acres the extent is 20%). However, for other water quality monitoring the determination of frequency/extent depends upon a number of factors, including the level of data confidence.

Data confidence refers to statistical measures that help determine the degree of certainty that a condition exists. Such statistical confidence depends upon a number of factors (monitoring design, number of samples collected, variability of analysis) and is an important factor in determining the WI/PWL level of documentation. Other considerations, such as quality and age of data, also influence the level of documentation.

Though they are related, it is important not to confuse data confidence with the frequency/extent of a condition. For example a single data point might show exceedence of a standard. While this represents high frequency of a condition (100%), the level of data confidence based on just one sample is usually quite low.

WI/PWL Assessment Categories

Based on the degree of use support, severity of impact/impairment and level of documentation, all waterbodies in the WI/PWL are assigned to one of five possible *Water Quality Assessment Categories*. These categories are outlined below and in Table 1.

> <u>*Impaired Waters*</u> are waterbodies with well documented water quality problems that result in *Precluded*, or *Impaired* uses and, in most cases, a level of documentation of *Known* (occasionally *Suspected*). Waters with *Stressed, Threatened* uses are not included in this category.
>
> <u>*Waters with Minor Impacts*</u> are waterbodies where less severe water quality impacts are apparent, but uses are considered fully supported. These waters correspond to waters listed as having *Stressed* uses and a level of documentation of *Known* or *Suspected*.
>
> <u>*Threatened Waters*</u> are waterbodies for which uses are not restricted and no water quality problems currently exist, but where data suggests declining water quality trends or specific land use or other changes in the surrounding watershed are *Known* to be threatening water quality. Also included in this category are waterbodies where the support of a specific and/or distinctive use make the waterbody more susceptible to *Possible* water quality threats.
>
> <u>*Waters with Impacts Needing Verification*</u> are waterbodies that are thought to have water quality problems or impact, but for which there is not sufficient or definitive documentation. These segments include waters with *Stressed* uses and a level of documentation of *Possible* and waters with *Threatened* uses and a *Suspected* level of documentation Such waterbodies require additional monitoring to determine whether uses are restricted or threatened.

Waters Having No Known Impacts are waterbodies where monitoring data and information indicate that there are no use restrictions or other water quality impacts, threats or issues.

UnAssessed Waters are waterbodies where there is no available water quality information to assess the support of designated uses.

Table 1 **Relationships Between WI/PWL Severity/Documentation and Water Quality Assessment Categories**

Severity of Problem	Level of Problem Documentation		
	Known	**Suspected**	**Possible**
Precluded	Impaired Water	N/A*	N/A*
Impaired		Impaired Water	N/A*
Stressed	Minor Impacts but Fully Supporting	Minor Impacts but Fully Supporting	Needs Verification (Considered Minor Impacts But Fully Supporting)
Threatened	Threatened, but Fully Supporting	Needs Verification (Considered Threatened)	Threatened (Poss) (But Fully Supporting)
None	No Known Impairment - Fully Supporting Uses		
Unknown	UnAssessed Water		

* For more severe impacts (*Precluded, Impaired*) a greater level of documentation is needed.

The WI/PWL Water Quality Assessment Categories differ somewhat from the national Use Attainment Categories suggested by USEPA in their Integrated Reporting guidance for reporting on water quality. Whereas the Integrated Reporting Use Attainment Categories are more narrowly tailored to focus on questions concerning the attainment of water quality standards and the appropriateness of TMDLs to address water quality impairments, the WI/PWL categories are crafted to better provide support for a myriad of NYSDEC water quality management programs.

Perhaps the most significant difference between the two frameworks involves the WI/PWL's inclusion of *Waters with Minor Impacts* (*Stressed* waters). This category allows the WI/PWL to track waters that fully support uses but with less than ideal water quality. Conditions in these waters are considered stable, have been well documented and additional protection activities are not necessarily needed to maintain use support into the future.

The tracking of waters with minor impacts – while not readily accommodated in the national Use Attainment Category scheme – supports the NYSDEC water quality management programs and is an integral component of its overall watershed restoration and protection efforts. The emphasis at the federal government level regarding water quality efforts continues to be focused on the restoration of waters that do not support uses (*Precluded*, *Impaired*). However in New York – at both the state and local levels – there is growing interest and support for directing

The tracking of waters with minor impacts – while not readily accommodated in the national Use Attainment Category scheme – supports the NYSDEC water quality management programs and is an integral component of its overall watershed restoration and protection efforts.

resources to protection efforts as well. Maintaining non-impacted waters and improving waters with lesser impacts is often a more effective use of limited resources for the advancing of water quality goals and progress. The more comprehensive framework of WI/PWL assessment categories better supports efforts to benefit these waters.

Although the current national Integrated Reporting Use Attainment Categories differ from the WI/PWL Assessment Categories, the two schemes share significant similarities. As a result waters assigned to WI/PWL Assessment Categories translate easily to corresponding USEPA designations. A more detailed discussion of the linkage between the WI/PWL Assessment Categories and the national Integrated Reporting Categories is presented in the Listing Methodology.

Monitored and *Evaluated* Waters

In compiling water quality information for 305(b) Reporting, states are to distinguish between water quality assessments based on monitoring data, and assessments based on other information. The distinctions between *Monitored* and *Evaluated* Waters in New York State are outlined below.

> **Monitored Waters** are those waterbodies for which the use support assessment is based primarily on current (i.e., less than 5 years old) site-specific ambient monitoring data. Such data includes biological monitoring (macroinvertebrate assessment, toxicity testing) and/or chemical/physical monitoring results. Because fixed-station chemical/physical monitoring represents only a "snapshot" in time, such monitoring should be conducted quarterly or more frequently if it is to accurately portray water quality conditions at the site.
>
> **Evaluated Waters** are those waterbodies for which the use support assessment is based on information other than current site-specific ambient monitoring data. Such assessments may rely on land use data, identification of sources, predictive modeling and/or surveys of water quality and natural resource staff. Also, assessments based on older ambient monitoring data are generally considered to be "evaluated."

Use-Specific Assessment Criteria

Detailed guidelines regarding the relationships between the results of various monitoring and assessment indicators and corresponding levels of support for specific water uses are discussed on the following pages. Assessment criteria tables for specific designated water uses, which are intended to provide guidance to insure consistent evaluation of water quality, are included in these guidelines. The criteria in the tables are intended to define general boundaries between levels of impact (severity) and degrees of confidence (documentation). Individual waterbody assessments are evaluated on a case-by-case basis. These assessments may take into account additional or alternative indicators not captured in the assessment criteria tables and may require the application of best professional judgment. Multiple water quality indicators that may suggest conflicting levels of impacts also require careful consideration (see also *Independent Applicability and Weight of Evidence*).

In establishing assessment criteria to determine what uses are supported in a waterbody, New York State takes into consideration a number of factors. The starting point for the criteria is often based on established NYS water quality standards and/or guidance values. These standards and guidance values are integral to many water quality activities, including – and perhaps most prominently – the derivation of water quality-based effluent limitations for SPDES discharge permits. The NYS water quality standards and accompanying guidance recognize that the application of standards to the derivation of permit limits and the determination of compliance or noncompliance of discharges with the standards require additional interpretation and instruction, as approved by the department. This additional guidance is necessary to address issues such as appropriate sampling methods, sampling location, flow variability, averaging periods, frequency of sampling or sample size, natural or background conditions, mixing zones, and so on.

Similarly, the application of water quality standards and guidance values to determine use support and levels of impact/impairment also requires some interpretation and additional guidance. The most recent USEPA Integrated Reporting Guidance notes specifically the need for states to address issues of data quality, data quantity and data representativeness in making assessment decisions. The guidance speaks at some length on the issue of data representativeness, and recognizes that the "...spatial and temporal representativeness of data and information should be considered by states as they attempt to characterize conditions..." The guidance continues to note that:

> "...state methodologies should describe, in general terms, the decision logic used to determine the temporal and spatial extent a grab sample can be construed to represent. In order to make credible assessment determinations, states should employ approaches that strike a balance between the extremes of: (1) considering every grab sample to be representative of merely the instant in which, and the drop of water from which, each was taken, or (2) assuming that each such sample is representative of conditions over several years, and covering hundreds of stream miles of hundreds of lake acres."

This New York State Assessment Methodology, and the associated Listing Methodology attempts to strike the balance called for in the USEPA guidance through the use of established water quality standards and guidance values, other criteria and indicators and the application of best professional judgment. However, NYDEC recognizes that achieving this balance is a work in progress and is continuing to work together with USEPA to improve the transparency of decision-making based on different types of data collected from numerous monitoring programs.

Drinking Water Supply Use

Only those waters where *Drinking Water Supply* is designated as the best usage (i.e., Class A, AA, A/AA-Special surface and Class GA groundwaters) are evaluated for support of this use. The evaluation of *Drinking Water Supply* use support is driven largely by water quality information and monitoring data generated by the New York State Department of Health (NYSDOH) or local health departments, which are primarily responsible for the protection of public health in the state.

A comprehensive evaluation of *Drinking Water Supply* use must consider the use on a number of levels. The first of these considerations focuses on administrative closures or restrictions on a *Drinking Water Supply* use. However, while this criterion is most directly related to the use, it is not sensitive to impacts.

Consequently, a secondary level of assessment uses the degree of treatment necessary for a water supply to be used for drinking water. The intent of this assessment criterion is to categorize as *Impaired* any water supply that requires "extra-ordinary" treatment measures. Given national filtration rules and other considerations, defining "extra-ordinary" is somewhat difficult. The criteria language – *"additional treatment beyond conventional processes (coagulation, sedimentation, filtration, disinfection) is required to remove any impurities that are not naturally present"* – reflects similar language used in the New York State Water Quality Regulations for classification of waters.

Because of the human health implications, threats to and protection of the *Drinking Water Supply* use take on added significance. Therefore, it is also appropriate to evaluate these waters prior to and without consideration of final treatment. This level of assessment evaluates contaminant concentrations relative to standards for the protection of Health (Water Source). In addition, other information regarding nutrient levels, precursors to Trihalomethane (THM) formation and other contaminants that may affect *Drinking Water Supply* use and quality is reflected in measures of natural sensitivity and susceptibility as determined through the NYSDOH Source Water Assessment Program (SWAP).

Table 2 Drinking Water Supply Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	**Documentation**
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department water supply closures lasting >30 days.	Precluded	Known
Occasional Conditions Prevent Use • NYS/local Health Department water supply closures lasting up to 30 days.	Impaired	Known
Frequent/Persistent Conditions Discourage Use • Impacts do not require closure or advisories but adversely affect the quality of the finished water and/or treatment costs (e.g., taste/odors, color, turbidity, activated charcoal filtration, etc.), or • Monitoring data show exceedence of *Impaired* criteria* for cryptosporidium, coliform, or • Monitoring data show exceedence of *Impaired* parameter-specific criteria* for other substances more than 10% (*suspected*) or 25% (*known*) of time.	Impaired	Known or Suspected
Occasional Conditions Discourage Use • SWAP determination of *very high susceptibility* [1] • Monitoring data show exceedence of *Stressed* criteria* for cryptosporidium, coliform, or • Monitoring data show exceedence of *Stressed* parameter-specific criteria* for other substances more than 10% (*suspected*) or 25% (*known*) of time.	Stressed	Known or Suspected [1]
Conditions Support Use, but Threats Noted • SWAP determination of *high susceptibility* [1] • Monitoring data show exceedence of *Threatened* parameter-specific criteria* more than 10% (*suspected*) or 25% (*known*) of time.	Threatened	Known or Suspected [1]
No Known Impairment or Imminent Threat • No drinking water restrictions, and • No additional treatment required, and • No significant contaminants/threats present.	No Known Impact	Assessment Level *Monitored or Evaluated*

***Parameter-Specific Criteria**	*Impaired*	*Stressed*	*Threatened*	
Cryptosporidium (average)	7.5	3.0	–	oocysts/100 L
Cryptosporidium (individual)	–	7.5	3.0	oocysts/100 L
Coliform, Total (median)[2]	50/2,400	–	–	per 100 ml
Coliform, Fecal (geometric mean)	200	–	–	per 100 ml
Ammonia/Ammonium	20	10	5	mg/l
Nitrate, as N	10	5	2	mg/l
other substances (source water) [3]	Standard	50% of Std.	20% of Std.	
other substances (finished water) [4]	MCL	50% of MCL	20% of MCL.	

[1] Impacts/impairments based on SWAP susceptibility determinations should be listed as *Suspected*.
[2] Refers to Class AA and A respectively.
[3] Refers to substances for which there are NYS water quality standards for protection of *Health (Water Source)*.
[4] Refers to substances for which there are Maximum Contaminant Levels (MCL) for finished drinking water.

The relationship between drinking water supply advisories, monitoring data, SWAP determinations and other information and the level of *Drinking Water Supply* use support is outlined in Table 2.

Shellfishing Use

Support of *Shellfishing* use is assessed for Class SA marine waters only. These assessments reflect the level of certification of the waters for the taking of shellfish as determined by DEC Division of Fish, Wildlife and Marine Resources and based on NYSDEC regulations (6NYCRR, Part 47, *Certification of Shellfish Lands*) and National Shellfish Sanitation Program requirements. Shellfishing waters that are not certified may be closed year-round, seasonally, or conditionally (after rainfalls events of a specific magnitude). Other restrictions on the use include requirements to transplant the shellfish to certified waters for cleansing prior to harvesting for human consumption. More information regarding the NYSDEC Shellfishing program can be found at http://www.dec.ny.gov/outdoor/345.html.

Table 3 Shellfishing Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	**Documentation**
Frequent/Persistent Conditions Prevent Use • NYSDEC Division of Fish, Wildlife and Marine Resources (DFWMR) has designated more than 25% of the waterbody area as uncertified year-round for shellfishing based on water quality conditions and contaminants, or • DFWMR has designated more than 10% of the area as uncertified year-round AND shellfishing in remaining area is restricted (i.e., only *seasonally* or *conditionally* certified) based on water quality conditions..	Precluded	Known
Occasional Conditions Prevent Use • DFWMR has designated 10 to 25% of the waterbody area as uncertified year-round based on water quality conditions, or • DFWMR has designated more than 25% of the waterbody area as restricted (i.e., only *seasonally* or *conditionally* certified) based on water quality conditions.	Impaired	Known
Occasional Conditions Discourage Use • DFWMR has designated up to 25% of the waterbody area as restricted (i.e., only *seasonally* or *conditionally* certified) based on water quality conditions, or • DFWMR has designated more than 10% of the waterbody area as uncertified based on administrative guidelines (nearby outfall, marina).	Stressed	Known
Conditions Support Use, but Threats Noted • DFWMR has designated < 10% of the waterbody area as uncertified, or • DFWMR has designated the entire waterbody as certified, but significant trib waters are uncertified due to water quality conditions.	Threatened	Known or Suspected
No Known Impairment or Imminent Threat • DFWMR has designated the entire waterbody as certified for the taking of shellfish and all significant trib waters are also certified.	No Known Impact	Assessment Level: *Monitored*

* For large estuary segments where 10-25% of the waterbody area represents a significant closure or restriction, a greater severity of use impact may be assigned to the waterbody.

Shellfishing restrictions may be driven by either water quality or by administrative requirements. Water quality-based closures are the result of actual bacteriological monitoring and subsequent findings that the waters do not support safe consumption of shellfish. Administrative closures are precautionary; they are not necessarily reflective of water quality conditions but are issued for areas where the *potential* for contamination of shellfish exists. Administrative closures are generally issued for areas in close proximity to WWTP discharges and for waters around marinas. Generally closures based on actual water quality monitoring correspond to *Precluded/Impaired* uses, depending on the type of restriction (year-round, seasonal, conditional) and the percent of waterbody area affected. If the area affected by a water quality-based closure is relatively small, the severity of impact may be listed as *Stressed*. Administrative closures – because they are more precautionary in nature – correspond to *Shellfishing* that is *Stressed* or *Threatened.* The relationship between certification and level of *Shellfishing* use support is reflected in Table 3.

> Generally, closures based on actual water quality monitoring correspond to *Precluded/Impaired* uses. Administrative closures – because they are more precautionary in nature – correspond to a *Shellfishing* use that is *Stressed* or *Threatened*.

Waters that are designated Class SB or SC are not assessed for *Shellfishing* use support, even if they have been evaluated by the National Shellfish Sanitation Program. However, because shellfishing is arguably the most sensitive of the uses assessed, if any Class SB, SC waters are certified for shellfishing they will be assessed as having *No Known Impairment* to other uses (unless additional/other water quality data indicates an impairment). If these waters are uncertified (due to water quality) then *Public Bathing/Recreation* are considered to be *Stressed*. A more severe level of impact to *Public Bathing/Recreation* requires monitoring data corresponding to those uses.

Public Bathing and Recreation Uses

Swimming and other recreational activities are important and popular uses for the waters of the state. The assessment of these activities involves two separate use categories: *Public Bathing* and *Recreation*. While the assessment of both *Public Bathing* and *Recreation* uses rely on similar water quality indicators, these two distinct uses are evaluated separately.

Evaluation of *Public Bathing* use is limited to those waters classified by New York State for primary contact recreation (i.e., Class B, SB, A, AA, A/AA-Special and SA). This classification applies to waters specifically designated as suitable for public beaches and bathing areas, which see an increased level of swimming use and are more regularly monitored by public health agencies. State and local/county health departments conduct regular bacteriological sampling programs and perform sanitary surveys at designated public bathing areas. Based on the findings of these surveys, bathing use may be restricted either permanently or periodically. Localized closings may also occur due to contamination by spills, waterfowl, or runoff from wet-weather events. It should be noted although Class C, D and SC waters also include primary contact recreation as a specified designated use, because of their natural physical characteristics, these waters are generally not suitable as public beaches and bathing areas.

> As a practical matter, not all waters of the state are regularly monitored to assess swimming use support to the degree that designated public bathing areas are. Therefore, general precautions should be taken regarding recreation in these other waters.

Evaluation of the *Public Bathing* use focuses primarily on public health concerns, particularly bacteriological contamination and water clarity. Consequently the Public Bathing Use Assessment Criteria are linked primarily to these parameters as well as beach closures.

The relationship between bathing restrictions, water quality monitoring and other indicators (including the closely-related *Recreation* use assessment) and the level of *Public Bathing* use support is reflected in 4.

Table 4 Public Bathing Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	**Documentation**
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department has closed the waterbody to swimming for the entire season, based on water quality (bacteriological) monitoring data.	Precluded	Known
Periodic/Occasional Conditions Prevent Use • NYS/local Health Department has issued temporary closures of the waterbody to swimming, based on water quality (bacteriological) monitoring data, or • Sufficient stream flow/water level necessary to support swimming uses are artificially restricted.	Impaired	Known
Frequent/Persistent Conditions Discourage Use • Swimming use requires additional measures (e.g., aquatic weed harvesting/control). • Monitoring data show exceedence of *Impaired* criteria* (bacteriological, clarity) more than 10% (*suspected*) or 25% (*known*) of time.	Impaired	Known or Suspected
Occasional (Other) Conditions Discourage Use • *Recreation* uses are assessed as *Impaired/Precluded*[1], or • Monitoring data show exceedence of *Stressed* criteria* (clarity) more than 10% (*suspected*) or 25% (*known*) of time.	Stressed	Known or Suspected[1]
Conditions Support Use, but Threats Noted • Monitoring data show exceedence of *Threatened* criteria* (clarity, phosphorus) more than 10% (*suspected*) or 25% (*known*) of time.	Threatened	Known or Suspected
No Known Impairment or Imminent Threat • NYS/local Health Department has not restricted swimming, and • Swimming use does not require any additional measures, and • Monitoring data does not exceed criteria* (>10% of time), and • *Recreation* uses are not *Impaired/Precluded*.	No Known Impact	Assessment Level: *Monitored*

* **Monitoring Data Criteria**	*Impaired*	*Stressed*	*Threatened*	
Coliform, Total (geometric mean)	2,400	–	–	per 100 ml
Coliform, Fecal (geometric mean)	200	–	–	per 100 ml
Entericocci (geometric mean)	See below [2]			
Clarity (Secchi Disc)	1.2	1.5	2.0	meters
Total Phosphorus [3,4]	–	–	20	µg/l

[1] *Public Bathing* assessments based on *Recreation* use support should be listed as *suspected*.
[2] For marine waters (excluding tributaries), the enterococci criteria is 35/100 ml. For Great Lakes waters (excluding tributaries), the enterococci criteria is 126/100 ml.
[3] Application of the Total Phosphorus criteria is limited to lakes and ponded waters.
[4] Based on current New York State criteria indicative of elevated nuisance conditions and slight impacts to recreation; other state/national nutrient criteria currently being developed will be incorporated into the Assessment Methodology once adopted.

Table 5 Recreation Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	**Documentation**
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department has closed the waterbody to swimming, boating or other recreational use for the entire season, due to water quality concerns.	Precluded	Known
Periodic/Occasional Conditions Prevent Use • NYS/local Health Department has issued temporary closures of the waterbody or portions of the waterbody to swimming, boating or other recreational use due to water quality concerns, or • Sufficient stream flow/water level necessary to support recreational uses are artificially restricted.	Impaired	Known
Frequent/Persistent Conditions Discourage Use • Recreational uses of water require additional measures (e.g., weed harvesting/control), or • *Public Bathing* uses are assessed as *Impaired/Precluded*, or • Monitoring data show exceedence of *Impaired* criteria* more than 10% (*suspected*) or 25% (*known*) of time, or • Observational criteria* indicating restricted recreational uses are noted more than 50% of the time.	Impaired	Known or Suspected [4]
Occasional (Other) Conditions Discourage Use • *Public Bathing* uses are assessed as *Stressed*, or • Monitoring data shows exceedence of *Stressed* criteria* more than 10% (*suspected*) or 25% (*known*) of time, or • Observational criteria** indicating restricted recreational uses are noted more than 25% of the time.	Stressed	Known or Suspected [4]
Conditions Support Use, but Threats Noted • Monitoring data shows exceedence of *Threatened* criteria* more than 10% (*suspected*) or 25% (*known*) of time. • Observational criteria** indicating restricted recreational uses are noted more than 10% of the time.	Threatened	Known or Suspected [4]
No Known Impairment or Imminent Threat • *Public Bathing* uses are not *Stressed, Impaired, Precluded*, and • Recreation uses not restricted, nor require additional measures, and • Monitoring data does not exceed criteria* (>10% of time), and • Observational criteria** for restricted use not noted (>10% of time).	No Known Impact	Assessment Level: *Monitored*

* **Monitoring Data Criteria**	*Impaired*	*Stressed*	*Threatened*		
Total Phosphorus [1, 2]	–	20	–	µg/l	
Chlorophyl a [1]	15	12	8	µg/l	
Clarity (Secchi Disc) [1]	1.2	1.5		2.0	meters

** **Observational Data Criteria** [3, 4]

Swimming/recreation slightly (or more) restricted by specifically identified causes (algae, clarity, etc).

[1] Application of the Total Phosphorus criteria is limited to lakes and ponded waters.

[2] State/national nutrient criteria to be developed and incorporated into the Assessment Methodology.

[3] *Observational Criteria* refers to responses on ***CSLAP Field Observation Forms***. Specifically, *Condition of Lake* notes presence of algae, *Suitability for Recreation* notes some impacts/impairment, and *Opinion of Recreational Use* notes weeds and/or clarity problems.

[4] Impacts/impairments based on observational criteria should be listed as *suspected*.

The category of *Recreation* tracks impacts and impairments to a more expansive list of recreational activities, such as fishing, boating, water skiing, rafting, wading and other primary/secondary contact activities, including swimming. The requirement of all waters to support *Recreation* uses addresses the federal Clean Water Act goal that all waters be *swimmable*.[6] However, while all waters of the state are to be swimmable, as a practical matter not all waters of the state are regularly monitored to assess swimming use support to the same degree that designated public bathing areas are. As a result of differing criteria and the varying levels of monitoring, *Public Bathing* (Class B, SB, A, AA, A/AA-Special and SA) waters are evaluated more rigorously than other *Recreation* use waters.

Whereas the *Public Bathing* use assessment has a greater focus on public health concerns, *Recreation* uses are assessed more broadly. The evaluation of *Recreation* use support places emphasis on excessive weed growth, silty/muddy lake bottoms, color, odors and other conditions that discourage recreational activity. In those cases where certain Class C, D, and SC waters have been assessed for bacteria, these results will be incorporated into the overall assessment of the *Recreation* use for these waters.

Excessive nutrient levels – which may increase turbidity, lower dissolved oxygen, and promote aquatic plant and algal growth – may also discourage the use of lakes, ponds and reservoirs for recreation activities. Recognizing this, NYSDEC derived a total phosphorus criterion of 20 µg/l for the protection of recreational uses in lakes. However the criterion is based on lake user surveys and was developed to be indicative of *elevated nuisance conditions and slight impacts to recreation*. Such impacts are more closely aligned with Stressed/Threatened uses than with Impaired uses. Because of its basis, the criterion is more appropriate in assessing more general *Recreation* use support than *Public Bathing* use. However, since conditions resulting from elevated nutrients and weed/algal growth also may threaten swimming, this indicator is included in the *Public Bathing* use assessment as indicating *Threatened* uses.

The relationship between water quality monitoring and other indicators and the severity and documentation of an impact to *Recreation* use is reflected in Table 5. For various nutrient parameters, Table 5 refers to *"state/national criteria to be developed and incorporated into the Assessment Methodology."* This flexibility of language reflects a need to accommodate the ongoing efforts by NYSDEC (and USEPA) to develop and implement nutrient criteria, including the use of different ecoregion-specific criteria for various regions of the state. Once these criteria are established, the Assessment Methodology will be revised to reflect them. Until then the surrogate indicators outlined in Table 5 will be used to assess recreational use support.

Fish Consumption Use

The assessment of *Fish Consumption* use is based on NYSDOH advisories regarding the catching and eating of sportfish, and contaminant monitoring in fish tissue, other biological tissue and surficial bottom sediments. The advisories reflect federal government standards for chemicals in food that is sold commercially, including fish. The NYSDEC Division of Fish Wildlife and Marine Resources routinely monitors contaminant levels in fish and game. Based on this monitoring data, NYSDOH issues advisories for specific waterbodies and species when contaminant levels in sportfish exceed the federal standards.

These advisories are updated and published annually. In addition to the waterbody-specific advisories, a general advisory recommends eating no more than one meal (one-half pound) per week of fish taken from New York

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[6] In order to meet the federal Clean Water Act goal that all waters be "swimmable," water quality of New York State waters Class C, SC (and above) "shall be suitable for primary and secondary contact recreation." However, other factors (such as flow/depth, access, conflicting use) may limit this use. (See NYS Classifications for Surface Waters, Part 701.1 thru 701.14.)

State freshwaters and some marine water at the mouth of the Hudson River. These general advisories are to protect against eating large amounts of fish that have not been tested or that may contain unidentified contaminants. Because the general statewide and marine waters advisories are precautionary and not based on any actual contaminant monitoring data, it does not represent any documented impairment of *Fish Consumption* use. Consequently, the general statewide advisories are not reflected in the assessment of *Fish Consumption* use. Current statewide advisories regarding snapping turtles and wild waterfowl are not reflected in the methodology for similar reasons.

Other general advisories recommend limiting the consumption of striped bass, bluefish and eels taken from marine waters due to specific habits or characteristics that make these species more likely to accumulate contaminants (particularly PCBs). Because these marine water advisories (outside of New York Harbor and Western Long Island Sound) are also more precautionary in nature and no more significant than the statewide advisory for freshwaters, they correspond to *Stressed* rather than *Impaired* use.

The relationship between the waterbody-specific fish consumption advisories and the severity and documentation of an impact/impairment to *Fish Consumption* use is reflected in Table 6.

Table 6 Fish Consumption Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	**Documentation**
Frequent/Persistent Conditions Prevent Use • NYSDOH advisory recommends eating no fish (or none of sub-species) from a specific waterbody.	Precluded	Known
Periodic/Occasional Conditions Prevent Use • NYSDOH advisory recommends limiting consumption of fish (no more than one meal per month) from a specific waterbody.	Impaired	Known
Occasional (Other) Conditions Discourage Use • Monitoring of fish tissue shows contaminant levels that exceed levels of concern, but NYSDOH advisory has not been issued. • NYSDOH general advisory recommends limiting consumption of fish (no more than one meal per week) from certain marine waters. • Monitoring of macroinvertebrate tissue or surficial bottom sediment shows contaminant levels that exceed levels of concern.	Stressed	Known or Suspected
Conditions Support Use, Threats Noted • Monitoring of fish (known) or macroinvertebrate tissue/bottom sediment (suspected) shows contaminant levels present but not exceeding levels of concern.	Threatened	Known or Suspected
No Known Impairment or Imminent Threat • No fish consumption advisory beyond the NYSDOH *General Advisory for Eating Gamefish*, and • Monitoring data revealing no contaminants in fish, macroinvertebrate tissue or surficial bottom sediment above background levels.	No Known Impact	Assessment Level: *Monitored*

Aquatic Life Use Support

A primary focus of the Statewide Waters Monitoring Program (SWMP) involves determining the degree to which waters support aquatic life. There are a number of reasons for this emphasis:

- *Aquatic Life* use support must be maintained in all waters, regardless of classification, and
- *Aquatic Life* use support is one of the most sensitive of national use support categories, and
- *Aquatic Life* use support can be assessed easily and economically using biological sampling techniques.

The evaluation of *Aquatic Life* use support represents a recent change to the WI/PWL. Prior to 1999, the WI/PWL tracked waterbody support of *Fish Propagation* and *Fish Survival* rather than *Aquatic Life* use support. This was a reflection of the designated uses outlined in New York State standards. However, the change to the broader category of *Aquatic Life* use support better represents the results of the macroinvertebrate sampling used to assess water quality. The change from *Fish Propagation/Survival* to *Aquatic Life* use support also provides greater flexibility in reporting water quality and allows tracking of aquatic impacts that are not sufficiently severe as to be apparent in the fishery. The revised category also corresponds more closely to the USEPA national use support category.

Different types of monitoring data may be used to determine *Aquatic Life* use support use. The SWMP relies on biological sampling. The assemblage most frequently used is macroinvertebrates, however the program has recently incorporated some periphyton and, to a lesser degree, fish community assessments. The relationship between biological (macroinvertebrate) assessment, as described in the *Quality Assurance Work Plan for Biological Stream Monitoring in New York State* (*Bode, et.al., 2002*) and the impact/impairment to *Aquatic Life* use support is shown in Table 7.

Table 7 Aquatic Life Use Support Assessment Criteria

Biological (Macroinvertebrate) Assessment		WI/PWL Use Impact	
		Severity	**Documentation**
Severely Impacted (Very Poor)		Precluded	Known
Moderately Impacted (Poor)		Impaired	Known
*Slightly Impacted** (Good)	Other indications of impact present	Stressed	Suspected or Known
	No other indications of impact	No Known Impact	Assessment Level: *Evaluated*
Non-Impacted (Very Good)		No Known Impact	Assessment Level: *Monitored*

* *Slightly Impacted* represents a broad category ranging from generally good water quality to conditions causing minor impacts, but still providing adequate support of aquatic life.

Independent Applicability and Weight of Evidence

A comprehensive evaluation of *Aquatic Life* use support must consider all available biological, physical/chemical and toxicity monitoring data. Biological assessment of the macroinvertebrate community is a good integrator of these monitoring components. Consequently, when biological macroinvertebrate community assessment data is available and considered definitive, *Aquatic Life* use support is generally determined as outlined in Table 7. For instances in which assessment of the macroinvertebrate community is inconclusive and/or other indicators suggest different levels of use support, aquatic life use support determination is made by further consideration of all available monitoring data and comparison of monitoring data results against the applicable water quality standards and criteria for the protection of aquatic life.

To address the possibility of conflicting results, USEPA developed a policy of *Independent Applicability*. This policy states that where there are conflicting and equally valid data sets no one type of assessment (biological, physical/chemical, toxicity) can be used to override a finding of water quality impact/impairment that is based on another type of assessment. However, while no one assessment type routinely takes precedence over others, the evaluation of conflicting assessments must take into account levels of documentation, quality and overall confidence in the data, other artifacts of monitoring data (e.g., analytic methods, sampling techniques, etc.), how representative the sampling is of conditions in the larger waterbody segment and the relationship of the indicator to the actual use being assessed. These considerations (or *weight of evidence*) may, in fact, lead to favoring one assessment over others in arriving at an assessment for a specific waterbody. Because biological sampling is a good integrator of water quality conditions and it is a direct measurement of aquatic life use support, it is often the deciding factor in assessment decisions for this use.

Assessment of Naturally Occurring Low Dissolved Oxygen Waters

NYS water quality standards for dissolved oxygen for the protection of aquatic life specify that dissolved oxygen in waters should not be less than the standard "at any time." In some instances this "never less than" condition is qualified to except waters where low dissolved oxygen is the result of natural conditions (Class AA-Special, AA, A, B and C trout spawning waters); for other waters, the natural conditions exception is not explicit. However, whether explicitly stated or not, assessments of use support based on dissolved oxygen should recognize that low dissolved oxygen at lower depths of non-flowing waters (i.e., lakes and impoundments) or in areas of poor aeration, circulation or natural organic loadings are likely to occur.

A review of the assessment methodologies of other northeastern states finds that most recognize and allow for natural conditions of low dissolved oxygen that do not result in designation of the water as not supporting uses.[7] These states allow for the application of "best professional judgment" in determining whether low dissolved oxygen values are naturally occurring, whether they are representative of the waterbody as a whole, and how they should be considered in light of biological sampling results and other available information. In fact, USEPA in earlier *Guidelines for the Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates* (USEPA, 1997) includes low dissolved oxygen (and low pH) caused by poor aeration or natural organic materials among its examples of what might be considered naturally occurring conditions.

Water quality assessment for the determination of *Aquatic Life* use support applies an approach to the evaluation of dissolved oxygen results that recognizes that morphology and other natural conditions may contribute to the occurrence of low dissolved oxygen in some waters. Specifically, data will be evaluated on a case-by-case basis to determine whether impacts result in impairments to aquatic life and/or other uses, and the degree to which natural conditions contribute to the impacts. This evaluation will be made using best professional judgement, with attention to other available physical/chemical indicators and particular emphasis on biological assessments which are a more direct measurement of aquatic life use support. As the triennial water quality standards rule-making effort moves forward, NYSDEC will evaluate the current dissolved oxygen standards for freshwater in light of available research and adopt a criterion that might better reflect the natural occurrence of low dissolved oxygen in deeper waters and its impact on use support. (See also *Impacts Due to Natural Conditions/Conflicting Uses* in the Listing Methodology.) A general relationship between dissolved oxygen data, water chemistry and aquatic biology and assessed impacts to aquatic life use support is shown in Table 8.

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[7] Both Vermont and Pennsylvania allow for seasonal and periodic variations in hypolimnetic dissolved oxygen (perhaps as low as 0 mg/l) if biological sampling reveals a healthy aquatic (marcoinvertebrate, fish) community. Rhode Island also recognizes that D.O. measurements should not exceed the criteria "except as naturally occurs." And New Hampshire states that "exceedances of most water quality criteria due to naturally occurring conditions are not considered violations of water quality standards."

Impacts from Low/High pH on *Aquatic life Use Support*

One important chemical indicator for evaluating *Aquatic Life* use support is pH. Specific criteria regarding the use of pH data to determine *Aquatic Life* use support is applied to waterbodies, particularly lakes and ponds, that are subject to atmospheric deposition/acid rain. Because of the extent and significance of this issue, extensive chemical sampling efforts to monitor the pH of streams, lakes and ponds in the state have long been in place. The *Aquatic Life* use support/pH criteria takes advantage of the considerable amount of study and available chemical (pH) data. These efforts provide strong evidence that pH levels that fall somewhat outside the 6.5 to 8.5 range specified in NYS water quality standards are still supportive of aquatic life. As is the case with low dissolved oxygen (cited above), other states as well as USEPA have recognized the occurrence of natural conditions that may result in low pH levels.

Table 8 Aquatic Life Use Support/D.O. Assessment Criteria

Lake/River Conditions (Dissolved Oxygen, Water Chemistry, Aquatic Biology)	WI/PWL Use Impact	
	Severity	Documentation
Dissolved Oxygen not meeting standards is consistent over depth, season and/or area.	Impaired	Known
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and other indicators (water chemistry, aquatic biology) suggest impairment.	Impaired	Known
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and no other indicators or use support/impairment are available.	Stressed *	Possible *
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and other indicators more representative of conditions suggest no impairment. Possible natural condition	Stressed or No Known Impact	Known Suspected, or Possible
Dissolved Oxygen typically meets standards (> 90%), and other indicators (chemistry, aquatic biology) suggest no impairment.	No Known Impact	Known, or Suspected
Dissolved Oxygen not meeting standards, but limited data (single sampling event or single point not representing whole waterbody)	Stressed *	Possible *
Dissolved Oxygen standards are consistently met.	No Known Impact	Assessment: *Monitored*

* Waters assessed as Stressed/Possible are listed as *Waters Needing Verification of Impact* and reported as *Integrated Reporting Category 3 - Waters with Insufficient Data*.

Water quality assessment for the determination of *Aquatic Life* use support with regard to pH results also relies on best professional judgment. As with dissolved oxygen data, pH data will be evaluated in light of all other available data (including biological assessments) on a case-by-case basis using best professional judgment. (See also *Natural Conditions* in the Listing Methodology.)

The general relationship between pH monitoring data and the assessed impacts to aquatic life is shown in Table 9. Note that waters having pH between 6.0 and the minimum pH water quality standard of 6.5, but where biological sampling suggests that aquatic life is supported, may be listed as *Waters Needing Verification of Impact*. This is consistent with the *weight of evidence* approach (outlined above) and recognizes that because biological samples represent an integrator of all water quality conditions and are also a direct measurement of aquatic life, biological assessments are often given more weight in evaluating *Aquatic Life* use support.

Table 9 Aquatic Life Use Support/pH Assessment Criteria		
Lake pH/Fishery Assessment	**WI/PWL Use Impact**	
	Severity	**Documentation**
pH values less than 5.0 or greater than 10.0	Precluded	Known
pH values between 5.0 and 6.0 or between 9.0 and 10.0	Impaired	Known
pH values between 6.0 and 6.5 or between 8.5 and 9.0, and fish/biological surveys indicate a fishery/aquatic life impact.	Impaired	Known or Suspected
pH values between 6.0 and 6.5 or between 8.5 and 9.0, but fish/biological surveys indicate no fishery/aquatic life impact	Stressed	Known Suspected, or Possible *
pH values greater than 6.5 and less than 8.5	No Known Impact	Assessment: *Evaluated*

* Waters that have pH above 6.0 and below 6.5 and where biological sampling suggests that aquatic life is supported may be listed as *Waters Needing Verification of Impact*.

Note about *Episodic Acidification*

Episodic Acidification refers to short-term decreases in acid neutralizing capacity (ANC) that may occur during high streamflow events (i.e., spring runoff, snowmelt). Although these events are periodic, bioassays and other fish studies show that the impact on the fishery can be significant and longer lasting. The severity of the impact may result in precluded–rather than merely *impaired*–aquatic life, even though episodic acidification occurs over a short time period. This situation represents an exception to the strict application of the Priority Waterbodies List (PWL) definitions for a precluded use (frequent/persistent water quality condition) and an impaired use (occasional water quality conditions).

Site Specific Factors

The USEPA policy also recognizes the difficulty and time involved in resolving conflicting results that might be due to site-specific environmental factors. In these cases, site-specific criteria, use attainability analysis or re-evaluation of a standard may be needed to determine use support. Because these efforts may require additional monitoring, USEPA suggests use of an assessment category of *Monitoring Insufficient to Determine Impairment*. This category corresponds to the WI/PWL category of *Segments Needing Verification of Impact/Impairment*, and allows for the deferring of a use support decision until appropriate evaluation is complete.

Natural Resources Habitat/Hydrologic Uses

In an effort to better incorporate wetlands and other natural resources concerns into the water quality assessments, the water use category of *Natural Resources Habitat/Hydrology* uses was recently added to the list of uses to be assessed. This category recognizes that, in some waterbodies, water quality may be appropriate to support uses, but various other conditions, such as habitat, streamflow, invasive species, and so on, result in degradation of natural resources (i.e., fish and wildlife populations). Additionally, hydrologic conditions can have a negative impact on wetland uses such as flood protection, erosion control, nutrient recycling and surface and groundwater recharge. This category may also be used to capture impacts to various water quantity and flooding/flood plain issues including excessively low flows, increased peak flows, alterations to the frequency, duration and timing of floods and loss of flood storage.

For many impacts to *Natural Resources Habitat/Hydrology* use support, the situation is more clearly defined by the cause or source of the problem, than by the use affected. Such causes/sources include dredging, draining, excavation and/or filling of wetlands, stream channels, lakes/ponds; stream widening; stream downcutting; sediment embedded-ness; other losses of wetlands; habitat fragmentation; loss of riparian vegetation or upland buffer zones. Generally, *Natural Resources Habitat/Hydrology* use impacts and impairments are more likely attributed to *"pollution"* (i.e., a condition related to the waterbody) rather than a *"pollutant"* (i.e., a substance/contaminant in the waterbody).

While waterbody assessments include impacts to *Natural Resources Habitat/Hydrology*, specific criteria for *Natural Resources Habitat/Hydrology* use support have not yet been developed.

Aesthetics

An evaluation of waterbody support of *Aesthetics* is much more subjective than those for the other assessed uses. Because of this subjectivity and the difficulty in assigning a level of severity of impacts to aesthetics, available choices for the assessment of aesthetics are limited to *No Known Impact* and *Stressed*. Due to the subjectivity and the limitations on the level of severity, there is no specific assessment criteria to determine support of aesthetics. Instead, the assessment of *Aesthetics* use support should reflect available objective information (CSLAP Lake Perception Surveys, preponderance of citizen complaints, etc).

Presumed Assessments

While the great majority of waters in New York State are thought to support a variety of uses, because of limited monitoring resources and the emphasis on monitoring in priority/problem waters documentation of good quality waters has been generally lacking. This shortcoming was addressed in previous 305(b) assessments by assuming that waterbodies were fully supporting uses, unless there was information to the contrary. However, USEPA has determined such "presumed" assessments to be unacceptable. NYSDEC also recognizes the need to increase efforts to document water quality in the great number of waterbodies that do support uses in order to provide a more balanced picture of water quality in the state.

Recent modifications to the NYSDEC Division of Water Statewide Waters Monitoring Program (SWMP) include an expanded biological screening component. This effort uses a fairly simple but effective set of on-site assessment criteria based on the presence/absence of key macroinvertebrate indicator species. Where the assessment criteria are met, the waterbody is assessed as having *No Known Impacts*. Where the criteria are not met, possible water quality problems are evaluated using more intensive sampling methods to collect more complete data.

A similar effort is being developed and implemented to evaluate all currently unassessed lakes in the state. This effort relies on basic water chemistry sampling in conjunction with visual assessments of aesthetics and recreational use support.

These screening efforts, which greatly increase the number of sites assessed in a basin study area, reflect the incorporation of a "census" approach into the SWMP and are key components in the state's goal of providing a comprehensive assessment of its waters.

Pollutants (Causes) and Sources of Water Quality Impacts

In addition to providing assessments of designated use support, the WI/PWL assessments also includes information regarding the likely pollutants/causes and sources that are responsible for water use impacts. These pollutant and source identifications are derived from a number of information sources including Impact Source Determinations conducted during biological sampling, water chemistry data collected during Intensive Network Monitoring, or other available monitoring data. In many cases, monitoring focused on the specific pollutants and sources is not available. In the absence of any such data, best professional judgment based on surrounding land use may be used to identify possible causes and sources.

The listing of specific pollutants and sources includes an indication of the degree to which they are thought to contribute to water quality problems. The impact of all listed pollutants and sources are characterized as being *Known*, *Suspected*, or *Possible*. Since it is common for multiple pollutants and sources to be indicated as contributing to a water quality impact, each identified pollutant and source is also listed as either a *major* or *minor* contributor to the impact, based on best professional judgment. Note that the designation *major* is assigned to pollutants and sources that significantly contribute to the most severe water quality impacts/impairments affecting the segment; pollutants and sources contributing to lesser impacts are listed as *minor*.

National (USEPA) reporting guidance suggests that state databases specify which uses are affected by which pollutants, and which sources contribute each pollutant. However the New York Statewide Water Monitoring Program does not routinely focus on pollutant identification and source trackdown to a degree that this level of precision is known for most waters. Pollution identification and source trackdown is typically a more resource-intensive effort reserved for special situations. In its national reporting to USEPA, New York State provides data that links sources to pollutants and pollutants to use impacts. But these linkages are usually broadly interpreted and typically reflect that most sources contribute varying degrees of each pollutant and each pollutant has some influence on all impacted uses.

Resolution/Management Information

The WI/PWL database also allows for the tracking of information relating to management and status regarding the resolution of water quality impacts for each waterbody. This information includes:

- Resolvability indicates where a waterbody needs additional study, the development of a strategy, implementation of a strategy, or verification of the effectiveness of an implemented strategy. In some cases a water quality impact may be deemed *Not Resolvable* at this time due to technical and/or economic limitations or if the impact is the result of natural conditions or conflicting uses.
- Status of Verification refers to the specific aspect of the waterbody that needs further study. The verification effort may need to focus on the existence of an impact, the pollutant/cause of a known impact, the source of a known pollutant, or the development of a management strategy to address the problem.
- Lead Agency/Office indicates the specific government agency, office or other group that has primary responsibility for managing/addressing the impact to the waterbody.
- Resolution Potential is used to reflect the degree to which the expenditure of available NYSDEC resources on the waterbody or water quality issue is appropriate. Resolution Potential reflects the level of public interest, the expectation that measurable improvements can be reasonably achieved, and the appropriate role for NYSDEC.
- TMDL Note indicates the status of planned and/or ongoing Total Maximum Daily Load activities, if any.

Such information allows NYSDEC to better prioritize monitoring, restoration and protection activities, target the expenditure of limited resources to those waters where there is greatest public interest and/or the expectation that measurable improvements can be achieved, and track progress toward water quality improvement and problem resolution.

Waterbody Inventory Data Sheet
Background Information

Waterbody Location Information

Water Index Number (WIN): The stream identification number used in the Stream Classification Regulations (Title 6 - Conservation, Vols. B-F of the Official Compilation of Codes, Rules and Regulations for the State of New York).

Hydrologic (Watershed) Unit Code: Eleven digit code found on USDA-SCS (NRCS) *Hydrologic Watershed Unit Map - 1980 State of New York.*

Waterbody Type: River, Canal, Lake, Lake(Reservoir), Bay, Great Lake Shoreline, Estuary, or Ocean Coastline. NOTE: Bays refer to freshwater bays, saltwater bays and tidal waters should be designated as *Estuary*.

Affected Length/Area: The estimated length of segment with the noted impairment in miles (rivers, canals), Shore/coastal miles (great lakes, ocean) or acres (lakes, bays, reservoirs, estuaries).

Describe Waterbody Segment: Narrative description locating the beginning and endpoint (from downstream to upstream) of the segment.

Waterbody Classification: Current classification of the waterbody as specified in the Stream Classification Regulations (Title 6 - Conservation, Vols. B-F of the Official Compilation of Codes, Rules and Regulations for the State of New York).

Flow Category: Minimum Average Seven Consecutive Day Flow-10 year recurrence (MA7CD/10) flow range, from table.

Category	MA7CD/10 Range
H (for high)	Streams/Rivers over 150 cfs
M (for medium)	Stream/Rivers between 20-150 cfs
L (for Low)	Streams/Rivers under 20 cfs
0	Not Applicable (lake, estuary, shore/coastline, etc.)

Drainage Basin and Sub-Basin: One of 17 major hydrologic basins in New York and the associated sub-basin.

Region: NYSDEC Region in which the waterbody is located.

County: Primary county (and county ID number) of waterbody location. NOTE: Waterbody segments which form the border between or cross two or more counties are listed only once. This is done to avoid double counting the number of segments and/or the length/affected area of the segment. PWL segments that are located in more than one county are indicated by "..." after the *primary* county name. (Listings of PWL segments within each county are included as Appendix C.)

Quad Map: The name of the primary topographic quadrangle map on which the segment appears. NOTE: PWL segments that are located in more than one quadrangle are indicated by "..." after the *primary* quad map name.

Water Quality Problem Information

Use Impacts/Impairments:
All specific uses that are restricted by water quality impacts/impairments are listed.

Problem Severity: For each waterbody use impairment, the degree of severity of water quality problem/diminished use (i.e., use precluded, impaired, stressed, or threatened) is listed. The severity is determined using the following criteria.

PRECLUDED (P):
Frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation prevents all aspects of the waterbody use (e.g., the Health Department does not allow swimming at the Onondaga Lake Outlet public park beach - *bathing precluded*; consumption advisory recommends eating no fish from Upper Hudson due to PCB contamination - *fish consumption precluded*; Sacandaga River below the dam is periodically dry and devoid of benthic organisms due to flow extremes from power dam releases - *fish propagation precluded*)

IMPAIRED (I):
Occasional water quality, or quantity, conditions and/or habitat characteristics periodically prevent the use of the waterbody (e.g., beaches in marine waters are closed after storm events due to high coliform levels from CSOs's and stormwater runoff - *bathing impaired*) or;

Waterbody uses are not precluded, but some aspects of the use are limited or restricted (e.g., a fish consumption advisory for lake trout from Canandaigua Lake recommends eating no more than one meal per month - *fish consumption impaired*) or;

Waterbody uses are not precluded, but frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation discourage the use of the waterbody (algal blooms and heavy rooted aquatic vegetation deter swimming in Oneida Lake - *bathing/swimming impaired*) or;

Support of the waterbody use requires additional/advanced measures or treatment (e.g., the City of Rochester is to build a filtration plant due to high turbidity in the Hemlock Lake water supply - *water supply impaired*, aquatic vegetation control--mechanical harvesting, herbicides--are required in Upper Cassadaga Lake to allow swimming and boating - *bathing/ swimming* and *boating impaired*).

STRESSED (S):
Waterbody uses are not significantly limited or restricted, but occasional water quality, or quantity, conditions and/or associated habitat degradation periodically discourage the use of the waterbody (e.g., high tubidity that occurs after rains reduce clarity and deter swimmers in Babcock Lake - *bathing/ swimming stressed*, ambient water column analyses indicate occasional aquatic standard violations but impaired use not evident - *fish survival/ propagation stressed*; localized areas of debris along the shore - *aesthetic stressed)*

THREATENED (T):
Water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however existing or changing land use patterns may result in restricted use or ecosystem disruption (e.g., numerous proposals for residential development in the Schoharie Creek headwaters create a concern - *fish propagation, aesthetics threatened*) or,

Water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however monitoring data reveals a declining trend in water quality which, if it continues, would result in a use impairment, or

Waterbody uses are not restricted and no water quality problems exists, but the support of a specific and distinctive use or uses make the waterbody more susceptible to water quality threats. Note: Such situations are the only instances where a threatened use can have a documentation level of *possible*, other threatened waterbodies (i.e., those related to changing land use activities) must correspond to *known* or *suspected* (planned) land use changes.

Problem Documentation: Each diminished/impacted use is listed according to the level of documentation for the problem/impairment. The level of problem documentation is determined using the following criteria.

Known (K): Water quality monitoring data and/or studies (biologic macro-invertebrate surveys, fishery studies, water column chemistry, beach closures, fish consumption advisories, shellfishing restrictions) have been completed and conclude that the use of the waterbody is restricted to the degree indicated by the listed *severity*.

Suspected (S): Anecdotal evidence, public perception and/or specific citizen complaints indicate that the use of the waterbody may be restricted. However, water quality data/studies that establish an impairment have not been completed or there is conflicting information.

Possible (P): Land use or other activities in the watershed are such that the use of the waterbody could be affected. However, there is currently very little, if any, documentation of an actual water quality problem.

Type of Pollutant: Each pollutant contributing to the water quality problem is listed according to the level of documentation for the pollutant. The criteria for *known*, *suspected*, or *possible* pollutants the same as outlined above. Those pollutants that contribute to the most significant impact/impairment are "major" pollutants and are is listed in CAPITAL LETTERS.

Source(s) of Pollutant: Each source of pollution contributing to the water quality problem is listed according to the level of documentation for the source. The criteria for *known*, *suspected*, or *possible* pollutants the same as outlined above. Those sources that contribute to the most significant impact/impairment are "major" sources and are is listed in CAPITAL LETTERS.

Waterbody Problem Description/Documentation/History/Notes: This narrative description contains more detailed information about the waterbody segment and its water quality problem/impairment. This section may include:

1)a detailed description of the waterbody and surrounding area,
2) specific examples/instances of water use impairments, e.g., what water supply is affected? how often are beaches closed? what species of fish are restricted for consumption?
3) details regarding the specific pollutant and source of the impairment, and
4) references for specific reports, studies, monitoring data and/or other documentation that supports the impairment, pollutant and source information.

For some segments, an expected date of completion for a sampling effort, report, facility or other activity that will affect the segment or provide additional segment information may be noted in the **Next Update** field. The **Next Update** information will help ensure the segment information is kept up-to-date.

Resolution/Management Information (to be completed by NYSDEC staff)

18. Resolvability: Note with an "X" the one most appropriate *resolvability* class for the segment from the list below.

    1. Needs Verification/Study (see *Status*): The confirmation of a use impairment, the evaluation of possible solutions and/or the development of management action (tailored specifically to the segment) need to be completed. See also *Status of Problem Verification/Study*.)

    2. Strategy Exists, Funding/Resources Needed: Study of the problem is complete, but funding or other resources are needed to implement the management strategy.

    3. Strategy Being Implemented: The recommended strategy for the remediation of the segment is currently underway.

    4. Problem Not Resolvable (technical/economic limitations): Technical, legal, social, political concerns preclude resolution of the impairment for the foreseeable future (e.g., low pH in lakes due to acid rain).

    5. Problem Not Resolvable (natural condition): Limitations to use of a waterbody is attributed to naturally occurring characteristics of the water/watershed (e.g., high sediment load in the Genesee River).

    6. Problem Thought to be Abated, Needs Verification: The prime cause of the use impairment to the waterbody has been brought under control but the expected improvement to the waterbody needs to be confirmed.

    7. Problem Abated, Waterbody Deleted: The waterbody use has been restored and the segment has been marked as *deleted.* Although deleted and not included in the list, the segment and information will remain in the Waterbody Inventory.

19. Status of Problem Verification/Study: Note with an "X" the one most appropriate *status* class for the segment from the list below.

    1. Waterbody Nominated, but Problem Not Verified: It has been suggested that a waterbody use impairment exists for the segment, however there is insufficient (or no) available information to confirm that the use is being affected to the degree indicated.

    2. Problem Verified/Documented, Cause Unknown: The waterbody use impairment (and severity) is sufficiently documented, however identification of the cause (pollutant) requires more study.

    3. Cause of Problem Identified, Source Unknown: The specific pollutant(s) causing the use impairment have been sufficiently documented, however the source of the pollutant requires more study.

    4. Source of Problem Identified, Management Strategy Needed: Most details about the problem (use impairment, cause, source) are known/sufficiently documented. A management strategy to address the situation and restore the designated use of the waterbody needs to be developed.

    5. Management Strategy has been Developed: Necessary study of the situation is complete.

20. Lead Agency/Office: Indicate the primary party, either within DEC (division and bureau or office) or outside/external to DEC, responsible for the next steps in the study/strategy implementation concerning the segment. (e.g., DOW/BWAR, DOW/Reg6, DEC/F&W, DOH/PWS, ext/WQCC, ext/SWCD, etc)

21. Resolution Potential: Indicate as *High, Medium,* or *Low,* using the following criteria.

High: The waterbody or water quality issue has been deemed to be worthy of the expenditure of available resources (time and dollar) because of the level of public interest and the expectation that the commitment of these resources will result in either a measurable improvement in the situation or additional information necessary for the management of the water resource.

Medium: The resources necessary to address the problem are beyond what are *currently* available. With additional resources, these segments could become High *resolution potential* segments.

Low: Segments with water quality problems so persistent/intractable that improvements are expected to require an unrealistically high commitment of resources, not likely to become available (e.g., acid rain lakes).

NOTE: This field may be left blank if further verification/study of the impairment, pollutant and/or source is necessary to determine the *Resolution Potential* of the segment.

22. Total Maximum Daily Load (TMDL)/303d Status: Note with an "X" the most appropriate *TMDL* note (or notes) for the segment from the list below.

Impaired Water, TMDL Development Needed
- Part 1 - High Priority for TMDL
- Part 2 - Multiple Segment/Categorical TMDL Waters
  - o Acid Rain Waters
  - o Fish Consumption Waters
  - o Restricted Shellfishing Waters
- Part 3 - Water Requiring Re-Evaluation

Impaired Water, TMDL Development NOT Needed
- Part 4a - TMDL Complete, being Implemented
- Part 4b - *Pollution* Impairment, Not *Pollutants*
- Part 4c - Other Controls More Suitable.

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Appendix C

Waterbody Inventory Data Sheets
By County, Segment Name

Waterbody/Segment (ID)	Water Index Number	Category
Albany County		
Alcove Reservoir (1301-0232)	H-212-P185	UnAssessed
Altamont Reservoir (1311-0025)	H-221- 4-P270- 1- 8-P276b	UnAssessed
Basic Creek Reservoir (1309-0001)	H-193-29-P950a	Impaired Seg
Basic Creek, Upper, and tribs (1309-0028)	H-193-29	Need Verific
Black Creek and tribs (1311-0024)	H-221- 4-P270- 1- 1	UnAssessed
Bozen Kill and minor tribs (1311-0017)	H-221- 4-270- 1	MinorImpacts
Coeymans Creek and minor tribs (1301-0095)	H-214	Minor Impact
Crystal Lake (1309-0034)	H-193-56-P957	UnAssessed
Glass Pond (1311-0003)	H-221- 4- 8-P266	Need Verific
Hannacrois Creek, Lower, and tribs (1301-0230)	H-212	NoKnownImpct
Hannacrois Creek, Middle, and tribs (1301-0020)	H-212	Need Verific
Hannacrois Creek, Upper, and tribs (1301-0231)	H-212	UnAssessed
Helderberg Lake (1301-0029)	H-214-10-P207a	Need Verific
Hicks/Lincoln Pond (1309-0032)	H-193-41-P954- 2-P955	UnAssessed
Hudson River (Class C) (1301-0002)	H (portion 5)	Impaired Seg
Island Creek and minor tribs (1311-0020)	H-221	UnAssessed
Krum Kill, Upper, and tribs (1311-0004)	H-221- 4- 3	Impaired Seg
Lawson Lake (1301-0235)	H-214-10- 4-P207	UnAssessed
Littles Lake (1301-0248)	H-231-P355	UnAssessed
Minor Tribs to West of Hudson (1301-0027)	H-228a thru 237, WOH	Impaired Seg
Minor Tribs to West of Hudson (1301-0238)	H-216 thru 220, WOH (selected)	UnAssessed
Myosotis Lake (1309-0031)	H-193-41-P954	UnAssessed
Normans Kill, Lower, and minor tribs (1311-0010)	H-221- 4 (portion 1)	MinorImpacts
Normans Kill, Middle, and tribs (1311-0002)	H-221- 4 (portion 2)	MinorImpacts
Onesquethaw Creek and tribs (1301-0233)	H-214-10	NoKnownImpct
Patroon Creek and tribs (1301-0030)	H-226	Impaired Seg
Rensselaer Lake (1301-0247)	H-226-P336	UnAssessed
Salt Kill and tribs (1301-0275)	H-239	Need Verific
Ten Mile Creek and tribs (1309-0030)	H-193-41	NoKnownImpct
Thompsons Lake (1311-0007)	H-221- 4-P270- 1- 1- 2-P274	NoKnownImpct
Triangle Lake (1309-0033)	H-193-56- 3-P956	UnAssessed
Vloman Kill, Lower, and tribs (1301-0239)	H-217	Need Verific
Vloman Kill, Upper, and tribs (1301-0240)	H-217	NoKnownImpct
Vly Creek Reservoir (1301-0234)	H-214-10- 3-P262a	UnAssessed
Vly Creek and tribs (1311-0021)	H-221- 4- 7	MinorImpacts
Watervliet Reservoir (1311-0001)	H-221- 4 (portion 3)/P270	Need Verific
Bronx County		
Hudson River (Class SB), portion (1301-0005)	H (portion 2a)	Impaired Seg
Columbia County		
Bachus Pond (1310-0034)	H-204- 2-14-P59	UnAssessed
Barrett Pond (1310-0029)	H-204- 2- 9- 3-P45	UnAssessed
Bash Bish Brook and tribs (1308-0021)	H-188-59	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Coumbia County (con't)		
Beaver Pond (1310-0030)	H-204- 2- 9- 4- 4- 1-P47	UnAssessed
Bell Pond (1310-0053)	H-204- 3- 8- 4- 7-P100	UnAssessed
Chrysler Pond (1310-0055)	H-204- 3- 8-22-P105	UnAssessed
Churchtown Reservoir (1310-0054)	H-204- 3- 8- 8-P98c	UnAssessed
Claverack Creek, Lower, and minor tribs (1310-0047)	H-204- 3	NoKnownImpct
Claverack Creek, Upper, and minor tribs (1310-0048)	H-204- 3	NoKnownImpct
Claverack/Agawamuck Creek and tribs (1310-0060)	H-204- 3	NoKnownImpct
Copake Lake (1310-0014)	H-204- 3- 8-32-P108a	Impaired Seg
Doove Kill and tribs (1308-0013)	H-188-18	MinorImpacts
Fitting Creek and tribs (1310-0049)	H-204- 3- 1	UnAssessed
Forest Pond (1310-0056)	H-204- 3- 8-31-P107	UnAssessed
Goose Pond (1308-0024)	H-188-64-P904	UnAssessed
Kinderhook Creek, Lower, and minor tribs (1310-0021)	H-204- 2	MinorImpacts
Kinderhook Creek, Middle, and mnr tribs (1310-0017)	H-204- 2	NoKnownImpct
Kinderhook Lake (1310-0002)	H-204- 2- 7-P24	Impaired Seg
Klein Kill and tribs (1308-0012)	H-188- 2	NoKnownImpct
Kline Kill and tribs (1310-0028)	H-204- 2- 9	NoKnownImpct
Knickerbocker Lake (1301-0237)	H-215- 3- 4-P211	UnAssessed
Lake Taghkanic (1308-0014)	H-188-18-P869	UnAssessed
Lily Pond (1308-0015)	H-188-18-P869- 3-P870	UnAssessed
Long Pond, Lower/Upper Rhoda Ponds (1308-0018)	H-188-55-P887,P888,P889	UnAssessed
Merwin Lake (1310-0050)	H-204- 3- 1-P12	UnAssessed
Mill Creek and tribs (1301-0093)	H-209	MinorImpacts
Miller Pond (1308-0019)	H-188-56-P891	UnAssessed
Minor Tribs to East of Hudson (1301-0222)	H-189 thru 203, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0226)	H-207 thru 218, EOH (selected)	UnAssessed
North Creek and tribs (1310-0061)	H-204- 3-16	NoKnownImpct
Philmont Pond (1310-0059)	H-204- 3-P126	UnAssessed
Philmont Reservoir (1310-0057)	H-204- 3-22-P129	UnAssessed
Punch Brook and tribs (1308-0020)	H-188-57	UnAssessed
Queechy Lake (1310-0033)	H-204- 2-10-P57	NoKnownImpct
Red Mills Pond (1310-0058)	H-204- 3-P116	UnAssessed
Robinson Pond (1308-0003)	H-188-P902	Impaired Seg
Roeliff Jan Kill, Lower, and minor tribs (1308-0010)	H-188	NoKnownImpct
Roeliff Jan Kill, Mid, and minor tribs (1308-0011)	H-188	NoKnownImpct
Roeliff Jan Kill, Upper, and tribs (1308-0002)	H-188	Need Verific
Shaver Pond (1308-0023)	H-188-63-P903	NoKnownImpct
Shekomeko Creek and tribs (1308-0017)	H-188-39	NoKnownImpct
Smith Pond (1310-0009)	H-204- 2- 9- 1-P42	MinorImpacts
Snyder Pond (1308-0022)	H-188-60-P901	UnAssessed
Southerland Pond (1310-0032)	H-204- 2-10- 2-P52	UnAssessed
Stockport Creek and minor tribs (1310-0020)	H-204	UnAssessed
Stony Kill and tribs (1310-0031)	H-204- 2-10	UnAssessed
Taghkanic Creek, Lower, and tribs (1310-0015)	H-204- 3- 8	Threatened
Taghkanic Creek, Middle, and tribs (1310-0051)	H-204- 3- 8	NoKnownImpct
Taghkanic Creek, Upper, and tribs (1310-0052)	H-204- 3- 8	UnAssessed
Twin Lakes (1308-0016)	H-188-18a-P871,P872	UnAssessed
Valatie Kill, Lower, and tribs (1310-0023)	H-204- 2- 7	UnAssessed
Wyomanock Creek and tribs (1310-0039)	H-204- 2-25	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Dutchess County		
Ballard Lake (1302-0111)	H- 31-P44-23-P59- 6-P62..P64a	UnAssessed
Beacon Reservoir (1304-0013)	H- 95- 2-P345	UnAssessed
Black Pond (1302-0123)	H- 31-P44-23..P80	UnAssessed
Brickerhoff Pond, Sharp Reservoir (1304-0020)	H- 95- 5c..P345kkk,P345lll	UnAssessed
Casper Creek and tribs (1301-0195)	H-105	MinorImpacts
Clove Creek and tribs (1304-0014)	H- 95- 5	NoKnownImpct
Cobalt Lake (1301-0196)	H-105-P415c	UnAssessed
Crum Elbow Creek and tribs (1301-0200)	H-124	NoKnownImpct
Denton Lake, Solomon/Westminster Lake (1302-0131)	H- 31-P44-24-25- 1-P89j,P89k	UnAssessed
Dieterich Pond (1305-0025)	H-101-21-P390	UnAssessed
Dry Brook, Upper, and tribs (1304-0012)	H- 95- 2	UnAssessed
East Br Wappingers Cr, Lower, and tribs (1305-0022)	H-101-21	UnAssessed
East Br Wappingers Cr, Upper, and tribs (1305-0023)	H-101-21	UnAssessed
Fall Kill and tribs (1301-0087)	H-114	Impaired Seg
Fishkill Creek, Lower, and tribs (1304-0003)	H- 95	MinorImpacts
Fishkill Creek, Middle, and minor tribs (1304-0010)	H- 95	UnAssessed
Fishkill Creek, Upper, and minor tribs (1304-0011)	H- 95	UnAssessed
Furnace, McKinney, Christie, Pray Ponds (1304-0034)	H- 95-P356,P357,P358a,P359	UnAssessed
Gardner Hollow Brook, Upper, and tribs (1304-0031)	H- 95-19- 3	UnAssessed
Great Spring Brook and tribs (1305-0030)	H-101-12	NoKnownImpct
Halcyon Pond (1305-0028)	H-101-38-P407	UnAssessed
Hell Hollow Creek, Upper, and tribs (1304-0015)	H- 95- 5- 2	UnAssessed
Hillside Lake (1304-0001)	H- 95-10- 1b-P345g	Impaired Seg
Jackson Creek and tribs (1304-0023)	H- 95-10- 2	NoKnownImpct
Lake Oniad (1305-0017)	H-101- 4- 2- 1-P366b	UnAssessed
Lake Walton (1304-0025)	H- 95-11a-P345y	UnAssessed
Landsman Kill and minor tribs (1301-0209)	H-136	MinorImpacts
Little Wappingers Cr, Lower, and tribs (1305-0019)	H-101-18	NoKnownImpct
Little Wappingers Cr, Upper, and tribs (1305-0020)	H-101-18	UnAssessed
Long Pond (1305-0003)	H-101-18-11-P375	Need Verific
Melzing Reservoir (1301-0183)	H- 92-P331	UnAssessed
Miller Pond (1305-0027)	H-101-31- 4- 2-P405	UnAssessed
Minor Tribs to East of Hudson (1301-0192)	H- 98 thru 99, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0197)	H-105a thru 140, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0212)	H-141 thru 186, EOH (selected)	UnAssessed
Morgan Lake (1301-0198)	H-114..P418	UnAssessed
Mud Pond (1305-0021)	H-101-18-13-P378- 1-P379	UnAssessed
Nuclear Lake (1304-0032)	H- 95-19- 4- 4a-P351n	UnAssessed
Penneywater pond (1304-0026)	H- 95-12a-P349	UnAssessed
Ray Lake (1302-0133)	H- 31-P44-24-35-P89u	UnAssessed
Red Hook Mills Pond (1301-0217)	H-158-P823	UnAssessed
Rhinebeck Kill and tribs (1301-0210)	H-136- 6	MinorImpacts
Round Pond (1301-0211)	H-136-P446	UnAssessed
Round Pond (1305-0024)	H-101-21- 7-P395	UnAssessed
Ryder Pond, Hunns Lake (1305-0004)	H-101-30..P401,P403	Need Verific
Saw Kill and tribs (1301-0085)	H-158	NoKnownImpct
Sepasco Lake (1301-0214)	H-158-13- 3-P826	MinorImpacts
Shaw Pond (1305-0026)	H-101-21-P396	UnAssessed
Shooks Pond (1301-0215)	H-158-13-P825	UnAssessed
Silver Lake (1305-0002)	H-101-18-13-P378	Need Verific
Spring Lakes (1301-0218)	H-158-P829,P830	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Dutchess County (con't)		
Sprout Creek, Lower, and tribs (1304-0021)	H- 95-10	NoKnownImpct
Sprout Creek, Upper, and tribs (1304-0022)	H- 95-10	NoKnownImpct
Staatsburg Reservoir, Browns Pond (1301-0201)	H-124-P425,P426	UnAssessed
Stony Creek, Lower, and tribs (1301-0219)	H-164	MinorImpacts
Sylvan Lake (1304-0029)	H- 95-14-P354	MinorImpacts
Sylvan Lake Outlet and tribs (1304-0028)	H- 95-14	UnAssessed
Thompson, Stissing, Mud/Twin Isl Ponds (1305-0010)	H-101-P408,P409,P410	Need Verific
Tyrell Lake (1304-0024)	H- 95-10-10-P348o	UnAssessed
Unnamed Trib to Hughsonville Cr (1305-0015)	H-101- 1- 1a	UnAssessed
Unnamed Trib to Wappingers Cr and tribs (1305-0016)	H-101- 4	UnAssessed
Unnamed Trib to Wappingers Cr and tribs (1305-0018)	H-101-11	UnAssessed
Upton Lake (1305-0005)	H-101-20-P384	Need Verific
Wappinger Lakes (1305-0001)	H-101 (portion 2)/P365	Impaired Seg
Wappingers Cr, Lower, and minor tribs (1305-0012)	H-101 (portion 1)	UnAssessed
Wappingers Cr, Middle, and minor tribs (1305-0014)	H-101 (portion 4)	NoKnownImpct
Wappingers Cr, Middle, and minor tribs (1305-0013)	H-101 (portion 3)	Need Verific
Wappingers Cr, Upper, and tribs (1305-0011)	H-101 (portion 5)	NoKnownImpct
Warackamac Lake (1301-0216)	H-158-17-P828	UnAssessed
Whaley Lake Brook and tribs (1304-0030)	H- 95-19	NoKnownImpct
Whaley Lake, Little Whaley Lake (1304-0033)	H- 95-19-P353,P354	NoKnownImpct
Wickopee Creek/Shenendoah Br and trib (1304-0027)	H- 95-13	UnAssessed
Greene County		
Basic Creek, Lower, and tribs (1309-0027)	H-193-29	NoKnownImpct
Beaver Dam Pond (1309-0025)	H-193- 9- 4-P934a	UnAssessed
Beaver Kill and tribs (1309-0015)	H-193- 2-12	UnAssessed
Bronks Lake (1301-0229)	H-208- 6-P155	UnAssessed
Bronks Lake Outlet, Upper, and tribs (1301-0228)	H-208- 6	UnAssessed
Catskill Creek, Lower, Main Stem (1309-0010)	H-193	UnAssessed
Catskill Creek, Middle, and minor tribs (1309-0004)	H-193	MinorImpacts
Catskill Creek, Upper, and minor tribs (1309-0011)	H-193	NoKnownImpct
Cob Creek, Middle, and tribs (1309-0022)	H-193- 9- 2	UnAssessed
Cob Creek, Upper, and tribs (1309-0023)	H-193- 9- 2	UnAssessed
Coxsackie Creek and minor tribs (1301-0092)	H-208	MinorImpacts
Coxsackie Reservoir (1301-0227)	H-208- 4-P152b	UnAssessed
Greens Lake (1309-0018)	H-193- 7-P924	UnAssessed
Hollster Lake (1309-0007)	H-193- 1-P913	Need Verific
Jan DeBakkers Kill and tribs (1309-0026)	H-193-19	UnAssessed
Kaaterskill Cr, Lower, and tribs (1309-0006)	H-193- 2	UnAssessed
Kaaterskill Cr, Upper, and minor tribs (1309-0013)	H-193- 2	UnAssessed
Kisatom Brook and tribs (1309-0016)	H-193- 2-18	UnAssessed
Minor Tribs to West of Hudson (1301-0221)	H-178 thru 192, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0223)	H-196 thru 207, WOH (selected)	UnAssessed
Murders Creek and tribs (1301-0225)	H-202	UnAssessed
Potic Creek, Lower, and tribs (1309-0019)	H-193- 9	NoKnownImpct
Potic Creek, Middle, and tribs (1309-0020)	H-193- 9	UnAssessed
Potic Creek, Upper, and tribs (1309-0021)	H-193- 9	UnAssessed
Potuck Reservoir (1309-0024)	H-193- 9- 2-P925a	UnAssessed
Shingle Kill and tribs (1309-0008)	H-193-20	NoKnownImpct
Sleepy Hollow Lake (1301-0059)	H-202-P8f	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Greene County (con't)		
South Lake, North Lake (1309-0017)	H-193- 2-P921,P922	Impaired Seg
Stony Clove Brook and tribs (1307-0008)	H-171/P848-45	NoKnownImpct
Thorp Creek and tribs (1309-0029)	H-193-33	UnAssessed
Underhill Pond (1301-0224)	H-201a-P1	UnAssessed
Van Hozen Kill and tribs (1309-0012)	H-193- 1	UnAssessed
Van Luven Lake (1309-0014)	H-193- 2- 9..P915	UnAssessed
New York County (Manhattan)		
Hudson River (Class I) (1301-0006)	H (portion 1)	Impaired Seg
Orange County		
Arthurs, Sphagnum, Tamarack Ponds (1301-0181)	H- 88- 4-P222d thru g	UnAssessed
Beaver Dam Lake (1303-0021)	H- 89-12-P234	UnAssessed
Bog Meadow Pond, Jims Pond (1301-0173)	H- 71..P200,P199b	UnAssessed
Borden Creek, Upper, and tribs (1306-0066)	H-139-13-31	UnAssessed
Brooks Lake (1301-0170)	H- 63-P193a	UnAssessed
Browns Pond (1303-0027)	H- 89-20-P260	UnAssessed
Browns Pond Reservoir (1303-0013)	H- 89- 2-P226a	UnAssessed
Bull Pond, Barnes Lake, Summit Lake (1301-0165)	H- 61-P188- 2-P191..P192,P192b,P193	UnAssessed
Catlin Creek and tribs (1306-0084)	H-139-13-62- 2	UnAssessed
Chadwick Lake (1301-0190)	H- 94-P341a	UnAssessed
Cragson Lake, Crystal Lake (1301-0171)	H- 67-P197,P197b	UnAssessed
Cranberry Pond (1301-0161)	H- 61- 5-P185	UnAssessed
Crest View Lake (1303-0022)	H- 89-12-P234..P234g	UnAssessed
Cromwell Lake (1303-0017)	H- 89- 7- 7- 2-P231	UnAssessed
Crystal Lake (1301-0186)	H- 94- 3-P337	UnAssessed
Earl Reservoir (1303-0016)	H- 89- 7- 6-P229a	UnAssessed
Gidneytown Creek and tribs (1301-0187)	H- 94- 4	UnAssessed
Glenmere Lake (1306-0077)	H-139-13-59-P668	UnAssessed
Glenwood Lake (1301-0189)	H- 94-P338b	UnAssessed
Goshen Reservoir (1303-0026)	H- 89-20-17-P304b	UnAssessed
Goshen Reservoir (1306-0076)	H-139-13-53-P623	UnAssessed
Highland Brook and tribs (1301-0172)	H- 71	MinorImpacts
Hudson River (Class A) (1301-0001)	H (portion 4a)	Impaired Seg
Hudson River (Class B) (1301-0003)	H (portion 3)	Impaired Seg
Indigot Creek, Lower, and tribs (1306-0085)	H-139-13-62- 3	NoKnownImpct
Indigot Creek, Upper, and tribs (1306-0086)	H-139-13-62- 3	UnAssessed
Lake Frederick (1303-0019)	H- 89- 7-10-P231f	UnAssessed
Lake Osiris Lake (1306-0067)	H-139-13-31- 1a-P546	UnAssessed
Lake Tiorati (1301-0129)	H- 43-P152	UnAssessed
Lake Washington (1303-0012)	H- 89- 2-P225	UnAssessed
Little Shawangunk Kill and tribs (1306-0059)	H-139-13-19-28	NoKnownImpct
Lk Massawippa, Lk Teata, L/Up Twin Lks (1301-0167)	H- 61..P188..P188a/b,P189,P190	UnAssessed
Lochenhurst Pond (1306-0087)	H-139-13-62-10-P743	UnAssessed
Long House Creek, Upper, and tribs (1306-0082)	H-139-13-61- 9-25	UnAssessed
Long Pond (1301-0162)	H- 61- 6-P186	UnAssessed
Lusk Reservoir (1301-0174)	H- 74-P204	UnAssessed
Mannayunk Kill and tribs (1306-0070)	H-139-13-41	NoKnownImpct
Masonic Creek and tribs (1306-0072)	H-139-13-51	MinorImpacts

Waterbody/Segment (ID)	Water Index Number	Category
Orange County (con't)		
Milburn Creek, Upper, and tribs (1306-0071)	H-139-13-47	UnAssessed
Minor Tribs to Middle Wallkill (1306-0061)	H-139-13-20 thru 53	UnAssessed
Minor Tribs to West of Hudson (1301-0169)	H- 63 thru 88, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0191)	H- 96 thru 100, WOH (selected)	UnAssessed
Monhagen Brook and tribs (1306-0074)	H-139-13-52	Impaired Seg
Monhagen Lake (1306-0075)	H-139-13-52-P598	NoKnownImpct
Moodna Creek, Lower, and minor tribs (1303-0010)	H- 89	NoKnownImpct
Moodna Creek, Upper, and minor tribs (1303-0011)	H- 89	MinorImpacts
Muchattoes Lake (1301-0188)	H- 94- P333	UnAssessed
Orange Lake (1301-0008)	H- 94- 6-P340	Impaired Seg
Orange Rockland Lake (1303-0023)	H- 89-17-P239d	UnAssessed
Otter Kill/Black Meadow Creek and tribs (1303-0025)	H- 89-20	Threatened
Pakanasink Creek, Upper, and tribs (1306-0053)	H-139-13-19- 9	UnAssessed
Peckermans Pond (1303-0020)	H- 89- 7-P232	UnAssessed
Pochuck Creek and minor tribs (1306-0078)	H-139-13-61	NoKnownImpct
Popolopen Creek and tribs (1301-0160)	H- 61	Need Verific
Popolopen Lake (1301-0164)	H- 61-P188- 2-P191	UnAssessed
Quaker Creek and tribs (1306-0025)	H-139-13-59	Impaired Seg
Quassaic Creek, Lower, and minor tribs (1301-0079)	H- 94	MinorImpacts
Quassaic Creek, Middle, and tribs (1301-0184)	H- 94	UnAssessed
Queensboro Lk, Turkey Hill Pd, others (1301-0056)	H- 61- 2-P184b thru j	Need Verific
Round Pond (1301-0163)	H- 61- 6-P187	UnAssessed
Rutgers Creek and minor tribs (1306-0006)	H-139-13-62	NoKnownImpct
Shadow Lake, Hillside Lake (1303-0018)	H- 89- 7- 7-P231a,P231b	UnAssessed
Shawangunk Kill, Middle, and minor tribs (1306-0046)	H-139-13-19	NoKnownImpct
Shawangunk Kill, Middle, and tribs (1306-0047)	H-139-13-19	NoKnownImpct
Shawangunk Kill, Upper, and tribs (1306-0048)	H-139-13-19	UnAssessed
Shawangunk Lake/Highland Lake (1306-0060)	H-139-13-19-28-P491,P492	NoKnownImpct
Silver Lake (1306-0073)	H-139-13-51-P579a	UnAssessed
Stillwell Lake, Mine Lake (1301-0166)	H- 61..P187a,P188	UnAssessed
Sutherland Pond (1303-0015)	H- 89- 7- 4-P228	UnAssessed
Tin Brook, Lower, and tribs (1306-0068)	H-139-13-33	MinorImpacts
Tin Brook, Upper, and tribs (1306-0069)	H-139-13-33	UnAssessed
Tomahawk Lake (1303-0024)	H- 89-19-P240d	UnAssessed
Unnamed Trib to Wawayanda Cr, and tribs (1306-0080)	H-139-13-61- 9-15	UnAssessed
Upper Reservoir (1301-0182)	H- 88-P223	UnAssessed
Wallkill River, Middle, Main Stem (1306-0038)	H-139-13 (portion 3)	MinorImpacts
Wallkill River, Upper, and minor tribs (1306-0017)	H-139-13 (portion 4)	MinorImpacts
Walton Lake (1303-0004)	H- 89-19-10-P257	Need Verific
Warwick Reservoir Outlet, Upp, and tribs (1306-0081)	H-139-13-61- 9-20	UnAssessed
Wawayanda Creek, Lower, and tribs (1306-0079)	H-139-13-61- 9	MinorImpacts
Wawayanda Creek, Upper, and minor tribs (1306-0015)	H-139-13-61- 9	MinorImpacts
Wickham Lake (1306-0083)	H-139-13-61- 9-P698	UnAssessed
Woodbury Creek and tribs (1303-0014)	H- 89- 7	MinorImpacts
Putnam County		
Barger Pond (1301-0091)	H- 55-12-P181	MinorImpacts
Barrett Pond (1302-0115)	H- 31-P44-23..P67..P71	UnAssessed
Barrett Pond (1304-0018)	H- 95- 5- 3a-P345i	UnAssessed
Beacon/Cargill Reservoir (1304-0017)	H- 95- 5- 3-P345a	UnAssessed
Bog Brook Reservoir (1302-0041)	H- 31-P44-24- 9-P86	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Putnam County (con't)		
Boyd Corners Reservoir (1302-0045)	H- 31-P44-23 (portion 6)/P76	Impaired Seg
Browns Pond, Dutchess Lake (1302-0112)	H- 31-P44-23-P59- 6-P62..P65,P65a	UnAssessed
Bryant Pond (1301-0151)	H- 55-16-P183	UnAssessed
Canopus Lake, Pelton Lake (1301-0145)	H- 55- 2-P168a/P168b	UnAssessed
China Pond (1302-0118)	H- 31-P44-23..P75	UnAssessed
Clear Pool (1302-0119)	H- 31-P44-23..P75a	UnAssessed
Cold Spring Reservoirs (1301-0179)	H- 83-P217,P218	UnAssessed
Croton Falls Reservoir (1302-0026)	H- 31-P44-23 (portion 2)/P59	Impaired Seg
Dean Pond (1302-0117)	H- 31-P44-23..P67..P73	UnAssessed
Diverting Reservoir (1302-0046)	H- 31-P44-24 (portion 2)/P83	Impaired Seg
East Branch Croton, Lower (1302-0124)	H- 31-P44-24 (portion 1)	UnAssessed
East Branch Croton, Middle, and tribs (1302-0055)	H- 31-P44-24 (portion 3)	Threatened
East Branch Croton, Upp, and minor tribs (1302-0057)	H- 31-P44-24 (portion 6)	NoKnownImpct
East Branch Croton, Upp, and tribs (1302-0056)	H- 31-P44-24 (portion 5)	NoKnownImpct
East Branch Reservoir (1302-0040)	H- 31-P44-24 (portion 4)/P89	Impaired Seg
Foundry Brook and tribs (1301-0177)	H- 83	NoKnownImpct
Haines Pond (1302-0128)	H- 31-P44-24- P89- 7-P92	UnAssessed
Holly Stream and tribs (1302-0125)	H- 31-P44-24- 1	MinorImpacts
Indian Brook and tribs (1301-0175)	H- 77	UnAssessed
Indian Lake (1301-0143)	H- 55- 2- 4-P167	NoKnownImpct
Jaycox Pond (1301-0178)	H- 83- 3-P216	UnAssessed
Jordan Pond (1304-0019)	H- 95- 5- 6-P345cc	UnAssessed
Kirk Lake (1302-0080)	H- 31-P44-14- 7-P52	MinorImpacts
Lake Carmel (1302-0006)	H- 31-P44-23-P59- 6-P62..P62a	Impaired Seg
Lake Casse (1302-0100)	H- 31-P44-23-P59- 2- 4- P59b	UnAssessed
Lake Celeste (1301-0142)	H- 55- 2- 3-P166	Need Verific
Lake Charles (1302-0129)	H- 31-P44-24-18-P89d	UnAssessed
Lake Gilead (1302-0024)	H- 31-P44-23-P59- 3-P61	MinorImpacts
Lake Gilead Outlet (1302-0102)	H- 31-P44-23-P59- 3	UnAssessed
Lake Gleneida (1302-0025)	H- 31-P44-23..P67..P74	MinorImpacts
Lake Mahopac (1302-0007)	H- 31-P44-14-P53	NoKnownImpct
Lake Ossi (1301-0156)	H- 55-20-P183d	MinorImpacts
Lake Peekskill (1301-0147)	H- 55- 7-P171	MinorImpacts
Lake Surprise (1301-0180)	H- 86-P220	UnAssessed
Lake Tibet (1301-0034)	H- 55-P183e	MinorImpacts
Lake Tonetta (1302-0014)	H- 31-P44-24- 3-P85	Need Verific
Lake Valhalla (1304-0016)	H- 95- 5- 2-P345k	UnAssessed
Laths Pd, Loch Lyall, Catfish, Duck Pds (1301-0176)	H- 77-P206, P207a,P207b,P207c	UnAssessed
Leetown Pd, Lk Winham, L.Buck Mt.Pd. (1302-0120)	H- 31-P44-23..P76..P76a/e	UnAssessed
Little Pond (1302-0130)	H- 31-P44-24-19-P94	UnAssessed
Long Pond, Dixon Lake, Lockwood Pond (1302-0114)	H- 31-P44-23..P67..P69toP	UnAssessed
Lost Lake, Putnam Lake (1302-0053)	H- 31-P44-24-17-P93a,P93b	MinorImpacts
Mendel P, Wonder L, Ice P, Brewster P (1302-0132)	H- 31-P44-24-25..P97c,P97d,P98,P99b	UnAssessed
Middle Branch Croton R, Lower (1302-0104)	H- 31-P44-23-P59- 6 (portion 1)	NoKnownImpct
Middle Branch Croton R, Middle, and trib (1302-0105)	H- 31-P44-23-P59- 6 (portion 3)	NoKnownImpct
Middle Branch Croton R, Upper, and tribs (1302-0106)	H- 31-P44-23-P59- 6 (portion 4)	NoKnownImpct
Middle Branch Reservoir (1302-0009)	H- 31-P44-23-P59- 6 (portion 2)/P62	Impaired Seg
Minor Tribs to Croton Falls Reservoir (1302-0001)	H- 31-P44-23-P59- 4 thru 10	Impaired Seg
Minor Tribs to Croton Falls Reservoir (1302-0098)	H- 31-P44-23-P59- 1 thru 2	UnAssessed
Minor Tribs to East of Hudson (1301-0168)	H- 62 thru 92, EOH (selected)	MinorImpacts

Waterbody/Segment (ID)	Water Index Number	Category
Putnam County (con't)		
Minor Tribs to Lake Carmel (1302-0108)	H- 31-P44-23-P59- 6-P62..P62a-	UnAssessed
Minor Tribs to Middle Branch Reseroir (1302-0107)	H- 31-P44-23-P59- 6-P62-	UnAssessed
Minor Tribs to West Branch Reservoir (1302-0113)	H- 31-P44-23..P67-	NoKnownImpct
Mud Lake, Clear Lake (1301-0148)	H- 55- 8-P175..P176,P177	UnAssessed
Mud Pond (1302-0101)	H- 31-P44-23-P59- 2-P60	UnAssessed
Mud Pond Brook and tribs (1302-0099)	H- 31-P44-23-P59- 2	UnAssessed
Muddy Brook and tribs (1302-0011)	H- 31-P44-24-25	Need Verific
Oscawana Lake (1301-0035)	H- 55- 8-P175	Impaired Seg
Palmer Lake (1302-0103)	H- 31-P44-23-P59- 5-P61a	UnAssessed
Peekskill Hollow Cr, Middle, and tribs (1301-0138)	H- 55	NoKnownImpct
Peekskill Hollow Cr, Upper, and tribs (1301-0139)	H- 55	NoKnownImpct
Pine Pond (1302-0116)	H- 31-P44-23..P67..P72	UnAssessed
Roaring Brook Lake (1301-0037)	H- 55-18-P183a	MinorImpacts
Sagamore Lake (1302-0096)	H- 31-P44-23 (portion 8)/P76j	NoKnownImpct
Secor Lake (1302-0079)	H- 31-P44-14- 4-P51	UnAssessed
Seven Hills Lake (1302-0121)	H- 31-P44-23..P76..P77c	UnAssessed
Stillwater Pond (1301-0155)	H- 55-17-P183a..P183c	UnAssessed
Stump Pond (1302-0109)	H- 31-P44-23-P59- 6-P62..P62a..P63	UnAssessed
Teakettle Sprout Lake (1302-0090)	H- 31-P44-17- 6a-P57c	UnAssessed
Tribs of Lake Mahopac (1302-0084)	H- 31-P44-14-P53- 1	UnAssessed
Tribs to Bog Brook Reservoir (1302-0126)	H- 31-P44-24- 9-P86-	UnAssessed
Tribs to East Branch Reservoir (1302-0127)	H- 31-P44-24- P89-	UnAssessed
Tribs to Sagamore Lake (1302-0097)	H- 31-P44-23 (portion 8)/P76j-	UnAssessed
Tribs to Stump Pond (1302-0110)	H- 31-P44-23-P59- 6-P62..P62a..P63-	UnAssessed
Tribs to Wiccopee Reservoir (1301-0154)	H- 55-17-P183a-	UnAssessed
West Branch Croton R, Middle, and tribs (1302-0093)	H- 31-P44-23 (portion 3)	NoKnownImpct
West Branch Croton R, Middle, and tribs (1302-0094)	H- 31-P44-23 (portion 5)	NoKnownImpct
West Branch Croton R, Upper, and tribs (1302-0095)	H- 31-P44-23 (portion 7)	NoKnownImpct
West Branch Reservoir (1302-0022)	H- 31-P44-23 (portion 4)/P67	Impaired Seg
White Pond (1302-0122)	H- 31-P44-23..P79	UnAssessed
Wiccopee Brook and tribs (1301-0152)	H- 55-17	UnAssessed
Wiccopee Reservoir (1301-0153)	H- 55-17-P183a	UnAssessed
Wixon Lake (1302-0085)	H- 31-P44-14-P53- 1-P54	UnAssessed
Rensselaer County		
Big Bowman Pond (1301-0270)	H-236-24-P444	UnAssessed
Black River Pond (1310-0046)	H-204- 2-36-P80b	UnAssessed
Black River and tribs (1310-0043)	H-204- 2-36	NoKnownImpct
Bonesteel Pond, Wager Pond/Madonna Lk (1301-0268)	H-236-22-P438,P439	UnAssessed
Burdens Lake (1301-0025)	H-235-P386	MinorImpacts
Burdens Pond (1301-0252)	H-235-P366	UnAssessed
Cleveland Pond (1310-0026)	H-204- 2- 7-P35b	UnAssessed
Cranberry Pond (1301-0260)	H-236-13-13b-P430	UnAssessed
Crooked Lake (1301-0254)	H-235-P386- 1- P397	UnAssessed
Crystal Lake (1301-0041)	H-235-P386- 1- 1-P391	MinorImpacts
Davitt Pond (1301-0264)	H-236-19-P435	UnAssessed
Dunham Reservoir (1301-0262)	H-236-13-P425	Impaired Seg
Dyken Pond (1301-0271)	H-236-P445	Impaired Seg
Forest Lake (1301-0267)	H-236-22-11-P441	NoKnownImpct
Glass Lake (1301-0042)	H-235-P386- 1-P394	MinorImpacts

Waterbody/Segment (ID)	Water Index Number	Category
Renssalaer County (con't)		
Gravel Pond (1301-0266)	H-236-22- 9-P440	UnAssessed
Hampton Manor Lake (1301-0077)	H-222-P297	MinorImpacts
Hicks Pond (1301-0269)	H-236-24- 2-P443	UnAssessed
Hosford Pond (1301-0265)	H-236-22- 7-P437	UnAssessed
Kinderhook Creek, Upper, and minor tribs (1310-0022)	H-204- 2	NoKnownImpct
Lake Elizabeth, White Lily Pond (1301-0259)	H-236-13-13-P428a,P429	UnAssessed
Little Bowman Pond (1310-0038)	H-204- 2-18-P68	UnAssessed
Lyons Pond, Smith Pond (1310-0025)	H-204- 2- 7-P34- 1-P35,P35a	UnAssessed
Mill Creek and tribs (1301-0246)	H-224	NoKnownImpct
Mill Pond, Second Pond, Long Pond (1301-0258)	H-236-13-11-P426,P427,P428	NoKnownImpct
Minor Tribs to East of Hudson (1301-0245)	H-222 thru 232, EOH (selected)	UnAssessed
Moordener Kill and minor tribs (1301-0243)	H-219- 1	NoKnownImpct
Moules Lake (1301-0250)	H-235- 8-P374	UnAssessed
Nassau Lake (1310-0001)	H-204- 2- 7-P34	Impaired Seg
North Branch Moordener Kill and tribs (1301-0244)	H-219- 1- 4	UnAssessed
Papscanee Creek and minor tribs (1301-0242)	H-219	UnAssessed
Pikes/Mud Pond (1310-0027)	H-204- 2- 7-P40	UnAssessed
Poesten Kill, Lower, and minor tribs (1301-0068)	H-236	NoKnownImpct
Poesten Kill, Upper, and tribs (1301-0255)	H-236	NoKnownImpct
Quacken Kill, Lower, and tribs (1301-0256)	H-236-13	NoKnownImpct
Quacken Kill, Upper, and tribs (1301-0257)	H-236-13	NoKnownImpct
Racquet Lake (1301-0251)	H-235-13-P382	UnAssessed
Round Pond (1310-0044)	H-204- 2-36- 4- 1-P80	NoKnownImpct
Schodack Creek/Muitzes Kill and tribs (1301-0236)	H-215	UnAssessed
Shaver Pond (1301-0261)	H-236-13-P424	UnAssessed
Snyders Lake (1301-0043)	H-235-11-P377	MinorImpacts
Spring Lake (1310-0045)	H-204- 2-36- 4-P81	NoKnownImpct
Stone Bridge Pond (1310-0041)	H-204- 2-35-P79a	UnAssessed
Stump Pond (1310-0042)	H-204- 2-35-P79d	UnAssessed
Tackawasic Creek, Lower, and tribs (1310-0035)	H-204- 2-18	NoKnownImpct
Tackawasic Creek, Upper, and tribs (1310-0036)	H-204- 2-18	UnAssessed
Tackawasick Lake (1310-0037)	H-204- 2-18-P65	UnAssessed
Taplin Pond (1310-0040)	H-204- 2-30-P79	UnAssessed
Tribs to Burden Lake (1301-0253)	H-235-P386-	UnAssessed
Troy Reservoir (1301-0274)	H-238-P459	UnAssessed
Valatie Kill, Middle, and tribs (1310-0003)	H-204- 2- 7	Impaired Seg
Valatie Kill, Upper, and tribs (1310-0024)	H-204- 2- 7	Impaired Seg
Vanderhaden Creek and tribs (1301-0272)	H-238	UnAssessed
Vlockie Kill, Upper, and tribs (1301-0241)	H-218	UnAssessed
Vosberg Pond (1301-0263)	H-236-15-P433	UnAssessed
Wright Lake, Bradley Lake (1301-0273)	H-238-P454,P455	UnAssessed
Wynants Kill, Lower, and tribs (1301-0066)	H-235	MinorImpacts
Wynants Kill, Upper, and tribs (1301-0249)	H-235	NoKnownImpct
Rockland County		
Breakneck Pond (1301-0123)	H- 43- 1-11- 9-P150d	Impaired Seg
First, Second and Third Reservoirs (1301-0128)	H- 43-1- 11- 5-P150a,P150b,P150j	UnAssessed
Garnerville Reservoir (1301-0125)	H- 43- 1-P146	UnAssessed
Hessian Lake (1301-0159)	H- 60-P184	UnAssessed
Lake Boyce (1301-0135)	H- 48a-P159a	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Rockland County (con't)		
Lake Tiorati Brook, Low, and minor tribs (1301-0062)	H- 43	NoKnownImpct
Lake Tiorati Brook, Upper, and tribs (1301-0119)	H- 43	UnAssessed
Lake Tompkins (1301-0126)	H- 43- 4-P150i	NoKnownImpct
Lake Welch (1301-0124)	H- 43- 1-11-P150c	UnAssessed
Miniscenongo Creek and minor tribs (1301-0089)	H- 43- 1	Need Verific
Minor Tribs to Lower Sparkill Creek (1301-0107)	H- 13- 2 thru 3	UnAssessed
Minor Tribs to Upper Sparkill Creek (1301-0108)	H- 13- 6 thru 13	UnAssessed
Minor Tribs to West of Hudson (1301-0105)	H- 8 thru 12, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0116)	H- 21 thru 23, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0134)	H- 48 thru 60, WOH (selected)	UnAssessed
North Br Minisceongo Cr, Low, and tribs (1301-0120)	H- 43- 1-11	UnAssessed
North Br Minisceongo Cr, Upp, and tribs (1301-0121)	H- 43- 1-11	UnAssessed
South Br Minisceongo Creek and tribs (1301-0090)	H- 43- 1-10	UnAssessed
Sparkill Creek, Lower (1301-0088)	H- 13	Impaired Seg
Sparkill Creek, Upper, and minor tribs (1301-0106)	H- 13	MinorImpacts
Upper Horse Chock Brook and tribs (1301-0122)	H- 43- 1-11- 5	UnAssessed
Upper Pound Swamp (1301-0127)	H- 43- 6-P150k	UnAssessed
Schenectady County		
Delanson Reservoir (1311-0023)	H-221- 4-35-P292	UnAssessed
Duane Lake (1311-0006)	H-221- 4-P270- 1- 9-P276a	Impaired Seg
Duanesburg Reservoir (1311-0022)	H-221- 4-31-P290	UnAssessed
Mill Pond (1311-0026)	H-221- 4-P289	UnAssessed
Normans Kill, Upper, and tribs (1311-0018)	H-221- 4 (portion 4)	UnAssessed
Normans Kill, Upper, and tribs (1311-0005)	H-221- 4 (portion 5)	UnAssessed
Schoharie County		
The Vlaie (1309-0035)	H-193-P960b	UnAssessed
Sullivan County		
Beaverdam Pond (1306-0126)	H-139-14-P815a-48- 2-P818	UnAssessed
Chestnut Creek and tribs (1306-0009)	H-139-14-P815a-48	NoKnownImpct
Echo Lake (1306-0058)	H-139-13-19-17-P473	UnAssessed
Homowack Kill and tribs (1306-0122)	H-139-14-38-14	NoKnownImpct
Katz Pond (1306-0123)	H-139-14-38-20-3-P806a	UnAssessed
Rondout Creek, Upper, and minor tribs (1306-0026)	H-139-14 (portion 6)	NoKnownImpct
Sandburg Creek, Upper, and tribs (1306-0114)	H-139-14-38	UnAssessed
Silver/Woods Lake (1306-0124)	H-139-14-38-P807	UnAssessed
Ulster County		
Ashokan Reservoir (1307-0004)	H-171 (portion 3)/P848	Impaired Seg
Beaverkill and tribs (1307-0033)	H-171/P848-43	NoKnownImpct
Beer Kill and minor tribs (1306-0116)	H-139-14-38- 3	NoKnownImpct
Birch Creek and tribs (1307-0037)	H-171/P848-52	NoKnownImpct
Black Creek, Lower, and tribs (1301-0202)	H-128	NoKnownImpct
Black Creek, Middle, and tribs (1301-0203)	H-128	UnAssessed
Black Creek, Upper, and tribs (1301-0204)	H-128	UnAssessed
Brandy Brook and tribs (1306-0125)	H-139-14-40	UnAssessed
Bushkill and tribs (1307-0029)	H-171/P848- 5	UnAssessed
Bushnellsville Creek and tribs (1307-0036)	H-171/P848-50	UnAssessed
Chodikee Pond (1301-0208)	H-128-P437	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Ulster County (con't)		
Cooper Lake (1307-0022)	H-171-17-21-P839	UnAssessed
Coxing Kill and tribs (1306-0096)	H-139-14- 9	NoKnownImpct
Cranberry Lake (1306-0118)	H-139-14-38- 3- 1- 5-P792	UnAssessed
DeWitt Lake (1306-0034)	H-139- 7-P449	UnAssessed
DeWitt Lake Outlet and tribs (1306-0033)	H-139- 7	UnAssessed
Dwaar Kill and tribs (1306-0052)	H-139-13-19- 7	MinorImpacts
Dwaar Kill, Lower, and tribs (1306-0062)	H-139-13-24	NoKnownImpct
Dwaar Kill, Middle and tribs (1306-0063)	H-139-13-24	UnAssessed
Dwaar Kill, Upper, and tribs (1306-0064)	H-139-13-24	UnAssessed
East/Sundown Brook and tribs (1306-0127)	H-139-14-P815a-53	UnAssessed
Echo Lake (1307-0023)	H-171-17-P841	UnAssessed
Esopus Creek, Lower, Main Stem (1307-0010)	H-171 (portion 1)	MinorImpacts
Esopus Creek, Middle, and minor tribs (1307-0003)	H-171 (portion 2)	MinorImpacts
Esopus Creek, Upper, and minor tribs (1307-0011)	H-171 (portion 5)	NoKnownImpct
Esopus Creek, Upper, and minor tribs (1307-0007)	H-171 (portion 4)	Impaired Seg
Fourth Binnewater Lake (1306-0095)	H-139-14- 5-P770	UnAssessed
Heddens Lake (1306-0049)	H-139-13-19- 1-P463a	UnAssessed
Honk Lake (1306-0090)	H-139-14 (portion 3)/P812	UnAssessed
Hudson River (Class A) (1301-0276)	H (portion 4b)	Impaired Seg
Kenozia Lake (1307-0030)	H-171/P848-11-P851	UnAssessed
Kingston Reservoir 4 (1307-0021)	H-171-17- 7-P837a	UnAssessed
Kingston Reservoirs 1 and 2 (1307-0020)	H-171-17 P837,P838a	UnAssessed
Kleine Kill and tribs (1306-0043)	H-139-13-11- 4	UnAssessed
Kripplebush Creek and tribs (1306-0099)	H-139-14-12	NoKnownImpct
Lake Awosting (1306-0102)	H-139-14-16-P781	UnAssessed
Lake Katrine (1307-0028)	H-171-P832	UnAssessed
Lake Maratanza (1306-0055)	H-139-13-19-10- 5-P471	UnAssessed
Lake Minnewaska (1306-0098)	H-139-14- 9-P775	UnAssessed
Latterette Creek, Upper, and tribs (1306-0065)	H-139-13-28	UnAssessed
Lattintown Creek and tribs (1301-0193)	H-103	NoKnownImpct
Leuren Kill and tribs (1306-0121)	H-139-14-38- 9	UnAssessed
Lily Pond (1301-0206)	H-128- 4-P436	UnAssessed
Little Beaverkill and tribs (1307-0031)	H-171/P848-42	UnAssessed
Lyons Lake (1306-0111)	H-139-14-35- 1-P789a	UnAssessed
Lyonsville Pond (1306-0105)	H-139-14-18-P783	UnAssessed
Marx Pond (1301-0207)	H-128- 4-P436b	UnAssessed
Mill Brook and tribs (1306-0108)	H-139-14-20- 2	Need Verific
Mink Hollow Brook and tribs (1307-0034)	H-171/P848-43	UnAssessed
Minor Tribs to Ashokan Reservoir (1307-0005)	H-171/P848- 1 thru 12 (selected)	UnAssessed
Minor Tribs to Lower Esopus Creek (1307-0012)	H-171- 2 thru 21 (selected)	UnAssessed
Minor Tribs to Lower Lower Wallkill (1306-0040)	H-139-13- 3 thru 18	UnAssessed
Minor Tribs to Lower Rondount River (1306-0032)	H-139- 2 thru 6	UnAssessed
Minor Tribs to Middle Rondout Creek (1306-0093)	H-139-14- 4 thru 33 (selected)	UnAssessed
Minor Tribs to Rondout Reservoir (1306-0014)	H-139-14-P815a-	MinorImpacts
Minor Tribs to West of Hudson (1301-0194)	H-104 thru 125, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0213)	H-145 thru 175, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0220)	H-172 thru ??, WOH	UnAssessed
Mirror Lake, Esopus Lake (1301-0205)	H-128- 2-P433,P434	UnAssessed
Mohonk Lake (1306-0097)	H-139-14- 9- 3..P774	UnAssessed
Mud Pond (1306-0101)	H-139-14-16- 2-P780	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Ulster County (con't)		
North Peters Kill, Lower, and tribs (1306-0103)	H-139-14-18	NoKnownImpct
North Peters Kill, Upper, and tribs (1306-0104)	H-139-14-18	UnAssessed
Onteora Lake (1307-0025)	H-171-25-P845	UnAssessed
Palmaghatt Kill, Upper, and tribs (1306-0050)	H-139-13-19- 5	UnAssessed
Peters Kill and tribs (1306-0100)	H-139-14-16	NoKnownImpct
Pinebush Lake (1306-0056)	H-139-13-19-13-P471a	UnAssessed
Platte Kill and tribs (1306-0044)	H-139-13-16	NoKnownImpct
Platte Kill/Halliday Brook and tribs (1306-0057)	H-139-13-19-15	UnAssessed
Plattekill Creek, Lower, and minor tribs (1307-0013)	H-171-11	NoKnownImpct
Plattekill Creek, Upper, and tribs (1307-0014)	H-171-11	UnAssessed
Quassaic Creek, Upper, and tribs (1301-0185)	H- 94	UnAssessed
Rochester Creek and minor tribs (1306-0107)	H-139-14-20	NoKnownImpct
Rondout Creek, Middle, Main Stem (1306-0088)	H-139-14 (portion 1)	NoKnownImpct
Rondout Creek, Middle, and minor tribs (1306-0089)	H-139-14 (portion 2)	NoKnownImpct
Rondout Creek, Middle, and tribs (1306-0091)	H-139-14 (portion 4)	NoKnownImpct
Rondout Creek, Upper, and minor tribs (1306-0092)	H-139-14 (portion 7)	MinorImpacts
Rondout Reservoir (1306-0003)	H-139-14 (portion 5)/P815a	Impaired Seg
Rondout River, Lower, Main Stem (1306-0030)	H-139 (portion 1)	UnAssessed
Rondout River, Lower, Main Stem (1306-0031)	H-139 (portion 2)	UnAssessed
Roosa Lake (1306-0109)	H-139-14-20- 5- 1-P788	UnAssessed
Sandburg Creek, Lower, and tribs (1306-0113)	H-139-14-38	NoKnownImpct
Saw Kill, Lower, and tribs (1307-0017)	H-171-17	NoKnownImpct
Saw Kill, Middle, and tribs (1307-0018)	H-171-17	UnAssessed
Saw Kill, Upper, adn tribs (1307-0019)	H-171-17	UnAssessed
Shawangunk Kill, Lower, and minor tribs (1306-0045)	H-139-13-19	NoKnownImpct
Shingle Gully, North/South Gully, tribs (1306-0115)	H-139-14-38- 1,-5,-6	UnAssessed
Spring Lake (1307-0024)	H-171-22-P843	UnAssessed
Stone Ridge Pond (1307-0027)	H-171-30-P846	UnAssessed
Stony Creek and tribs (1307-0026)	H-171-28	UnAssessed
Stony Kill and tribs (1306-0106)	H-139-14-19	UnAssessed
Sturgeon Pond (1306-0037)	H-139-13 (portion 1)/P453a	UnAssessed
Swarte Kill and tribs (1306-0039)	H-139-13- 2	UnAssessed
Third, First Binnewater Lakes, Twin Lk (1306-0036)	H-139- 7-P449-P452,P452,P452a	UnAssessed
Tillson Lake (1306-0051)	H-139-13-19- 5-P464a	UnAssessed
Tribs to DeWitt Lake (1306-0035)	H-139- 7-P449-	UnAssessed
Twaalfskill Creek and tribs (1301-0199)	H-116	MinorImpacts
Ulster Lake (1306-0120)	H-139-14-38- 3-P797a	UnAssessed
Unnamed Trib to Rondout, Upp, and tribs (1306-0112)	H-139-14-37	UnAssessed
Unnamed Trib to Wallkill, Upp, and tribs (1306-0041)	H-139-13-10- 1	UnAssessed
Unnamed Trib to Wallkill, and mnr tribs (1306-0042)	H-139-13-11	UnAssessed
Upper Ulster Lake (1306-0119)	H-139-14-38- 3- 4-P799	UnAssessed
Verkeerder Kill Creek and tribs (1306-0054)	H-139-13-19-10	NoKnownImpct
Vernoy Kill, Upper, and tribs (1306-0110)	H-139-14-35	NoKnownImpct
Wallkill River, Lower, Main Stem (1306-0027)	H-139-13 (portion 2)	MinorImpacts
Washburn Creek and tribs (1307-0016)	H-171-11-11- 1	UnAssessed
West Branch Beer Kill and tribs (1306-0117)	H-139-14-38- 3- 1	NoKnownImpct
Williams/Fifth Binnewater Lake (1306-0094)	H-139-14- 5-P769	UnAssessed
Woodland Stream and tribs (1307-0035)	H-171/P848-46	UnAssessed
Yager Stream and minor tribs (1307-0015)	H-171-11-11	UnAssessed
Yankeetown Lake (1307-0032)	H-171/P848-42-P853	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Westchester County		
Amawalk Reservoir (1302-0044)	H- 31-P44-14-P50	Impaired Seg
Blue Heron Lake (1302-0144)	H- 31-P44-36-11-P122a	NoKnownImpct
Brocey Pond (1301-0158)	H- 59-P165f	UnAssessed
Campfire Lake (1301-0113)	H- 20-11a-P32a	UnAssessed
Canopus Creek and tribs (1301-0141)	H- 55- 2	MinorImpacts
Collaberg Pond (1302-0070)	H- 31-P44- 1a-P45	UnAssessed
Cortlandt Lake (1301-0144)	H- 55- 2-P165b	UnAssessed
Crom Pond (1302-0077)	H- 31-P44-14- 1-P48	UnAssessed
Cross River Reservoir (1302-0005)	H- 31-P44-35-P109	Impaired Seg
Cross River, Lower (1302-0137)	H- 31-P44-35	NoKnownImpct
Croton River, Lower, Main Stem (1302-0064)	H- 31 (portion 1)	NoKnownImpct
Croton River, Lower, Main Stem (1302-0065)	H- 31 (portion 2)	NoKnownImpct
Dickerson Pond (1301-0131)	H- 44- 6-P156	UnAssessed
Dickey Brook, Upper, and tribs (1301-0136)	H- 51	UnAssessed
Dickiebusch Lake (1301-0157)	H- 56-P165e	UnAssessed
Dream and Blue Lakes (1302-0071)	H- 31-P44- 1a..P45c/P45d	UnAssessed
Echo Lake (1301-0115)	H- 20-P33	UnAssessed
Frankerest Pond (1302-0152)	H- 31-P44-55- 1-P128n	UnAssessed
Furnace Brook Pond (1301-0132)	H- 44-P155	UnAssessed
Furnace Brook and tribs (1301-0130)	H- 44	NoKnownImpct
Gilmore Pond (1302-0145)	H- 31-P44-36-P124h	UnAssessed
Gregory Pond (1301-0146)	H- 55- 6-P170a	UnAssessed
Hallocks Mill Brook, Upper, and tribs (1302-0052)	H- 31-P44-14- 1	UnAssessed
Hardscrabble Lake (1301-0112)	H- 20- 9- 2a-P32a	UnAssessed
Howlands Lake (1302-0147)	H- 31-P44-43-P127	UnAssessed
Hudson River (Class SB), portion (1301-0094)	H (portion 2b)	Impaired Seg
Hunter Brook, Lower, and tribs (1302-0047)	H- 31-P44- 2	NoKnownImpct
Hunter Brook, Upper, and tribs (1302-0048)	H- 31-P44- 2	NoKnownImpct
Indian Brook Reservoir (1302-0067)	H- 31- 2-P42b	UnAssessed
Journeys End Lake (1302-0149)	H- 31-P44-51-P128e	UnAssessed
Kisco River, Lower, and tribs (1302-0060)	H- 31-P44-43	NoKnownImpct
Kisco River, Upper, and tribs (1302-0061)	H- 31-P44-43	Impaired Seg
Lake Katonah (1302-0136)	H- 31-P44-31- 3-P107a	MinorImpacts
Lake Kitchawan (1302-0002)	H- 31-P44-35-P109- 6- 7-P114	MinorImpacts
Lake Lincolndale (1302-0089)	H- 31-P44-17- 5-P57a	Impaired Seg
Lake Meahagh (1301-0053)	H- 49a-P160	Impaired Seg
Lake Mohegan (1301-0149)	H- 55-11-P179	Impaired Seg
Lake Oscaleta, Lake Rippowam (1302-0141)	H- 31-P44-35-P109- 6..P118,P119	MinorImpacts
Lake Shenorock (1302-0083)	H- 31-P44-14-P50- 2- P50a	Impaired Seg
Lake Waccabuc (1302-0140)	H- 31-P44-35-P109- 6-P117	NoKnownImpct
Lounsbury, Peterson Ponds (1301-0137)	H- 51-P161e/P161g	UnAssessed
Mill Pond (1302-0072)	H- 31-P44- 2-P49a	UnAssessed
Minor Tribs to Amawalk Reservoir (1302-0082)	H- 31-P44-14-P50-	UnAssessed
Minor Tribs to Cross River Reservoir (1302-0138)	H- 31-P44-35-P109-	UnAssessed
Minor Tribs to East of Hudson (1301-0104)	H- 7 thru 18, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0117)	H- 24 thru 27, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0133)	H- 46 thru 59, EOH (selected)	UnAssessed
Minor Tribs to Lower Croton River (1302-0066)	H- 31- 1 thru 6	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0148)	H- 31-P44-44 thru 55	NoKnownImpct
Minor Tribs to New Croton Reservoir (1302-0086)	H- 31-P44-15 thru 16a	NoKnownImpct
Minor Tribs to New Croton Reservoir (1302-0068)	H- 31-P44- 1 thru 1a	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Westchester County (con't)		
Minor Tribs to New Croton Reservoir (1302-0074)	H- 31-P44- 2a thru 13	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0091)	H- 31-P44-18 thru 22	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0134)	H- 31-P44-25 thru 33	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0146)	H- 31-P44-37 thru 42	UnAssessed
Mohansic Lake (1302-0078)	H- 31-P44-14- 1-P48- 3-P49	UnAssessed
Muscoot River, Lower, and minor tribs (1302-0049)	H- 31-P44-14	Impaired Seg
Muscoot River, Upper, and tribs (1302-0050)	H- 31-P44-14	NoKnownImpct
Muscoot/Upper New Croton Reservoir (1302-0042)	H- 31-P44 (portion 2)	Impaired Seg
New Croton Reservoir (1302-0010)	H- 31-P44 (portion 1)	Impaired Seg
Oceola Lake (1301-0150)	H- 55-12-P182	UnAssessed
Pea Pond (1302-0142)	H- 31-P44-35-P109-11-P120	UnAssessed
Peach Lake (1302-0004)	H- 31-P44-24- P89-10-P93	Impaired Seg
Peekskill Hollow Cr, Low, and mnr tribs (1301-0049)	H- 55	NoKnownImpct
Plum Brook, Lower, and tribs (1302-0087)	H- 31-P44-17	NoKnownImpct
Plum Brook, Upper, and tribs (1302-0088)	H- 31-P44-17	NoKnownImpct
Pocantico Lake (1301-0114)	H- 20-P30	UnAssessed
Pocantico River, Lower, and tribs (1301-0109)	H- 20	Need Verific
Pocantico River, Middle, and tribs (1301-0110)	H- 20	UnAssessed
Pocantico River, Upper, and tribs (1301-0111)	H- 20	UnAssessed
Saw Mill River, Lower, and tribs (1301-0007)	H- 4	Impaired Seg
Saw Mill River, Middle, and tribs (1301-0100)	H- 4	Impaired Seg
Saw Mill River, Upper, and tribs (1301-0101)	H- 4	Impaired Seg
Sing Sing Creek and tribs (1301-0118)	H- 28	MinorImpacts
Sparkle Lake (1302-0076)	H- 31-P44-14- 1- 6- 1- 1-P47a	UnAssessed
Stone Hill River, Lower, and tribs (1302-0059)	H- 31-P44-36	Need Verific
Stone Hill River, Upper, and tribs (1302-0143)	H- 31-P44-36	UnAssessed
Tarrytown Reservoir (1301-0102)	H- 4-17-P15b	UnAssessed
Teatown Lake (1302-0150)	H- 31-P44-54-P128a	Impaired Seg
Titicus Reservoir (1302-0035)	H- 31-P44-26/P103	Impaired Seg
Titicus River, Lower (1302-0034)	H- 31-P44-26	UnAssessed
Tribs of Secor and Kirk Lakes (1302-0081)	H- 31-P44-14- 7-P52- and 4-P51-	UnAssessed
Tribs to Titicus Reservoir (1302-0135)	H- 31-P44-26/P103-	NoKnownImpct
Truesdale Lake (1302-0054)	H- 31-P44-35-P109- 6-13-P115a	Impaired Seg
Twin Lakes (1302-0069)	H- 31-P44- 1-P45a/P45b	UnAssessed
Unnamed Trib to Mill Pond/Hunter Brook (1302-0073)	H- 31-P44- 2-P49a- 2	UnAssessed
Upper Cross/Waccabuc River and tribs (1302-0139)	H- 31-P44-35-P109- 6	NoKnownImpct
Vernay Lake, Shadow Lake (1302-0151)	H- 31-P44-54-P128i,P128j	UnAssessed
Wallace Pond (1301-0140)	H- 55- 1-P165	Impaired Seg
West Branch Croton R, Lower, Main Stem (1302-0092)	H- 31-P44-23 (portion 1)	UnAssessed
Woodlands Lake (1301-0103)	H- 4-P12	UnAssessed

Appendix D

Waterbody Inventory Data Sheets
By Segment Name

Waterbody/Segment (ID)	Water Index Number	Category
Alcove Reservoir (1301-0232)	H-212-P185	UnAssessed
Altamont Reservoir (1311-0025)	H-221- 4-P270- 1- 8-P276b	UnAssessed
Amawalk Reservoir (1302-0044)	H- 31-P44-14-P50	Impaired Seg
Arthurs, Sphagnum, Tamarack Ponds (1301-0181)	H- 88- 4-P222d thru g	UnAssessed
Ashokan Reservoir (1307-0004)	H-171 (portion 3)/P848	Impaired Seg
Bachus Pond (1310-0034)	H-204- 2-14-P59	UnAssessed
Ballard Lake (1302-0111)	H- 31-P44-23-P59- 6-P62..P64a	UnAssessed
Barger Pond (1301-0091)	H- 55-12-P181	MinorImpacts
Barrett Pond (1302-0115)	H- 31-P44-23..P67..P71	UnAssessed
Barrett Pond (1304-0018)	H- 95- 5- 3a-P345i	UnAssessed
Barrett Pond (1310-0029)	H-204- 2- 9- 3-P45	UnAssessed
Bash Bish Brook and tribs (1308-0021)	H-188-59	NoKnownImpct
Basic Creek Reservoir (1309-0001)	H-193-29-P950a	Impaired Seg
Basic Creek, Lower, and tribs (1309-0027)	H-193-29	NoKnownImpct
Basic Creek, Upper, and tribs (1309-0028)	H-193-29	Need Verific
Beacon Reservoir (1304-0013)	H- 95- 2-P345	UnAssessed
Beacon/Cargill Reservoir (1304-0017)	H- 95- 5- 3-P345a	UnAssessed
Beaver Dam Lake (1303-0021)	H- 89-12-P234	UnAssessed
Beaver Dam Pond (1309-0025)	H-193- 9- 4-P934a	UnAssessed
Beaver Kill and tribs (1309-0015)	H-193- 2-12	UnAssessed
Beaver Pond (1310-0030)	H-204- 2- 9- 4- 4- 1-P47	UnAssessed
Beaverdam Pond (1306-0126)	H-139-14-P815a-48- 2-P818	UnAssessed
Beaverkill and tribs (1307-0033)	H-171/P848-43	NoKnownImpct
Beer Kill and minor tribs (1306-0116)	H-139-14-38- 3	NoKnownImpct
Bell Pond (1310-0053)	H-204- 3- 8- 4- 7-P100	UnAssessed
Big Bowman Pond (1301-0270)	H-236-24-P444	UnAssessed
Birch Creek and tribs (1307-0037)	H-171/P848-52	NoKnownImpct
Black Creek and tribs (1311-0024)	H-221- 4-P270- 1- 1	UnAssessed
Black Creek, Lower, and tribs (1301-0202)	H-128	NoKnownImpct
Black Creek, Middle, and tribs (1301-0203)	H-128	UnAssessed
Black Creek, Upper, and tribs (1301-0204)	H-128	UnAssessed
Black Pond (1302-0123)	H- 31-P44-23..P80	UnAssessed
Black River Pond (1310-0046)	H-204- 2-36-P80b	UnAssessed
Black River and tribs (1310-0043)	H-204- 2-36	NoKnownImpct
Blue Heron Lake (1302-0144)	H- 31-P44-36-11-P122a	NoKnownImpct
Bog Brook Reservoir (1302-0041)	H- 31-P44-24- 9-P86	Impaired Seg
Bog Meadow Pond, Jims Pond (1301-0173)	H- 71..P200,P199b	UnAssessed
Bonesteel Pond, Wager Pond/Madonna Lk (1301-0268)	H-236-22-P438,P439	UnAssessed
Borden Creek, Upper, and tribs (1306-0066)	H-139-13-31	UnAssessed
Boyd Corners Reservoir (1302-0045)	H- 31-P44-23 (portion 6)/P76	Impaired Seg
Bozen Kill and minor tribs (1311-0017)	H-221- 4-270- 1	MinorImpacts
Brandy Brook and tribs (1306-0125)	H-139-14-40	UnAssessed
Breakneck Pond (1301-0123)	H- 43- 1-11- 9-P150d	Impaired Seg
Brickerhoff Pond, Sharp Reservoir (1304-0020)	H- 95- 5c..P345kkk,P345lll	UnAssessed
Brocey Pond (1301-0158)	H- 59-P165f	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Bronks Lake (1301-0229)	H-208- 6-P155	UnAssessed
Bronks Lake Outlet, Upper, and tribs (1301-0228)	H-208- 6	UnAssessed
Brooks Lake (1301-0170)	H- 63-P193a	UnAssessed
Browns Pond (1303-0027)	H- 89-20-P260	UnAssessed
Browns Pond Reservoir (1303-0013)	H- 89- 2-P226a	UnAssessed
Browns Pond, Dutchess Lake (1302-0112)	H- 31-P44-23-P59- 6-P62..P65,P65a	UnAssessed
Bryant Pond (1301-0151)	H- 55-16-P183	UnAssessed
Bull Pond, Barnes Lake, Summit Lake (1301-0165)	H- 61-P188- 2-P191..P192,P192b,P193	UnAssessed
Burdens Lake (1301-0025)	H-235-P386	MinorImpacts
Burdens Pond (1301-0252)	H-235-P366	UnAssessed
Bushkill and tribs (1307-0029)	H-171/P848- 5	UnAssessed
Bushnellsville Creek and tribs (1307-0036)	H-171/P848-50	UnAssessed
Campfire Lake (1301-0113)	H- 20-11a-P32a	UnAssessed
Canopus Creek and tribs (1301-0141)	H- 55- 2	MinorImpacts
Canopus Lake, Pelton Lake (1301-0145)	H- 55- 2-P168a/P168b	UnAssessed
Casper Creek and tribs (1301-0195)	H-105	MinorImpacts
Catlin Creek and tribs (1306-0084)	H-139-13-62- 2	UnAssessed
Catskill Creek, Lower, Main Stem (1309-0010)	H-193	UnAssessed
Catskill Creek, Middle, and minor tribs (1309-0004)	H-193	MinorImpacts
Catskill Creek, Upper, and minor tribs (1309-0011)	H-193	NoKnownImpct
Chadwick Lake (1301-0190)	H- 94-P341a	UnAssessed
Chestnut Creek and tribs (1306-0009)	H-139-14-P815a-48	NoKnownImpct
China Pond (1302-0118)	H- 31-P44-23..P75	UnAssessed
Chodikee Pond (1301-0208)	H-128-P437	Impaired Seg
Chrysler Pond (1310-0055)	H-204- 3- 8-22-P105	UnAssessed
Churchtown Reservoir (1310-0054)	H-204- 3- 8- 8-P98c	UnAssessed
Claverack Creek, Lower, and minor tribs (1310-0047)	H-204- 3	NoKnownImpct
Claverack Creek, Upper, and minor tribs (1310-0048)	H-204- 3	NoKnownImpct
Claverack/Agawamuck Creek and tribs (1310-0060)	H-204- 3	NoKnownImpct
Clear Pool (1302-0119)	H- 31-P44-23..P75a	UnAssessed
Cleveland Pond (1310-0026)	H-204- 2- 7-P35b	UnAssessed
Clove Creek and tribs (1304-0014)	H- 95- 5	NoKnownImpct
Cob Creek, Middle, and tribs (1309-0022)	H-193- 9- 2	UnAssessed
Cob Creek, Upper, and tribs (1309-0023)	H-193- 9- 2	UnAssessed
Cobalt Lake (1301-0196)	H-105-P415c	UnAssessed
Coeymans Creek and minor tribs (1301-0095)	H-214	Minor Impact
Cold Spring Reservoirs (1301-0179)	H- 83-P217,P218	UnAssessed
Collaberg Pond (1302-0070)	H- 31-P44- 1a-P45	UnAssessed
Cooper Lake (1307-0022)	H-171-17-21-P839	UnAssessed
Copake Lake (1310-0014)	H-204- 3- 8-32-P108a	Impaired Seg
Cortlandt Lake (1301-0144)	H- 55- 2-P165b	UnAssessed
Coxing Kill and tribs (1306-0096)	H-139-14- 9	NoKnownImpct
Coxsackie Creek and minor tribs (1301-0092)	H-208	MinorImpacts
Coxsackie Reservoir (1301-0227)	H-208- 4-P152b	UnAssessed
Cragson Lake, Crystal Lake (1301-0171)	H- 67-P197,P197b	UnAssessed
Cranberry Lake (1306-0118)	H-139-14-38- 3- 1- 5-P792	UnAssessed
Cranberry Pond (1301-0161)	H- 61- 5-P185	UnAssessed
Cranberry Pond (1301-0260)	H-236-13-13b-P430	UnAssessed
Crest View Lake (1303-0022)	H- 89-12-P234..P234g	UnAssessed
Crom Pond (1302-0077)	H- 31-P44-14- 1-P48	UnAssessed
Cromwell Lake (1303-0017)	H- 89- 7- 7- 2-P231	UnAssessed
Crooked Lake (1301-0254)	H-235-P386- 1- P397	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Cross River Reservoir (1302-0005)	H- 31-P44-35-P109	Impaired Seg
Cross River, Lower (1302-0137)	H- 31-P44-35	NoKnownImpct
Croton Falls Reservoir (1302-0026)	H- 31-P44-23 (portion 2)/P59	Impaired Seg
Croton River, Lower, Main Stem (1302-0064)	H- 31 (portion 1)	NoKnownImpct
Croton River, Lower, Main Stem (1302-0065)	H- 31 (portion 2)	NoKnownImpct
Crum Elbow Creek and tribs (1301-0200)	H-124	NoKnownImpct
Crystal Lake (1301-0186)	H- 94- 3-P337	UnAssessed
Crystal Lake (1309-0034)	H-193-56-P957	UnAssessed
Crystal Lake (1301-0041)	H-235-P386- 1- 1-P391	MinorImpacts
Davitt Pond (1301-0264)	H-236-19-P435	UnAssessed
DeWitt Lake (1306-0034)	H-139- 7-P449	UnAssessed
DeWitt Lake Outlet and tribs (1306-0033)	H-139- 7	UnAssessed
Dean Pond (1302-0117)	H- 31-P44-23..P67..P73	UnAssessed
Delanson Reservoir (1311-0023)	H-221- 4-35-P292	UnAssessed
Denton Lake, Solomon/Westminster Lake (1302-0131)	H- 31-P44-24-25- 1-P89j,P89k	UnAssessed
Dickerson Pond (1301-0131)	H- 44- 6-P156	UnAssessed
Dickey Brook, Upper, and tribs (1301-0136)	H- 51	UnAssessed
Dickiebusch Lake (1301-0157)	H- 56-P165e	UnAssessed
Dieterich Pond (1305-0025)	H-101-21-P390	UnAssessed
Diverting Reservoir (1302-0046)	H- 31-P44-24 (portion 2)/P83	Impaired Seg
Doove Kill and tribs (1308-0013)	H-188-18	MinorImpacts
Dream and Blue Lakes (1302-0071)	H- 31-P44- 1a..P45c/P45d	UnAssessed
Dry Brook, Upper, and tribs (1304-0012)	H- 95- 2	UnAssessed
Duane Lake (1311-0006)	H-221- 4-P270- 1- 9-P276a	Impaired Seg
Duanesburg Reservoir (1311-0022)	H-221- 4-31-P290	UnAssessed
Dunham Reservoir (1301-0262)	H-236-13-P425	Impaired Seg
Dwaar Kill and tribs (1306-0052)	H-139-13-19- 7	MinorImpacts
Dwaar Kill, Lower, and tribs (1306-0062)	H-139-13-24	NoKnownImpct
Dwaar Kill, Middle and tribs (1306-0063)	H-139-13-24	UnAssessed
Dwaar Kill, Upper, and tribs (1306-0064)	H-139-13-24	UnAssessed
Dyken Pond (1301-0271)	H-236-P445	Impaired Seg
Earl Reservoir (1303-0016)	H- 89- 7- 6-P229a	UnAssessed
East Br Wappingers Cr, Lower, and tribs (1305-0022)	H-101-21	UnAssessed
East Br Wappingers Cr, Upper, and tribs (1305-0023)	H-101-21	UnAssessed
East Branch Croton, Lower (1302-0124)	H- 31-P44-24 (portion 1)	UnAssessed
East Branch Croton, Middle, and tribs (1302-0055)	H- 31-P44-24 (portion 3)	Threatened
East Branch Croton, Upp, and minor tribs (1302-0057)	H- 31-P44-24 (portion 6)	NoKnownImpct
East Branch Croton, Upp, and tribs (1302-0056)	H- 31-P44-24 (portion 5)	NoKnownImpct
East Branch Reservoir (1302-0040)	H- 31-P44-24 (portion 4)/P89	Impaired Seg
East/Sundown Brook and tribs (1306-0127)	H-139-14-P815a-53	UnAssessed
Echo Lake (1301-0115)	H- 20-P33	UnAssessed
Echo Lake (1306-0058)	H-139-13-19-17-P473	UnAssessed
Echo Lake (1307-0023)	H-171-17-P841	UnAssessed
Esopus Creek, Lower, Main Stem (1307-0010)	H-171 (portion 1)	MinorImpacts
Esopus Creek, Middle, and minor tribs (1307-0003)	H-171 (portion 2)	MinorImpacts
Esopus Creek, Upper, and minor tribs (1307-0007)	H-171 (portion 4)	Impaired Seg
Esopus Creek, Upper, and minor tribs (1307-0011)	H-171 (portion 5)	NoKnownImpct
Fall Kill and tribs (1301-0087)	H-114	Impaired Seg
First, Second and Third Reservoirs (1301-0128)	H- 43-1- 11- 5-P150a,P150b,P150j	UnAssessed
Fishkill Creek, Lower, and tribs (1304-0003)	H- 95	MinorImpacts
Fishkill Creek, Middle, and minor tribs (1304-0010)	H- 95	UnAssessed
Fishkill Creek, Upper, and minor tribs (1304-0011)	H- 95	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Fitting Creek and tribs (1310-0049)	H-204- 3- 1	UnAssessed
Forest Lake (1301-0267)	H-236-22-11-P441	NoKnownImpct
Forest Pond (1310-0056)	H-204- 3- 8-31-P107	UnAssessed
Foundry Brook and tribs (1301-0177)	H- 83	NoKnownImpct
Fourth Binnewater Lake (1306-0095)	H-139-14- 5-P770	UnAssessed
Frankerest Pond (1302-0152)	H- 31-P44-55- 1-P128n	UnAssessed
Furnace Brook Pond (1301-0132)	H- 44-P155	UnAssessed
Furnace Brook and tribs (1301-0130)	H- 44	NoKnownImpct
Furnace, McKinney, Christie, Pray Ponds (1304-0034)	H- 95-P356,P357,P358a,P359	UnAssessed
Gardner Hollow Brook, Upper, and tribs (1304-0031)	H- 95-19- 3	UnAssessed
Garnerville Reservoir (1301-0125)	H- 43- 1-P146	UnAssessed
Gidneytown Creek and tribs (1301-0187)	H- 94- 4	UnAssessed
Gilmore Pond (1302-0145)	H- 31-P44-36-P124h	UnAssessed
Glass Lake (1301-0042)	H-235-P386- 1-P394	MinorImpacts
Glass Pond (1311-0003)	H-221- 4- 8-P266	Need Verific
Glenmere Lake (1306-0077)	H-139-13-59-P668	UnAssessed
Glenwood Lake (1301-0189)	H- 94-P338b	UnAssessed
Goose Pond (1308-0024)	H-188-64-P904	UnAssessed
Goshen Reservoir (1303-0026)	H- 89-20-17-P304b	UnAssessed
Goshen Reservoir (1306-0076)	H-139-13-53-P623	UnAssessed
Gravel Pond (1301-0266)	H-236-22- 9-P440	UnAssessed
Great Spring Brook and tribs (1305-0030)	H-101-12	NoKnownImpct
Greens Lake (1309-0018)	H-193- 7-P924	UnAssessed
Gregory Pond (1301-0146)	H- 55- 6-P170a	UnAssessed
Haines Pond (1302-0128)	H- 31-P44-24- P89- 7-P92	UnAssessed
Halcyon Pond (1305-0028)	H-101-38-P407	UnAssessed
Hallocks Mill Brook, Upper, and tribs (1302-0052)	H- 31-P44-14- 1	UnAssessed
Hampton Manor Lake (1301-0077)	H-222-P297	MinorImpacts
Hannacrois Creek, Lower, and tribs (1301-0230)	H-212	NoKnownImpct
Hannacrois Creek, Middle, and tribs (1301-0020)	H-212	Need Verific
Hannacrois Creek, Upper, and tribs (1301-0231)	H-212	UnAssessed
Hardscrabble Lake (1301-0112)	H- 20- 9- 2a-P32a	UnAssessed
Heddens Lake (1306-0049)	H-139-13-19- 1-P463a	UnAssessed
Helderberg Lake (1301-0029)	H-214-10-P207a	Need Verific
Hell Hollow Creek, Upper, and tribs (1304-0015)	H- 95- 5- 2	UnAssessed
Hessian Lake (1301-0159)	H- 60-P184	UnAssessed
Hicks Pond (1301-0269)	H-236-24- 2-P443	UnAssessed
Hicks/Lincoln Pond (1309-0032)	H-193-41-P954- 2-P955	UnAssessed
Highland Brook and tribs (1301-0172)	H- 71	MinorImpacts
Hillside Lake (1304-0001)	H- 95-10- 1b-P345g	Impaired Seg
Hollster Lake (1309-0007)	H-193- 1-P913	Need Verific
Holly Stream and tribs (1302-0125)	H- 31-P44-24- 1	MinorImpacts
Homowack Kill and tribs (1306-0122)	H-139-14-38-14	NoKnownImpct
Honk Lake (1306-0090)	H-139-14 (portion 3)/P812	UnAssessed
Hosford Pond (1301-0265)	H-236-22- 7-P437	UnAssessed
Howlands Lake (1302-0147)	H- 31-P44-43-P127	UnAssessed
Hudson River (Class A) (1301-0001)	H (portion 4a)	Impaired Seg
Hudson River (Class A) (1301-0276)	H (portion 4b)	Impaired Seg
Hudson River (Class B) (1301-0003)	H (portion 3)	Impaired Seg
Hudson River (Class C) (1301-0002)	H (portion 5)	Impaired Seg
Hudson River (Class I) (1301-0006)	H (portion 1)	Impaired Seg
Hudson River (Class SB), portion (1301-0005)	H (portion 2a)	Impaired Seg
Hudson River (Class SB), portion (1301-0094)	H (portion 2b)	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Hunter Brook, Lower, and tribs (1302-0047)	H- 31-P44- 2	NoKnownImpct
Hunter Brook, Upper, and tribs (1302-0048)	H- 31-P44- 2	NoKnownImpct
Indian Brook Reservoir (1302-0067)	H- 31- 2-P42b	UnAssessed
Indian Brook and tribs (1301-0175)	H- 77	UnAssessed
Indian Lake (1301-0143)	H- 55- 2- 4-P167	NoKnownImpct
Indigot Creek, Lower, and tribs (1306-0085)	H-139-13-62- 3	NoKnownImpct
Indigot Creek, Upper, and tribs (1306-0086)	H-139-13-62- 3	UnAssessed
Island Creek and minor tribs (1311-0020)	H-221	UnAssessed
Jackson Creek and tribs (1304-0023)	H- 95-10- 2	NoKnownImpct
Jan DeBakkers Kill and tribs (1309-0026)	H-193-19	UnAssessed
Jaycox Pond (1301-0178)	H- 83- 3-P216	UnAssessed
Jordan Pond (1304-0019)	H- 95- 5- 6-P345cc	UnAssessed
Journeys End Lake (1302-0149)	H- 31-P44-51-P128e	UnAssessed
Kaaterskill Cr, Lower, and tribs (1309-0006)	H-193- 2	UnAssessed
Kaaterskill Cr, Upper, and minor tribs (1309-0013)	H-193- 2	UnAssessed
Katz Pond (1306-0123)	H-139-14-38-20-3-P806a	UnAssessed
Kenozia Lake (1307-0030)	H-171/P848-11-P851	UnAssessed
Kinderhook Creek, Lower, and minor tribs (1310-0021)	H-204- 2	MinorImpacts
Kinderhook Creek, Middle, and mnr tribs (1310-0017)	H-204- 2	NoKnownImpct
Kinderhook Creek, Upper, and minor tribs (1310-0022)	H-204- 2	NoKnownImpct
Kinderhook Lake (1310-0002)	H-204- 2- 7-P24	Impaired Seg
Kingston Reservoir 4 (1307-0021)	H-171-17- 7-P837a	UnAssessed
Kingston Reservoirs 1 and 2 (1307-0020)	H-171-17 P837,P838a	UnAssessed
Kirk Lake (1302-0080)	H- 31-P44-14- 7-P52	MinorImpacts
Kisatom Brook and tribs (1309-0016)	H-193- 2-18	UnAssessed
Kisco River, Lower, and tribs (1302-0060)	H- 31-P44-43	NoKnownImpct
Kisco River, Upper, and tribs (1302-0061)	H- 31-P44-43	Impaired Seg
Klein Kill and tribs (1308-0012)	H-188- 2	NoKnownImpct
Kleine Kill and tribs (1306-0043)	H-139-13-11- 4	UnAssessed
Kline Kill and tribs (1310-0028)	H-204- 2- 9	NoKnownImpct
Knickerbocker Lake (1301-0237)	H-215- 3- 4-P211	UnAssessed
Kripplebush Creek and tribs (1306-0099)	H-139-14-12	NoKnownImpct
Krum Kill, Upper, and tribs (1311-0004)	H-221- 4- 3	Impaired Seg
Lake Awosting (1306-0102)	H-139-14-16-P781	UnAssessed
Lake Boyce (1301-0135)	H- 48a-P159a	UnAssessed
Lake Carmel (1302-0006)	H- 31-P44-23-P59- 6-P62..P62a	Impaired Seg
Lake Casse (1302-0100)	H- 31-P44-23-P59- 2- 4- P59b	UnAssessed
Lake Celeste (1301-0142)	H- 55- 2- 3-P166	Need Verific
Lake Charles (1302-0129)	H- 31-P44-24-18-P89d	UnAssessed
Lake Elizabeth, White Lily Pond (1301-0259)	H-236-13-13-P428a,P429	UnAssessed
Lake Frederick (1303-0019)	H- 89- 7-10-P231f	UnAssessed
Lake Gilead (1302-0024)	H- 31-P44-23-P59- 3-P61	MinorImpacts
Lake Gilead Outlet (1302-0102)	H- 31-P44-23-P59- 3	UnAssessed
Lake Gleneida (1302-0025)	H- 31-P44-23..P67..P74	MinorImpacts
Lake Katonah (1302-0136)	H- 31-P44-31- 3-P107a	MinorImpacts
Lake Katrine (1307-0028)	H-171-P832	UnAssessed
Lake Kitchawan (1302-0002)	H- 31-P44-35-P109- 6- 7-P114	MinorImpacts
Lake Lincolndale (1302-0089)	H- 31-P44-17- 5-P57a	Impaired Seg
Lake Mahopac (1302-0007)	H- 31-P44-14-P53	NoKnownImpct
Lake Maratanza (1306-0055)	H-139-13-19-10- 5-P471	UnAssessed
Lake Meahagh (1301-0053)	H- 49a-P160	Impaired Seg
Lake Minnewaska (1306-0098)	H-139-14- 9-P775	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Lake Mohegan (1301-0149)	H- 55-11-P179	Impaired Seg
Lake Oniad (1305-0017)	H-101- 4- 2- 1-P366b	UnAssessed
Lake Oscaleta, Lake Rippowam (1302-0141)	H- 31-P44-35-P109- 6..P118,P119	MinorImpacts
Lake Osiris Lake (1306-0067)	H-139-13-31- 1a-P546	UnAssessed
Lake Ossi (1301-0156)	H- 55-20-P183d	MinorImpacts
Lake Peekskill (1301-0147)	H- 55- 7-P171	MinorImpacts
Lake Shenorock (1302-0083)	H- 31-P44-14-P50- 2- P50a	Impaired Seg
Lake Surprise (1301-0180)	H- 86-P220	UnAssessed
Lake Taghkanic (1308-0014)	H-188-18-P869	UnAssessed
Lake Tibet (1301-0034)	H- 55-P183e	MinorImpacts
Lake Tiorati (1301-0129)	H- 43-P152	UnAssessed
Lake Tiorati Brook, Low, and minor tribs (1301-0062)	H- 43	NoKnownImpct
Lake Tiorati Brook, Upper, and tribs (1301-0119)	H- 43	UnAssessed
Lake Tompkins (1301-0126)	H- 43- 4-P150i	NoKnownImpct
Lake Tonetta (1302-0014)	H- 31-P44-24- 3-P85	Need Verific
Lake Valhalla (1304-0016)	H- 95- 5- 2-P345k	UnAssessed
Lake Waccabuc (1302-0140)	H- 31-P44-35-P109- 6-P117	NoKnownImpct
Lake Walton (1304-0025)	H- 95-11a-P345y	UnAssessed
Lake Washington (1303-0012)	H- 89- 2-P225	UnAssessed
Lake Welch (1301-0124)	H- 43- 1-11-P150c	UnAssessed
Landsman Kill and minor tribs (1301-0209)	H-136	MinorImpacts
Laths Pd, Loch Lyall, Catfish, Duck Pds (1301-0176)	H- 77-P206, P207a,P207b,P207c	UnAssessed
Latterette Creek, Upper, and tribs (1306-0065)	H-139-13-28	UnAssessed
Lattintown Creek and tribs (1301-0193)	H-103	NoKnownImpct
Lawson Lake (1301-0235)	H-214-10- 4-P207	UnAssessed
Leetown Pd, Lk Winham, L.Buck Mt.Pd. (1302-0120)	H- 31-P44-23..P76..P76a/e	UnAssessed
Leuren Kill and tribs (1306-0121)	H-139-14-38- 9	UnAssessed
Lily Pond (1301-0206)	H-128- 4-P436	UnAssessed
Lily Pond (1308-0015)	H-188-18-P869- 3-P870	UnAssessed
Little Beaverkill and tribs (1307-0031)	H-171/P848-42	UnAssessed
Little Bowman Pond (1310-0038)	H-204- 2-18-P68	UnAssessed
Little Pond (1302-0130)	H- 31-P44-24-19-P94	UnAssessed
Little Shawangunk Kill and tribs (1306-0059)	H-139-13-19-28	NoKnownImpct
Little Wappingers Cr, Lower, and tribs (1305-0019)	H-101-18	NoKnownImpct
Little Wappingers Cr, Upper, and tribs (1305-0020)	H-101-18	UnAssessed
Littles Lake (1301-0248)	H-231-P355	UnAssessed
Lk Massawippa, Lk Teata, L/Up Twin Lks (1301-0167)	H- 61..P188..P188a/b,P189,P190	UnAssessed
Lochenhurst Pond (1306-0087)	H-139-13-62-10-P743	UnAssessed
Long House Creek, Upper, and tribs (1306-0082)	H-139-13-61- 9-25	UnAssessed
Long Pond (1301-0162)	H- 61- 6-P186	UnAssessed
Long Pond (1305-0003)	H-101-18-11-P375	Need Verific
Long Pond, Dixon Lake, Lockwood Pond (1302-0114)	H- 31-P44-23..P67..P69toP	UnAssessed
Long Pond, Lower/Upper Rhoda Ponds (1308-0018)	H-188-55-P887,P888,P889	UnAssessed
Lost Lake, Putnam Lake (1302-0053)	H- 31-P44-24-17-P93a,P93b	MinorImpacts
Lounsbury, Peterson Ponds (1301-0137)	H- 51-P161e/P161g	UnAssessed
Lusk Reservoir (1301-0174)	H- 74-P204	UnAssessed
Lyons Lake (1306-0111)	H-139-14-35- 1-P789a	UnAssessed
Lyons Pond, Smith Pond (1310-0025)	H-204- 2- 7-P34- 1-P35,P35a	UnAssessed
Lyonsville Pond (1306-0105)	H-139-14-18-P783	UnAssessed
Mannayunk Kill and tribs (1306-0070)	H-139-13-41	NoKnownImpct
Marx Pond (1301-0207)	H-128- 4-P436b	UnAssessed
Masonic Creek and tribs (1306-0072)	H-139-13-51	MinorImpacts

Waterbody/Segment (ID)	Water Index Number	Category
Melzing Reservoir (1301-0183)	H- 92-P331	UnAssessed
Mendel P, Wonder L, Ice P, Brewster P (1302-0132)	H- 31-P44-24-25..P97c,P97d,P98,P99b	UnAssessed
Merwin Lake (1310-0050)	H-204- 3- 1-P12	UnAssessed
Middle Branch Croton R, Lower (1302-0104)	H- 31-P44-23-P59- 6 (portion 1)	NoKnownImpct
Middle Branch Croton R, Middle, and trib (1302-0105)	H- 31-P44-23-P59- 6 (portion 3)	NoKnownImpct
Middle Branch Croton R, Upper, and tribs (1302-0106)	H- 31-P44-23-P59- 6 (portion 4)	NoKnownImpct
Middle Branch Reservoir (1302-0009)	H- 31-P44-23-P59- 6 (portion 2)/P62	Impaired Seg
Milburn Creek, Upper, and tribs (1306-0071)	H-139-13-47	UnAssessed
Mill Brook and tribs (1306-0108)	H-139-14-20- 2	Need Verific
Mill Creek and tribs (1301-0093)	H-209	MinorImpacts
Mill Creek and tribs (1301-0246)	H-224	NoKnownImpct
Mill Pond (1302-0072)	H- 31-P44- 2-P49a	UnAssessed
Mill Pond (1311-0026)	H-221- 4-P289	UnAssessed
Mill Pond, Second Pond, Long Pond (1301-0258)	H-236-13-11-P426,P427,P428	NoKnownImpct
Miller Pond (1305-0027)	H-101-31- 4- 2-P405	UnAssessed
Miller Pond (1308-0019)	H-188-56-P891	UnAssessed
Miniscenongo Creek and minor tribs (1301-0089)	H- 43- 1	Need Verific
Mink Hollow Brook and tribs (1307-0034)	H-171/P848-43	UnAssessed
Minor Tribs to Amawalk Reservoir (1302-0082)	H- 31-P44-14-P50-	UnAssessed
Minor Tribs to Ashokan Reservoir (1307-0005)	H-171/P848- 1 thru 12 (selected)	UnAssessed
Minor Tribs to Cross River Reservoir (1302-0138)	H- 31-P44-35-P109-	UnAssessed
Minor Tribs to Croton Falls Reservoir (1302-0098)	H- 31-P44-23-P59- 1 thru 2	UnAssessed
Minor Tribs to Croton Falls Reservoir (1302-0001)	H- 31-P44-23-P59- 4 thru 10	Impaired Seg
Minor Tribs to East of Hudson (1301-0104)	H- 7 thru 18, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0117)	H- 24 thru 27, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0133)	H- 46 thru 59, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0168)	H- 62 thru 92, EOH (selected)	MinorImpacts
Minor Tribs to East of Hudson (1301-0192)	H- 98 thru 99, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0197)	H-105a thru 140, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0212)	H-141 thru 186, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0222)	H-189 thru 203, EOH	UnAssessed
Minor Tribs to East of Hudson (1301-0226)	H-207 thru 218, EOH (selected)	UnAssessed
Minor Tribs to East of Hudson (1301-0245)	H-222 thru 232, EOH (selected)	UnAssessed
Minor Tribs to Lake Carmel (1302-0108)	H- 31-P44-23-P59- 6-P62..P62a-	UnAssessed
Minor Tribs to Lower Croton River (1302-0066)	H- 31- 1 thru 6	UnAssessed
Minor Tribs to Lower Esopus Creek (1307-0012)	H-171- 2 thru 21 (selected)	UnAssessed
Minor Tribs to Lower Lower Wallkill (1306-0040)	H-139-13- 3 thru 18	UnAssessed
Minor Tribs to Lower Rondount River (1306-0032)	H-139- 2 thru 6	UnAssessed
Minor Tribs to Lower Sparkill Creek (1301-0107)	H- 13- 2 thru 3	UnAssessed
Minor Tribs to Middle Branch Reseroir (1302-0107)	H- 31-P44-23-P59- 6-P62-	UnAssessed
Minor Tribs to Middle Rondout Creek (1306-0093)	H-139-14- 4 thru 33 (selected)	UnAssessed
Minor Tribs to Middle Wallkill (1306-0061)	H-139-13-20 thru 53	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0068)	H- 31-P44- 1 thru 1a	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0074)	H- 31-P44- 2a thru 13	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0086)	H- 31-P44-15 thru 16a	NoKnownImpct
Minor Tribs to New Croton Reservoir (1302-0091)	H- 31-P44-18 thru 22	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0134)	H- 31-P44-25 thru 33	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0146)	H- 31-P44-37 thru 42	UnAssessed
Minor Tribs to New Croton Reservoir (1302-0148)	H- 31-P44-44 thru 55	NoKnownImpct
Minor Tribs to Rondout Reservoir (1306-0014)	H-139-14-P815a-	MinorImpacts
Minor Tribs to Upper Sparkill Creek (1301-0108)	H- 13- 6 thru 13	UnAssessed
Minor Tribs to West Branch Reservoir (1302-0113)	H- 31-P44-23..P67-	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Minor Tribs to West of Hudson (1301-0105)	H- 8 thru 12, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0116)	H- 21 thru 23, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0134)	H- 48 thru 60, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0169)	H- 63 thru 88, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0191)	H- 96 thru 100, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0194)	H-104 thru 125, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0213)	H-145 thru 175, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0220)	H-172 thru ??, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0221)	H-178 thru 192, WOH	UnAssessed
Minor Tribs to West of Hudson (1301-0223)	H-196 thru 207, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0238)	H-216 thru 220, WOH (selected)	UnAssessed
Minor Tribs to West of Hudson (1301-0027)	H-228a thru 237, WOH	Impaired Seg
Mirror Lake, Esopus Lake (1301-0205)	H-128- 2-P433,P434	UnAssessed
Mohansic Lake (1302-0078)	H- 31-P44-14- 1-P48- 3-P49	UnAssessed
Mohonk Lake (1306-0097)	H-139-14- 9- 3..P774	UnAssessed
Monhagen Brook and tribs (1306-0074)	H-139-13-52	Impaired Seg
Monhagen Lake (1306-0075)	H-139-13-52-P598	NoKnownImpct
Moodna Creek, Lower, and minor tribs (1303-0010)	H- 89	NoKnownImpct
Moodna Creek, Upper, and minor tribs (1303-0011)	H- 89	MinorImpacts
Moordener Kill and minor tribs (1301-0243)	H-219- 1	NoKnownImpct
Morgan Lake (1301-0198)	H-114..P418	UnAssessed
Moules Lake (1301-0250)	H-235- 8-P374	UnAssessed
Muchattoes Lake (1301-0188)	H- 94- P333	UnAssessed
Mud Lake, Clear Lake (1301-0148)	H- 55- 8-P175..P176,P177	UnAssessed
Mud Pond (1302-0101)	H- 31-P44-23-P59- 2-P60	UnAssessed
Mud Pond (1305-0021)	H-101-18-13-P378- 1-P379	UnAssessed
Mud Pond (1306-0101)	H-139-14-16- 2-P780	UnAssessed
Mud Pond Brook and tribs (1302-0099)	H- 31-P44-23-P59- 2	UnAssessed
Muddy Brook and tribs (1302-0011)	H- 31-P44-24-25	Need Verific
Murders Creek and tribs (1301-0225)	H-202	UnAssessed
Muscoot River, Lower, and minor tribs (1302-0049)	H- 31-P44-14	Impaired Seg
Muscoot River, Upper, and tribs (1302-0050)	H- 31-P44-14	NoKnownImpct
Muscoot/Upper New Croton Reservoir (1302-0042)	H- 31-P44 (portion 2)	Impaired Seg
Myosotis Lake (1309-0031)	H-193-41-P954	UnAssessed
Nassau Lake (1310-0001)	H-204- 2- 7-P34	Impaired Seg
New Croton Reservoir (1302-0010)	H- 31-P44 (portion 1)	Impaired Seg
Normans Kill, Lower, and minor tribs (1311-0010)	H-221- 4 (portion 1)	MinorImpacts
Normans Kill, Middle, and tribs (1311-0002)	H-221- 4 (portion 2)	MinorImpacts
Normans Kill, Upper, and tribs (1311-0018)	H-221- 4 (portion 4)	UnAssessed
Normans Kill, Upper, and tribs (1311-0005)	H-221- 4 (portion 5)	UnAssessed
North Br Minisceongo Cr, Low, and tribs (1301-0120)	H- 43- 1-11	UnAssessed
North Br Minisceongo Cr, Upp, and tribs (1301-0121)	H- 43- 1-11	UnAssessed
North Branch Moordener Kill and tribs (1301-0244)	H-219- 1- 4	UnAssessed
North Creek and tribs (1310-0061)	H-204- 3-16	NoKnownImpct
North Peters Kill, Lower, and tribs (1306-0103)	H-139-14-18	NoKnownImpct
North Peters Kill, Upper, and tribs (1306-0104)	H-139-14-18	UnAssessed
Nuclear Lake (1304-0032)	H- 95-19- 4- 4a-P351n	UnAssessed
Oceola Lake (1301-0150)	H- 55-12-P182	UnAssessed
Onesquethaw Creek and tribs (1301-0233)	H-214-10	NoKnownImpct
Onteora Lake (1307-0025)	H-171-25-P845	UnAssessed
Orange Lake (1301-0008)	H- 94- 6-P340	Impaired Seg
Orange Rockland Lake (1303-0023)	H- 89-17-P239d	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Oscawana Lake (1301-0035)	H- 55- 8-P175	Impaired Seg
Otter Kill/Black Meadow Creek and tribs (1303-0025)	H- 89-20	Threatened
Pakanasink Creek, Upper, and tribs (1306-0053)	H-139-13-19- 9	UnAssessed
Palmaghatt Kill, Upper, and tribs (1306-0050)	H-139-13-19- 5	UnAssessed
Palmer Lake (1302-0103)	H- 31-P44-23-P59- 5-P61a	UnAssessed
Papscanee Creek and minor tribs (1301-0242)	H-219	UnAssessed
Patroon Creek and tribs (1301-0030)	H-226	Impaired Seg
Pea Pond (1302-0142)	H- 31-P44-35-P109-11-P120	UnAssessed
Peach Lake (1302-0004)	H- 31-P44-24- P89-10-P93	Impaired Seg
Peckermans Pond (1303-0020)	H- 89- 7-P232	UnAssessed
Peekskill Hollow Cr, Low, and mnr tribs (1301-0049)	H- 55	NoKnownImpct
Peekskill Hollow Cr, Middle, and tribs (1301-0138)	H- 55	NoKnownImpct
Peekskill Hollow Cr, Upper, and tribs (1301-0139)	H- 55	NoKnownImpct
Penneywater pond (1304-0026)	H- 95-12a-P349	UnAssessed
Peters Kill and tribs (1306-0100)	H-139-14-16	NoKnownImpct
Philmont Pond (1310-0059)	H-204- 3-P126	UnAssessed
Philmont Reservoir (1310-0057)	H-204- 3-22-P129	UnAssessed
Pikes/Mud Pond (1310-0027)	H-204- 2- 7-P40	UnAssessed
Pine Pond (1302-0116)	H- 31-P44-23..P67..P72	UnAssessed
Pinebush Lake (1306-0056)	H-139-13-19-13-P471a	UnAssessed
Platte Kill and tribs (1306-0044)	H-139-13-16	NoKnownImpct
Platte Kill/Halliday Brook and tribs (1306-0057)	H-139-13-19-15	UnAssessed
Plattekill Creek, Lower, and minor tribs (1307-0013)	H-171-11	NoKnownImpct
Plattekill Creek, Upper, and tribs (1307-0014)	H-171-11	UnAssessed
Plum Brook, Lower, and tribs (1302-0087)	H- 31-P44-17	NoKnownImpct
Plum Brook, Upper, and tribs (1302-0088)	H- 31-P44-17	NoKnownImpct
Pocantico Lake (1301-0114)	H- 20-P30	UnAssessed
Pocantico River, Lower, and tribs (1301-0109)	H- 20	Need Verific
Pocantico River, Middle, and tribs (1301-0110)	H- 20	UnAssessed
Pocantico River, Upper, and tribs (1301-0111)	H- 20	UnAssessed
Pochuck Creek and minor tribs (1306-0078)	H-139-13-61	NoKnownImpct
Poesten Kill, Lower, and minor tribs (1301-0068)	H-236	NoKnownImpct
Poesten Kill, Upper, and tribs (1301-0255)	H-236	NoKnownImpct
Popolopen Creek and tribs (1301-0160)	H- 61	Need Verific
Popolopen Lake (1301-0164)	H- 61-P188- 2-P191	UnAssessed
Potic Creek, Lower, and tribs (1309-0019)	H-193- 9	NoKnownImpct
Potic Creek, Middle, and tribs (1309-0020)	H-193- 9	UnAssessed
Potic Creek, Upper, and tribs (1309-0021)	H-193- 9	UnAssessed
Potuck Reservoir (1309-0024)	H-193- 9- 2-P925a	UnAssessed
Punch Brook and tribs (1308-0020)	H-188-57	UnAssessed
Quacken Kill, Lower, and tribs (1301-0256)	H-236-13	NoKnownImpct
Quacken Kill, Upper, and tribs (1301-0257)	H-236-13	NoKnownImpct
Quaker Creek and tribs (1306-0025)	H-139-13-59	Impaired Seg
Quassaic Creek, Lower, and minor tribs (1301-0079)	H- 94	MinorImpacts
Quassaic Creek, Middle, and tribs (1301-0184)	H- 94	UnAssessed
Quassaic Creek, Upper, and tribs (1301-0185)	H- 94	UnAssessed
Queechy Lake (1310-0033)	H-204- 2-10-P57	NoKnownImpct
Queensboro Lk, Turkey Hill Pd, others (1301-0056)	H- 61- 2-P184b thru j	Need Verific
Racquet Lake (1301-0251)	H-235-13-P382	UnAssessed
Ray Lake (1302-0133)	H- 31-P44-24-35-P89u	UnAssessed
Red Hook Mills Pond (1301-0217)	H-158-P823	UnAssessed
Red Mills Pond (1310-0058)	H-204- 3-P116	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Rensselaer Lake (1301-0247)	H-226-P336	UnAssessed
Rhinebeck Kill and tribs (1301-0210)	H-136- 6	MinorImpacts
Roaring Brook Lake (1301-0037)	H- 55-18-P183a	MinorImpacts
Robinson Pond (1308-0003)	H-188-P902	Impaired Seg
Rochester Creek and minor tribs (1306-0107)	H-139-14-20	NoKnownImpct
Roeliff Jan Kill, Lower, and minor tribs (1308-0010)	H-188	NoKnownImpct
Roeliff Jan Kill, Mid, and minor tribs (1308-0011)	H-188	NoKnownImpct
Roeliff Jan Kill, Upper, and tribs (1308-0002)	H-188	Need Verific
Rondout Creek, Middle, Main Stem (1306-0088)	H-139-14 (portion 1)	NoKnownImpct
Rondout Creek, Middle, and minor tribs (1306-0089)	H-139-14 (portion 2)	NoKnownImpct
Rondout Creek, Middle, and tribs (1306-0091)	H-139-14 (portion 4)	NoKnownImpct
Rondout Creek, Upper, and minor tribs (1306-0026)	H-139-14 (portion 6)	NoKnownImpct
Rondout Creek, Upper, and minor tribs (1306-0092)	H-139-14 (portion 7)	MinorImpacts
Rondout Reservoir (1306-0003)	H-139-14 (portion 5)/P815a	Impaired Seg
Rondout River, Lower, Main Stem (1306-0030)	H-139 (portion 1)	UnAssessed
Rondout River, Lower, Main Stem (1306-0031)	H-139 (portion 2)	UnAssessed
Roosa Lake (1306-0109)	H-139-14-20- 5- 1-P788	UnAssessed
Round Pond (1301-0163)	H- 61- 6-P187	UnAssessed
Round Pond (1305-0024)	H-101-21- 7-P395	UnAssessed
Round Pond (1301-0211)	H-136-P446	UnAssessed
Round Pond (1310-0044)	H-204- 2-36- 4- 1-P80	NoKnownImpct
Rutgers Creek and minor tribs (1306-0006)	H-139-13-62	NoKnownImpct
Ryder Pond, Hunns Lake (1305-0004)	H-101-30..P401,P403	Need Verific
Sagamore Lake (1302-0096)	H- 31-P44-23 (portion 8)/P76j	NoKnownImpct
Salt Kill and tribs (1301-0275)	H-239	Need Verific
Sandburg Creek, Lower, and tribs (1306-0113)	H-139-14-38	NoKnownImpct
Sandburg Creek, Upper, and tribs (1306-0114)	H-139-14-38	UnAssessed
Saw Kill and tribs (1301-0085)	H-158	NoKnownImpct
Saw Kill, Lower, and tribs (1307-0017)	H-171-17	NoKnownImpct
Saw Kill, Middle, and tribs (1307-0018)	H-171-17	UnAssessed
Saw Kill, Upper, adn tribs (1307-0019)	H-171-17	UnAssessed
Saw Mill River, Lower, and tribs (1301-0007)	H- 4	Impaired Seg
Saw Mill River, Middle, and tribs (1301-0100)	H- 4	Impaired Seg
Saw Mill River, Upper, and tribs (1301-0101)	H- 4	Impaired Seg
Schodack Creek/Muitzes Kill and tribs (1301-0236)	H-215	UnAssessed
Secor Lake (1302-0079)	H- 31-P44-14- 4-P51	UnAssessed
Sepasco Lake (1301-0214)	H-158-13- 3-P826	MinorImpacts
Seven Hills Lake (1302-0121)	H- 31-P44-23..P76..P77c	UnAssessed
Shadow Lake, Hillside Lake (1303-0018)	H- 89- 7- 7-P231a,P231b	UnAssessed
Shaver Pond (1308-0023)	H-188-63-P903	NoKnownImpct
Shaver Pond (1301-0261)	H-236-13-P424	UnAssessed
Shaw Pond (1305-0026)	H-101-21-P396	UnAssessed
Shawangunk Kill, Lower, and minor tribs (1306-0045)	H-139-13-19	NoKnownImpct
Shawangunk Kill, Middle, and minor tribs (1306-0046)	H-139-13-19	NoKnownImpct
Shawangunk Kill, Middle, and tribs (1306-0047)	H-139-13-19	NoKnownImpct
Shawangunk Kill, Upper, and tribs (1306-0048)	H-139-13-19	UnAssessed
Shawangunk Lake/Highland Lake (1306-0060)	H-139-13-19-28-P491,P492	NoKnownImpct
Shekomeko Creek and tribs (1308-0017)	H-188-39	NoKnownImpct
Shingle Gully, North/South Gully, tribs (1306-0115)	H-139-14-38- 1,-5,-6	UnAssessed
Shingle Kill and tribs (1309-0008)	H-193-20	NoKnownImpct
Shooks Pond (1301-0215)	H-158-13-P825	UnAssessed
Silver Lake (1305-0002)	H-101-18-13-P378	Need Verific

Waterbody/Segment (ID)	Water Index Number	Category
Silver Lake (1306-0073)	H-139-13-51-P579a	UnAssessed
Silver/Woods Lake (1306-0124)	H-139-14-38-P807	UnAssessed
Sing Sing Creek and tribs (1301-0118)	H- 28	MinorImpacts
Sleepy Hollow Lake (1301-0059)	H-202-P8f	Impaired Seg
Smith Pond (1310-0009)	H-204- 2- 9- 1-P42	MinorImpacts
Snyder Pond (1308-0022)	H-188-60-P901	UnAssessed
Snyders Lake (1301-0043)	H-235-11-P377	MinorImpacts
South Br Minisceongo Creek and tribs (1301-0090)	H- 43- 1-10	UnAssessed
South Lake, North Lake (1309-0017)	H-193- 2-P921,P922	Impaired Seg
Southerland Pond (1310-0032)	H-204- 2-10- 2-P52	UnAssessed
Sparkill Creek, Lower (1301-0088)	H- 13	Impaired Seg
Sparkill Creek, Upper, and minor tribs (1301-0106)	H- 13	MinorImpacts
Sparkle Lake (1302-0076)	H- 31-P44-14- 1- 6- 1- 1-P47a	UnAssessed
Spring Lake (1307-0024)	H-171-22-P843	UnAssessed
Spring Lake (1310-0045)	H-204- 2-36- 4-P81	NoKnownImpct
Spring Lakes (1301-0218)	H-158-P829,P830	UnAssessed
Sprout Creek, Lower, and tribs (1304-0021)	H- 95-10	NoKnownImpct
Sprout Creek, Upper, and tribs (1304-0022)	H- 95-10	NoKnownImpct
Staatsburg Reservoir, Browns Pond (1301-0201)	H-124-P425,P426	UnAssessed
Stillwater Pond (1301-0155)	H- 55-17-P183a..P183c	UnAssessed
Stillwell Lake, Mine Lake (1301-0166)	H- 61..P187a,P188	UnAssessed
Stockport Creek and minor tribs (1310-0020)	H-204	UnAssessed
Stone Bridge Pond (1310-0041)	H-204- 2-35-P79a	UnAssessed
Stone Hill River, Lower, and tribs (1302-0059)	H- 31-P44-36	Need Verific
Stone Hill River, Upper, and tribs (1302-0143)	H- 31-P44-36	UnAssessed
Stone Ridge Pond (1307-0027)	H-171-30-P846	UnAssessed
Stony Clove Brook and tribs (1307-0008)	H-171/P848-45	NoKnownImpct
Stony Creek and tribs (1307-0026)	H-171-28	UnAssessed
Stony Creek, Lower, and tribs (1301-0219)	H-164	MinorImpacts
Stony Kill and tribs (1306-0106)	H-139-14-19	UnAssessed
Stony Kill and tribs (1310-0031)	H-204- 2-10	UnAssessed
Stump Pond (1302-0109)	H- 31-P44-23-P59- 6-P62..P62a..P63	UnAssessed
Stump Pond (1310-0042)	H-204- 2-35-P79d	UnAssessed
Sturgeon Pond (1306-0037)	H-139-13 (portion 1)/P453a	UnAssessed
Sutherland Pond (1303-0015)	H- 89- 7- 4-P228	UnAssessed
Swarte Kill and tribs (1306-0039)	H-139-13- 2	UnAssessed
Sylvan Lake (1304-0029)	H- 95-14-P354	MinorImpacts
Sylvan Lake Outlet and tribs (1304-0028)	H- 95-14	UnAssessed
Tackawasic Creek, Lower, and tribs (1310-0035)	H-204- 2-18	NoKnownImpct
Tackawasic Creek, Upper, and tribs (1310-0036)	H-204- 2-18	UnAssessed
Tackawasick Lake (1310-0037)	H-204- 2-18-P65	UnAssessed
Taghkanic Creek, Lower, and tribs (1310-0015)	H-204- 3- 8	Threatened
Taghkanic Creek, Middle, and tribs (1310-0051)	H-204- 3- 8	NoKnownImpct
Taghkanic Creek, Upper, and tribs (1310-0052)	H-204- 3- 8	UnAssessed
Taplin Pond (1310-0040)	H-204- 2-30-P79	UnAssessed
Tarrytown Reservoir (1301-0102)	H- 4-17-P15b	UnAssessed
Teakettle Sprout Lake (1302-0090)	H- 31-P44-17- 6a-P57c	UnAssessed
Teatown Lake (1302-0150)	H- 31-P44-54-P128a	Impaired Seg
Ten Mile Creek and tribs (1309-0030)	H-193-41	NoKnownImpct
The Vlaie (1309-0035)	H-193-P960b	UnAssessed
Third, First Binnewater Lakes, Twin Lk (1306-0036)	H-139- 7-P449-P452,P452,P452a	UnAssessed
Thompson, Stissing, Mud/Twin Isl Ponds (1305-0010)	H-101-P408,P409,P410	Need Verific

Waterbody/Segment (ID)	Water Index Number	Category
Thompsons Lake (1311-0007)	H-221- 4-P270- 1- 1- 2-P274	NoKnownImpct
Thorp Creek and tribs (1309-0029)	H-193-33	UnAssessed
Tillson Lake (1306-0051)	H-139-13-19- 5-P464a	UnAssessed
Tin Brook, Lower, and tribs (1306-0068)	H-139-13-33	MinorImpacts
Tin Brook, Upper, and tribs (1306-0069)	H-139-13-33	UnAssessed
Titicus Reservoir (1302-0035)	H- 31-P44-26/P103	Impaired Seg
Titicus River, Lower (1302-0034)	H- 31-P44-26	UnAssessed
Tomahawk Lake (1303-0024)	H- 89-19-P240d	UnAssessed
Triangle Lake (1309-0033)	H-193-56- 3-P956	UnAssessed
Tribs of Lake Mahopac (1302-0084)	H- 31-P44-14-P53- 1	UnAssessed
Tribs of Secor and Kirk Lakes (1302-0081)	H- 31-P44-14- 7-P52- and 4-P51-	UnAssessed
Tribs to Bog Brook Reservoir (1302-0126)	H- 31-P44-24- 9-P86-	UnAssessed
Tribs to Burden Lake (1301-0253)	H-235-P386-	UnAssessed
Tribs to DeWitt Lake (1306-0035)	H-139- 7-P449-	UnAssessed
Tribs to East Branch Reservoir (1302-0127)	H- 31-P44-24- P89-	UnAssessed
Tribs to Sagamore Lake (1302-0097)	H- 31-P44-23 (portion 8)/P76j-	UnAssessed
Tribs to Stump Pond (1302-0110)	H- 31-P44-23-P59- 6-P62..P62a..P63-	UnAssessed
Tribs to Titicus Reservoir (1302-0135)	H- 31-P44-26/P103-	NoKnownImpct
Tribs to Wiccopee Reservoir (1301-0154)	H- 55-17-P183a-	UnAssessed
Troy Reservoir (1301-0274)	H-238-P459	UnAssessed
Truesdale Lake (1302-0054)	H- 31-P44-35-P109- 6-13-P115a	Impaired Seg
Twaalfskill Creek and tribs (1301-0199)	H-116	MinorImpacts
Twin Lakes (1302-0069)	H- 31-P44- 1-P45a/P45b	UnAssessed
Twin Lakes (1308-0016)	H-188-18a-P871,P872	UnAssessed
Tyrell Lake (1304-0024)	H- 95-10-10-P348o	UnAssessed
Ulster Lake (1306-0120)	H-139-14-38- 3-P797a	UnAssessed
Underhill Pond (1301-0224)	H-201a-P1	UnAssessed
Unnamed Trib to Hughsonville Cr (1305-0015)	H-101- 1- 1a	UnAssessed
Unnamed Trib to Mill Pond/Hunter Brook (1302-0073)	H- 31-P44- 2-P49a- 2	UnAssessed
Unnamed Trib to Rondout, Upp, and tribs (1306-0112)	H-139-14-37	UnAssessed
Unnamed Trib to Wallkill, Upp, and tribs (1306-0041)	H-139-13-10- 1	UnAssessed
Unnamed Trib to Wallkill, and mnr tribs (1306-0042)	H-139-13-11	UnAssessed
Unnamed Trib to Wappingers Cr and tribs (1305-0016)	H-101- 4	UnAssessed
Unnamed Trib to Wappingers Cr and tribs (1305-0018)	H-101-11	UnAssessed
Unnamed Trib to Wawayanda Cr, and tribs (1306-0080)	H-139-13-61- 9-15	UnAssessed
Upper Cross/Waccabuc River and tribs (1302-0139)	H- 31-P44-35-P109- 6	NoKnownImpct
Upper Horse Chock Brook and tribs (1301-0122)	H- 43- 1-11- 5	UnAssessed
Upper Pound Swamp (1301-0127)	H- 43- 6-P150k	UnAssessed
Upper Reservoir (1301-0182)	H- 88-P223	UnAssessed
Upper Ulster Lake (1306-0119)	H-139-14-38- 3- 4-P799	UnAssessed
Upton Lake (1305-0005)	H-101-20-P384	Need Verific
Valatie Kill, Lower, and tribs (1310-0023)	H-204- 2- 7	UnAssessed
Valatie Kill, Middle, and tribs (1310-0003)	H-204- 2- 7	Impaired Seg
Valatie Kill, Upper, and tribs (1310-0024)	H-204- 2- 7	Impaired Seg
Van Hozen Kill and tribs (1309-0012)	H-193- 1	UnAssessed
Van Luven Lake (1309-0014)	H-193- 2- 9..P915	UnAssessed
Vanderhaden Creek and tribs (1301-0272)	H-238	UnAssessed
Verkeerder Kill Creek and tribs (1306-0054)	H-139-13-19-10	NoKnownImpct
Vernay Lake, Shadow Lake (1302-0151)	H- 31-P44-54-P128i,P128j	UnAssessed
Vernoy Kill, Upper, and tribs (1306-0110)	H-139-14-35	NoKnownImpct
Vlockie Kill, Upper, and tribs (1301-0241)	H-218	UnAssessed
Vloman Kill, Lower, and tribs (1301-0239)	H-217	Need Verific

Waterbody/Segment (ID)	Water Index Number	Category
Vloman Kill, Upper, and tribs (1301-0240)	H-217	NoKnownImpct
Vly Creek Reservoir (1301-0234)	H-214-10- 3-P262a	UnAssessed
Vly Creek and tribs (1311-0021)	H-221- 4- 7	MinorImpacts
Vosberg Pond (1301-0263)	H-236-15-P433	UnAssessed
Wallace Pond (1301-0140)	H- 55- 1-P165	Impaired Seg
Wallkill River, Lower, Main Stem (1306-0027)	H-139-13 (portion 2)	MinorImpacts
Wallkill River, Middle, Main Stem (1306-0038)	H-139-13 (portion 3)	MinorImpacts
Wallkill River, Upper, and minor tribs (1306-0017)	H-139-13 (portion 4)	MinorImpacts
Walton Lake (1303-0004)	H- 89-19-10-P257	Need Verific
Wappinger Lakes (1305-0001)	H-101 (portion 2)/P365	Impaired Seg
Wappingers Cr, Lower, and minor tribs (1305-0012)	H-101 (portion 1)	UnAssessed
Wappingers Cr, Middle, and minor tribs (1305-0013)	H-101 (portion 3)	Need Verific
Wappingers Cr, Middle, and minor tribs (1305-0014)	H-101 (portion 4)	NoKnownImpct
Wappingers Cr, Upper, and tribs (1305-0011)	H-101 (portion 5)	NoKnownImpct
Warackamac Lake (1301-0216)	H-158-17-P828	UnAssessed
Warwick Reservoir Outlet, Upp, and tribs (1306-0081)	H-139-13-61- 9-20	UnAssessed
Washburn Creek and tribs (1307-0016)	H-171-11-11- 1	UnAssessed
Watervliet Reservoir (1311-0001)	H-221- 4 (portion 3)/P270	Need Verific
Wawayanda Creek, Lower, and tribs (1306-0079)	H-139-13-61- 9	MinorImpacts
Wawayanda Creek, Upper, and minor tribs (1306-0015)	H-139-13-61- 9	MinorImpacts
West Branch Beer Kill and tribs (1306-0117)	H-139-14-38- 3- 1	NoKnownImpct
West Branch Croton R, Lower, Main Stem (1302-0092)	H- 31-P44-23 (portion 1)	UnAssessed
West Branch Croton R, Middle, and tribs (1302-0093)	H- 31-P44-23 (portion 3)	NoKnownImpct
West Branch Croton R, Middle, and tribs (1302-0094)	H- 31-P44-23 (portion 5)	NoKnownImpct
West Branch Croton R, Upper, and tribs (1302-0095)	H- 31-P44-23 (portion 7)	NoKnownImpct
West Branch Reservoir (1302-0022)	H- 31-P44-23 (portion 4)/P67	Impaired Seg
Whaley Lake Brook and tribs (1304-0030)	H- 95-19	NoKnownImpct
Whaley Lake, Little Whaley Lake (1304-0033)	H- 95-19-P353,P354	NoKnownImpct
White Pond (1302-0122)	H- 31-P44-23..P79	UnAssessed
Wiccopee Brook and tribs (1301-0152)	H- 55-17	UnAssessed
Wiccopee Reservoir (1301-0153)	H- 55-17-P183a	UnAssessed
Wickham Lake (1306-0083)	H-139-13-61- 9-P698	UnAssessed
Wickopee Creek/Shenendoah Br and trib (1304-0027)	H- 95-13	UnAssessed
Williams/Fifth Binnewater Lake (1306-0094)	H-139-14- 5-P769	UnAssessed
Wixon Lake (1302-0085)	H- 31-P44-14-P53- 1-P54	UnAssessed
Woodbury Creek and tribs (1303-0014)	H- 89- 7	MinorImpacts
Woodland Stream and tribs (1307-0035)	H-171/P848-46	UnAssessed
Woodlands Lake (1301-0103)	H- 4-P12	UnAssessed
Wright Lake, Bradley Lake (1301-0273)	H-238-P454,P455	UnAssessed
Wynants Kill, Lower, and tribs (1301-0066)	H-235	MinorImpacts
Wynants Kill, Upper, and tribs (1301-0249)	H-235	NoKnownImpct
Wyomanock Creek and tribs (1310-0039)	H-204- 2-25	NoKnownImpct
Yager Stream and minor tribs (1307-0015)	H-171-11-11	UnAssessed
Yankeetown Lake (1307-0032)	H-171/P848-42-P853	UnAssessed