

Atlantic Ocean/Long Island Sound (New York City Waters)



Hutchinson River/Mamaroneck River Watershed (0203010202)

Water Index Number	Waterbody Segment	Assessment Category
(MW3.1) LIS (portion 1)	Long Island Sound, Western Portion (1702-0027)	Impaired Seg
(MW3.1) LIS (portion 1a)	Eastchester Bay (1702-0007)	Impaired Seg
(MW3.1) LIS (portion 1b)	New Rochelle Harbor (1702-0259)	Impaired Seg
(MW3.1) LIS (portion 2)	Long Island Sound, Westchester Co Waters (1702-0001)	Impaired Seg
(MW3.1) LIS (portion 2a)	Larchmont Harbor (1702-0116)	Impaired Seg
(MW3.2) LIS- 2	Hutchinson River, Lower, and tribs (1702-0003)	Impaired Seg
(MW3.2) LIS- 2	Hutchinson River, Middle, and tribs (1702-0074)	Impaired Seg
(MW3.2) LIS- 2	Hutchinson River, Upper, and tribs (1702-0119)	UnAssessed
(MW3.2) LIS- 2-P1073a	Reservoir No.2 (1702-0117)	UnAssessed
(MW3.2) LIS- 2-P1074	Reservoir No.3 (1702-0118)	UnAssessed
(MW3.2) LIS- 2-P1075	Reservoir No.1 (Lake Isle) (1702-0075)	Impaired Seg
(MW3.2) LIS- 4	Burling Brook and tribs (1702-0120)	Impaired Seg
(MW3.2) LIS- 4-P66	Ridgewood Reservoir (1702-0257)	UnAssessed
(MW3.2) LIS- 5-P1080	Huguenot Lake (1702-0122)	UnAssessed
(MW3.2) LIS- 6	Premium River and tribs (1702-0121)	MinorImpacts
(MW3.2) LIS- 7	East Creek and tidal tribs (1702-0042)	MinorImpacts

Water Index Number	Waterbody Segment	Assessment Category
(MW3.3) LIS (portion 2b)	Mamaroneck Harbor (1702-0125)	Impaired Seg
(MW3.3) LIS- 8	Mamaroneck River, Lower (1702-0071)	Impaired Seg
(MW3.3) LIS- 8	Mamaroneck River, Upper, and minor tribs (1702-0123)	Impaired Seg
(MW3.3) LIS- 8- 1	Sheldrake River and tribs (1702-0069)	Impaired Seg
(MW3.3) LIS- 8- 1-P1087	Sheldrake Lake/Upper Larchmont Reservoir (1702-0067)	MinorImpacts
(MW3.3) LIS- 8- 6	West Branch Mamaroneck River and tribs (1702-0124)	UnAssessed
(MW3.3) LIS- 8-12-P1093b	Forest Lake (1702-0128)	UnAssessed
(MW3.3) LIS- 8-P1091a	Mamaroneck Reservoir (1702-0127)	UnAssessed
(MW3.3) LIS- 8-P1094	Silver Lake (1702-0040)	Impaired Seg
(MW3.3) LIS- 9	Beaver Swamp Brook, Lower (1702-0126)	MinorImpacts
(MW3.3) LIS- 9	Beaver Swamp Brook, Upper, and tribs (1702-0090)	MinorImpacts
(MW3.3) LIS-10/P1096	Otter Creek/Mill Pond and tidal tribs (1702-0129)	UnAssessed

Long Island Sound, Western Portion (1702-0027)

Impaired Seg

Waterbody Location Information

Revised: 08/24/2010

Water Index No: (MW2.6) LIS (portion 1) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/ **Str Class:** SB Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 2/Bronx Co. (3)
Waterbody Size: 8243.1 Acres **Quad Map:** FLUSHING (R-25-3) ...
Seg Description: Sound fr Throgs Neck Br to line btw Premium/Hewlett Pts

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Known
Fish Consumption	Stressed	Suspected
AQUATIC LIFE	Impaired	Known
Recreation	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, NUTRIENTS (nitrogen)
Suspected: Aesthetics (floatables), Priority Organics (PCBs/migratory fish), Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: ATMOSPHERIC DEPOSITION, MUNICIPAL (NYC, other WWTPs), OTHER SOURCE (migratory fish species), URBAN/STORM RUNOFF, Comb. Sewer Overflow
Suspected: Industrial,
Possible: - - -

Resolution/Management Information

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

Further Details

Overview

Aquatic life in this portion of Long Island Sound is impaired due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, combined sewer overflows (CSOs) and urban stormwater runoff are the primary sources of pollutants, although various other sources such as boat discharges, waterfowl may also contribute. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in Long Island Sound is also considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in

this specific waterbody. Public bathing and other recreational uses are known to experience minor impacts, but these uses are considered to be fully supported.

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition is also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. (DEC/DOW and FWMR, Region 1, August 2010)

Fish Consumption Advisories

NYS DOH has issued precautionary health advisories recommending limiting consumption of American eel, bluefish, striped bass and weakfish from these waters due to possible elevated levels of PCBs. These advisories are largely precautionary and are related to the specific habits and characteristics of these species, specifically the wide migratory range, predatory nature and high lipid/fat content that make them more likely to accumulate contaminants. Because possible contamination is more a result of the migratory range and other factors rather than any known sources of PCBs in this waterbody, fish consumption use in this segment is considered to be stressed. In addition, for some species the advisories recommend limiting consumption to no more than one meal per week which is no more stringent than the general statewide advisory for all New York waters and does not result in significant impact to uses. Health advisories regarding the consumption of fish are revised regularly; for the most current advisories, go to www.nyhealth.gov/environmental/outdoors/fish/fish.htm. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Bathing Beach Assessment

Recreational uses including public bathing experience minor impacts based on monitoring at beaches in the segment indicating elevated bacteriological levels. Beach monitoring revealed elevated bacteriological levels at beaches that typically occur in less than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Orchard Beach, Hudson Park Beach and New Rochelle Rowing Club Beach, as well as a number of smaller beaches such as Echo Bay Yacht Club Beach, Greentree Club Beach, Isle of Socecci Beach, Locust Point Yacht Club Beach, Marinas Edge Beach, Morris Yacht Club Beach, Schuyler Hill Civic Association Beach, Surf Club Beach and VIP Club Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Shellfishing Use

Shellfish harvesting for consumption purposes in this portion of the Sound (Shellfish Growing Area #75) is designated as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Although this waterbody is monitored through the shellfish program, its class SB designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, based on the shellfishing restrictions, other recreational uses are considered to be impacts/impaired. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent

Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

Both New York State and Connecticut have identified Long Island Sound as water quality limiting due to low dissolved oxygen/hypoxia caused by nitrogen loadings. A Total Maximum Daily Load (TMDL) plan to address the problem was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction. Following and initial freeze on nitrogen loadings and the realization that further efforts were needed, New York and Connecticut agreed in 1998 to significant nitrogen reduction targets (58.5%) and a commitment to enforce the targets through the development of a TMDL. Significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound called for in the TMDL are currently underway; anticipated completion in 2017. Additional future actions to address the control of nitrogen (and carbon) from up-watershed of the immediate LISS area and atmospheric sources are currently under discussion. (DEC/DOW, BWAM/WQMS, August 2010)

The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the County began a capital program to televise and inspect all 155 miles of County owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes. ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any County owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

This portion of Long Island Sound is not included on the NYS 2010 Section 303(d) List of Impaired Waters. Impairments to this water related to nitrogen and low dissolved oxygen are not included on the List due to the completion of the Long Island Sound TMDL in 2000. (DEC/DOW, BWAM/WQAS, July 2010)

Segment Description

This segment includes waters in Queens, Bronx and westernmost Westchester Counties east of the Throgs Neck Bridge and west of a line between Premium and Hewlett Points; but not including Eastchester Bay or Little Neck Bay, which are listed separately.

Eastchester Bay (1702-0007)

Impaired Seg

Waterbody Location Information

Revised: 08/24/2010

Water Index No: (MW2.6) LIS (portion 1a) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/030 **Str Class:** SB Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 2/Bronx Co. (3)
Waterbody Size: 962.2 Acres **Quad Map:** FLUSHING (R-25-3)
Seg Description: entire bay, as described below

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Known
Fish Consumption	Stressed	Suspected
AQUATIC LIFE	Impaired	Known
Recreation	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, NUTRIENTS (nitrogen), PATHOGENS, Aesthetics (floatables)
Suspected: Priority Organics (PCBs/migratory fish)
Possible: - - -

Source(s) of Pollutant(s)

Known: COMB. SEWER OVERFLOW, MUNICIPAL (NYC, other WWTPs), OTHER SOURCE (migratory fish species), URBAN/STORM RUNOFF
Suspected: Industrial,
Possible: - - -

Resolution/Management Information

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

Further Details

Overview

Aquatic life in this embayment of Long Island Sound is impaired due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, combined sewer overflows (CSOs) and urban stormwater runoff are the primary sources of pollutants, although various other sources such as boat discharges, waterfowl may also contribute. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in Long Island Sound is also considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in

this specific waterbody. Public bathing and other recreational uses are known to experience minor impacts, but these uses are considered to be fully supported.

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. (DEC/DOW and FWMR, Region 1, August 2010)

Fish Consumption Advisories

NYS DOH has issued precautionary health advisories recommending limiting consumption of American eel, bluefish, striped bass and weakfish from these waters due to possible elevated levels of PCBs. These advisories are largely precautionary and are related to the specific habits and characteristics of these species, specifically the wide migratory range, predatory nature and high lipid/fat content that make them more likely to accumulate contaminants. Because possible contamination is more a result of the migratory range and other factors rather than any known sources of PCBs in this waterbody, fish consumption use in this segment is considered to be stressed. In addition, for some species the advisories recommend limiting consumption to no more than one meal per week which is no more stringent than the general statewide advisory for all New York waters and does not result in significant impact to uses. Health advisories regarding the consumption of fish are revised regularly; for the most current advisories, go to www.nyhealth.gov/environmental/outdoors/fish/fish.htm. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Bathing Beach Assessment

Recreational uses including public bathing experience minor impacts based on monitoring at beaches in the segment indicating elevated bacteriological levels. Beach monitoring revealed elevated bacteriological levels at beaches that typically occur in less than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include American Turners Beach, Danish American Beach Club, Golden Beach Club, Manhem Beach Club, Trinity Danish Young Peoples Society Beach and White Cross Fishing Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Shellfishing Use

Shellfish harvesting for consumption purposes in this portion of the Sound (Shellfish Growing Area #75) is designated as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Although this waterbody is monitored through the shellfish program, its class SB designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, based on the shellfishing restrictions, other recreational uses are considered to be impacts/impaired. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater

treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

Both New York State and Connecticut have identified Long Island Sound as water quality limiting due to low dissolved oxygen/hypoxia caused by nitrogen loadings. A Total Maximum Daily Load (TMDL) plan to address the problem was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction. Following and initial freeze on nitrogen loadings and the realization that further efforts were needed, New York and Connecticut agreed in 1998 to significant nitrogen reduction targets (58.5%) and a commitment to enforce the targets through the development of a TMDL. Significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound called for in the TMDL are currently underway; anticipated completion in 2017. Additional future actions to address the control of nitrogen (and carbon) from up-watershed of the immediate LISS area and atmospheric sources are currently under discussion. (DEC/DOW, BWAM/WQMS, August 2010)

The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the County began a capital program to televise and inspect all 155 miles of County owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes. ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any County owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

Eastchester Bay is not included on the NYS 2010 Section 303(d) List of Impaired Waters. Impairments to this water related to nitrogen and low dissolved oxygen are not included on the List due to the completion of the Long Island Sound TMDL in 2000. Impairments due to floatables are categorized as not requiring listing due to other enforceable measures, namely floatables control measures in the CSO Order, expected to address the impairment (Category 4b water/impairment). (DEC/DOW, BWAM/WQAS, July 2010)

Segment Description

This segment includes bay waters west, north of line from Edgewater Park to the sothern point of Rodman Neck and south of Hutchinson River mouth, including Weir Creek.

New Rochelle Harbor (1702-0259)

Impaired Seg

Waterbody Location Information

Revised: 08/04/2010

Water Index No: (MW2.6) LIS (portion 1b) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/030 **Str Class:** SA Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 281.1 Acres **Quad Map:** MOUNT VERNON (R-25-2)
Seg Description: entire harbor, as described below

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
SHELLFISHING	Precluded	Known
PUBLIC BATHING	Impaired	Known
Fish Consumption	Stressed	Suspected
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (floatables), D.O./OXYGEN DEMAND, NUTRIENTS (nitrogen), PATHOGENS, Priority Organics (PCBs/migratory fish)
Suspected: Oil and Grease, Other Pollutants (PCBs/migratory species)
Possible: - - -

Source(s) of Pollutant(s)

Known: MUNICIPAL (NYC, other WWTPs), MUNICIPAL (NYC, other WWTPs), OTHER SOURCE (boat pollution), URBAN/STORM RUNOFF
Suspected: OTHER SOURCE (migratory fish species), Industrial
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/DOW **Resolution Potential:** Medium
TMDL/303d Status: 2c,4b (Multiple Segment/Categorical Water, Shellfishing, more)

Further Details

Overview

Shellfishing, aquatic life, public bathing and other recreational uses in New Rochelle Harbor are impaired due to pathogen contamination that results in restrictions on shellfishing for consumption purposes and periodic beach closures, and periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, combined sewer overflows (CSOs) and urban stormwater runoff are the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in Long Island Sound is

also considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Shellfishing Use

Shellfish harvesting for consumption purposes in the harbor is restricted due to the designation of the entire area (within Shellfish Growing Areas #55 and #75) as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Bathing Beach Assessment

Recreational use including public bathing is considered to be impaired based on monitoring at beaches in the segment and the shellfish advisory indicating elevated bacteriological levels. Beach monitoring revealed elevated bacteriological levels at beaches that often occurred in more than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within or nearby this reach include Beckwith Point Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition is also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. (DEC/DOW and FWMR, Region 1, August 2010)

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Watershed Management/TMDL

Both New York State and Connecticut have identified Long Island Sound as water quality limiting due to low dissolved oxygen/hypoxia caused by nitrogen loadings. A Total Maximum Daily Load (TMDL) plan to address the problem was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction. Following an initial freeze on nitrogen loadings and the realization that further efforts were needed, New York and Connecticut agreed in 1998 to significant nitrogen reduction targets (58.5%) and a commitment to enforce the targets through the development of a TMDL. Significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound called for in the TMDL are currently underway; anticipated completion in 2017. Additional future

actions to address the control of nitrogen (and carbon) from up-watershed of the immediate LISS area and atmospheric sources are currently under discussion. (DEC/DOW, BWAM/WQMS, August 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the County began a capital program to televise and inspect all 155 miles of County owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. The Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any County owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

New Rochelle Harbor is included on the NYS 2010 Section 303(d) List of Impaired Waters. The harbor is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 1998 Section 303(d) List. Impairments to this water related to nitrogen and low dissolved oxygen are not included on the List due to the completion of the Long Island Sound TMDL. Impairments due to floatables are categorized as not requiring listing due to other enforceable measures, namely floatables control measures in the CSO Order, expected to address the impairment (Category 4b water/impairment). (DEC/DOW, BWAM/WQAS, July 2010)

Segment Description

This segment includes harbor waters west of line from south end of Davenport Neck, through light on north shore of Glen Island, through Glen Island to east shore of Hunter Island, including Titus Millpond, Lower Harbor and Lagoon.

Long Island Sound, Westchester Co Waters (1702-0001) Impaired Seg

Waterbody Location Information

Revised: 08/24/2010

Water Index No: (MW3.1) LIS (portion 2) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/ **Str Class:** SA* Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 13726.5 Acres **Quad Map:** MAMARONECK (R-26-1) ...
Seg Description: Sound east of N/S line fr Premium Pt, in Westchester Co

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
SHELLFISHING	Precluded	Known
Public Bathing	Stressed	Known
Fish Consumption	Stressed	Suspected
AQUATIC LIFE	Impaired	Known
Recreation	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, NUTRIENTS (nitrogen), PATHOGENS, Priority Organics (PCBs/migratory fish)
Suspected: Aesthetics (floatables)
Possible: - - -

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION, COMB. SEWER OVERFLOW, MUNICIPAL (Westchester, NYC plants), OTHER SOURCE (migratory fish species), URBAN/STORM RUNOFF
Suspected: Industrial,
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/DOW **Resolution Potential:** Medium
TMDL/303d Status: 2c,4a (Multiple Segment/Categorical Water, Shellfishing, more)

Further Details

Overview

Shellfishing and aquatic life in this portion of Long Island Sound are impaired due to pathogen contamination that results in restrictions on shellfishing for consumption purposes and periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, combined sewer overflows (CSOs) and urban stormwater runoff are the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in Long Island Sound is also considered to experience minor impacts due to

precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. Public bathing and other recreational uses are known to experience minor impacts, but these uses are considered to be fully supported.

Shellfishing Use

Shellfish harvesting for consumption purposes in the sound is restricted due to the designation of the entire area (Shellfish Growing Area #55) as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Bathing Beach Assessment

Recreational uses including public bathing experience minor impacts based on monitoring at beaches in the segment and the shellfish advisory indicating elevated bacteriological levels. Beach monitoring revealed elevated bacteriological levels at beaches that typically occurred in less than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Larchmont Shores and Larchmont Manor Club Beaches, Orienta Beach Club Beach, Shenorock Beach, Rye Town Park/Oakland Beach, Rye Playland Beach, Westchester County Country Club Beach and Manursing Island Club Beach. Mamaroneck Beach and Cabana Club Beach, Shore Acres Beach and Harbor Island Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition is also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. (DEC/DOW and FWMR, Region 1, August 2010)

Fish Consumption Advisories

NYS DOH has issued precautionary health advisories recommending limiting consumption of American eel, bluefish, striped bass and weakfish from these waters due to possible elevated levels of PCBs. These advisories are largely precautionary and are related to the specific habits and characteristics of these species, specifically the wide migratory range, predatory nature and high lipid/fat content that make them more likely to accumulate contaminants. Because possible contamination is more a result of the migratory range and other factors rather than any known sources of PCBs in this waterbody, fish consumption use in this segment is considered to be stressed. In addition, for some species the advisories recommend limiting consumption to no more than one meal per week which is no more stringent than the general statewide advisory for all New York waters and does not result in significant impact to uses. Health advisories regarding the consumption of fish are revised regularly; for the most current advisories, go to www.nyhealth.gov/environmental/outdoors/fish/fish.htm. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the

Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

Both New York State and Connecticut have identified Long Island Sound as water quality limiting due to low dissolved oxygen/hypoxia caused by nitrogen loadings. A Total Maximum Daily Load (TMDL) plan to address the problem was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction. Following and initial freeze on nitrogen loadings and the realization that further efforts were needed, New York and Connecticut agreed in 1998 to significant nitrogen reduction targets (58.5%) and a commitment to enforce the targets through the development of a TMDL. Significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound called for in the TMDL are currently underway; anticipated completion in 2017. Additional future actions to address the control of nitrogen (and carbon) from up-watershed of the immediate LISS area and atmospheric sources are currently under discussion. (DEC/DOW, BWAM/WQMS, August 2010)

The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the county began a capital program to televise and inspect all 155 miles of county owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes. ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any county owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

This portion of Long Island Sound is included on the NYS 2010 Section 303(d) List of Impaired Waters. The harbor is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 1998 Section 303(d) List. Impairments to this water related to nitrogen and low dissolved oxygen are not included on the List due to the completion of the Long Island Sound TMDL in 2000. (DEC/DOW, BWAM/WQAS, July 2010)

Segment Description

This segment includes estuary waters east of line from Premium Point to Hewlett Point, north of Westchester-Bronx and Westchester-Nassau County lines, west of New York-Connecticut line, and south of Westchester shoreline, excluding larger harbors (Larchmont, Mamaroneck, Milton, Port Chester Harbors) which are listed separately. Waters within one-square-mile areas around New Rochelle, Blind Brook and Mamaroneck WPCP discharges are Class SB.

Larchmont Harbor (1702-0116)

Impaired Seg

Waterbody Location Information

Revised: 08/19/2010

Water Index No: (MW3.1) LIS (portion 2a) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/030 **Str Class:** SB Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 207.5 Acres **Quad Map:** MAMARONECK (R-26-1)
Seg Description: entire harbor, as described below

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: AESTHETICS (floatables), PATHOGENS
Suspected: D.O./Oxygen Demand, Nutrients (nitrogen), Oil and Grease, Priority Organics (PCBs/migratory fish)
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: OTHER SOURCE (migratory fish, boat poll), Industrial, Municipal (NYC, other WWTPs)
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/muni **Resolution Potential:** High
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview

Public bathing and recreation in Larchmont Harbor are impaired due to pathogen levels that results in shellfishing restrictions and periodic beach closures in the surrounding waters. Floatable debris has also been cited as impacting recreation and aesthetics. Urban stormwater runoff is the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Aquatic life in the harbor also experiences minor impacts due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in this embayment to Long Island Sound is also considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Bathing Beach Assessment

Public bathing and other recreational uses are also considered to be impaired due to periodic bathing beach closures in surrounding waters. The majority of these are pre-emptive closures during heavier rainstorms that are known to wash pollutants into the waterways. Though Larchmont Harbor is classified for public bathing use, there are currently no beaches in this waterbody. (summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Shellfishing Use

Shellfish harvesting for consumption purposes in Larchmont Harbor (a portion of Shellfish Growing Area #55) is designated as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Although this waterbody is monitored through the shellfish program, its class SB designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, based on the shellfishing restrictions, other recreational uses are considered to be impacts/impaired. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and other sources promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. While this problem is most severe in the Western Sound, similar impacts are also a concern in these adjacent waters. (DEC/DOW and FWMR, Region 1, August 2010)

Fish Consumption Advisories

NYS DOH has issued precautionary health advisories recommending limiting consumption of American eel, bluefish, striped bass and weakfish from Long Island Sound and tributary waters, including Larchmont Harbor, due to possible elevated levels of PCBs. These advisories are largely precautionary and are related to the specific habits and characteristics of these species, specifically the wide migratory range, predatory nature and high lipid/fat content that make them more likely to accumulate contaminants. Because possible contamination is more a result of the migratory range and other factors rather than any known sources of PCBs in this waterbody, fish consumption use in this segment is considered to be stressed. In addition, for some species the advisories recommend limiting consumption to no more than one meal per week which is no more stringent than the general statewide advisory for all New York waters and does not result in significant impact to uses. Health advisories regarding the consumption of fish are revised regularly; for the most current advisories, go to www.nyhealth.gov/environmental/outdoors/fish/fish.htm. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman

Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

A Total Maximum Daily Load (TMDL) plan for to reduce nitrogen loadings and address low dissolved oxygen in the Western Long Island Sound was developed and approved in 2001. This TMDL plan calls for point and nonpoint source nitrogen reductions throughout the Long Island Sound Watershed. The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the County began a capital program to televise and inspect all 155 miles of County owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes. ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any County owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

Larchmont Harbor is included on the NYS 2010 Section 303(d) List of Impaired Waters. The harbor is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards for pathogens and for floatables. This waterbody was first included on the Section 303(d) List in 2002. (DEC/DOW, BWAM/WQAS, August 2010)

Segment Description

This segment includes harbor waters north of line from Umbrella Point in Larchmont and Edgewater Point on Satans Toe.

Hutchinson River, Lower, and tribs (1702-0003)

Impaired Seg

Waterbody Location Information

Revised: 08/25/2010

Water Index No: (MW3.2) LIS- 2
Hydro Unit Code: 02030102/030 **Str Class:** SB
Waterbody Type: Estuary
Waterbody Size: 158.2 Acres
Seg Description: reach and tribs from mouth to E.Colonial Ave (tidal)

Drain Basin: Atlantic-Long Island Sound
Reg/County: Long Isl Sound/Bronx
Quad Map: 2/Bronx Co. (3)
FLUSHING (R-25-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Known
Fish Consumption	Stressed	Possible
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (floatables, odors), D.O./OXYGEN DEMAND, OIL AND GREASE, PATHOGENS
Suspected: Nutrients (nitrogen), Priority Organics (PCBs)
Possible: - - -

Source(s) of Pollutant(s)

Known: COMB. SEWER OVERFLOW (NYC), OTHER SANITARY DISCH, URBAN/STORM RUNOFF
Suspected: Chemical Leak/Spill, Industrial
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))

Verification Status: 4 (Source Identified, Strategy Needed)

Lead Agency/Office: ext/NYC

TMDL/303d Status: 3c,1* (Waterbody Being Addressed by Other Means, more)

Resolution Potential: High

Further Details

Overview

Aquatic life, public bathing and recreational uses in this portion of the Hutchinson River are impaired due to nutrient loads resulting in low dissolved oxygen, and elevated pathogens from combined sewer and stormwater overflows, illicit wastewater discharges, and urban and industrial runoff. Dissolved oxygen levels do not meet standards and persistent hypoxic and periodic anoxic conditions exist.

Water Quality Sampling

A biological (macroinvertebrate) assessment of the Hutchinson River in Mount Vernon (at East Sandford Avenue) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated severely impacted conditions. In such samples the fauna is extremely altered and comprised of tolerant species. Diversity and abundance of organisms is significantly reduced. The nutrient biotic index indicates highly elevated enrichment and

impact source determination reveals the fauna to be most similar to communities influenced by point and nonpoint municipal, industrial sources and organic loads/low dissolved oxygen from sewage wastes. Water quality is considered to be very poor and aquatic life is not supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, January 2009)

These results are consistent with results from a biological survey of the Hutchinson River at multiple sites between Mount Vernon and Maplewood in Westchester County conducted in 1999. Sampling results indicated water quality to be moderately to severely impacted. Most of the impact appears assignable to sewage inputs. The invertebrate fauna at the East Sanford Boulevard (Colonial Avenue) site in Mount Vernon, at the upstream point of this segment indicates extreme sewage pollution. There is likely a major sewage input in the half-mile reach above East Sanford Boulevard. The three stations upstream of Mount Vernon showed moderate impact, from unknown sources. Impact Source Determination showed that macroinvertebrate communities in the river are mostly affected by sewage and municipal/industrial inputs. (DEC/DOW, BWAR/SBU, January 2000)

Water quality evaluations have been conducted through the NYCDEP City-Wide Long-Term CSO Control Planning Project, including Hutchinson River Waterbody/Watershed Facility Plan Report. The results of sampling conducted in 2005 along with associated modeling indicate that the impact of CSOs, stormwater discharges and dry weather sanitary flows cause low dissolved oxygen in the middle and upper portions of the creek that do not meet applicable water quality standards. Pathogen levels in the creek also typically exceed applicable criteria during both wet and dry weather. (NYCDEP, City-Wide Long-Term CSO Control Planning Program, June 2011)

In addition, New York City Department of Environmental Protection (NYCDEP) has operated a water quality monitoring program since 1909. The NYCDEP Harbor Survey Program uses primarily four indicators of water quality - fecal coliform bacteria, dissolved oxygen, chlorophyll a and water clarity. Significant improvements have been noted in all of these parameters since the 1970s and 80s. These improvements have coincided with considerable upgrades to the City's wastewater treatment facilities. (NYCDEP, Harbor Survey, 2009)

Water Quality Management/NYC CSO Order

Combined sewer overflows (CSOs) represent a significant source of pollutants to New York Harbor waters and tributaries. In 2005 NYSDEC issued a Consent Order requiring New York City to address the over 400 CSOs of the NYCDEP municipal wastewater system. The Order follows the two-phased approach identified in the USEPA CSO Control Policy which calls for Nine Minimum Control Measures to minimize overflows and CSO pollution and the development of Long Term Control Plans to address water quality issues not fully addressed by the nine minimum controls. As a result NYCDEP is undertaking projects totaling of \$2 billion to capture about 75% of wet-weather overflows. The Order also requires NYCDEP to develop 11 Waterbody/Watershed Facility Plans (WWFPs) to identify remaining water quality issues, evaluate CSOs contributions to these problems and form the basis of subsequent Long Term Control Plans (LTCPs) to bring these waters into compliance with water quality standards. The Order also requires post-construction monitoring to verify modeling projections and actual water quality compliance, inform decisions regarding SPDES permit renewal at five-year intervals, and evaluate future management actions, including additional CSOs controls if necessary. (DEC/DOW, BWC, August 2010)

A Waterbody/Watershed Facility Plan was considered for the Hutchinson River. However it was subsequently agreed that New York City would instead conduct a waste load allocation analysis and proceed directly to developing a Long-Term Control Plan for this waterbody. (DEC/DOW, BWC/NYCPCS, August 2011)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the

Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

A Total Maximum Daily Load (TMDL) plan to address nitrogen loads and resulting low dissolved oxygen in Western Long Island Sound was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction and includes significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound. Although the Hutchinson River lies on the outer portion of the LIS TMDL area, the magnitude of wastewater facility upgrades and nitrogen reductions are expected to provide some benefit to this waterbody. (DEC/DOW, BWAM/WQMS, August 2010)

NY/NJ Harbor Estuary Program

These waters are included within the core area of the New York/New Jersey Harbor Estuary Program (HEP). The HEP is a National Estuary Program authorized in 1987 by the U.S. Environmental Protection Agency. The program is a continuing multi-agency effort to develop and implement a plan to protect, conserve, and restore the estuary. Participants in the program include representatives from local, state, and federal environmental agencies, scientists, citizens, business interests, environmentalists, and others. (DEC/DOW, BWAM, December 2010)

Section 303(d) Listing

This portion of the Hutchinson River is included on the NYS 2006 Section 303(d) List of Impaired Waters. The river is included on Part 3 of the List as an impaired waterbody for which TMDL development may be deferred pending implementation and evaluation of other restoration measures. This waterbody was first listed on the 2004 Section 303(d) List. This updated assessment suggests it is also appropriate to include a listing for pathogens in this waterbody on the next List. It is recommended that this waterbody be added to Part 1 as a waterbody requiring the development of a TMDL. Impairments due to floatables are categorized as not requiring listing due to other enforceable measures, namely floatables control measures in the CSO Order, expected to address the impairment (Category 4b water/impairment). (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the tidal portion of the stream and all tribs from the mouth to East Sandford/Colonial Avenue in Pelham. The waters of this portion of the stream are Class SB. Tribs to this reach/segment are also Class SB. The Middle, Upper Hutchinson River are listed separately.

Hutchinson River, Middle, and tribs (1702-0074)

Impaired Seg

Waterbody Location Information

Revised: 08/25/2010

Water Index No: (MW3.2) LIS- 2
Hydro Unit Code: 02030102/030 **Str Class:** B
Waterbody Type: River (Med. Flow)
Waterbody Size: 2.9 Miles
Seg Description: stream and tribs from E.Colonial Ave to City Parkway

Drain Basin: Atlantic-Long Island Sound
Reg/County: Long Isl Sound/Bronx
Quad Map: 3/Westchester Co. (60)
MOUNT VERNON (R-25-2)

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
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, OIL AND GREASE, PATHOGENS, Aesthetics (floatables, odors)
Suspected: Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: OTHER SANITARY DISCH, URBAN/STORM RUNOFF, Chemical Leak/Spill
Suspected: Industrial (oil terminals), 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
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Resolution Potential: Medium

Further Details

Overview

Aquatic life, public bathing and recreational uses in this portion of the Hutchinson River are impaired due to nutrient loads resulting in low dissolved oxygen, and elevated pathogens from stormwater and combined sewer overflows, illicit wastewater discharges, and urban and industrial runoff. Dissolved oxygen levels do not meet standards and persistent hypoxic and periodic anoxic conditions exist.

Water Quality Sampling

A biological (macroinvertebrate) assessment of the Hutchinson River in Mount Vernon (at East Sandford Avenue) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated severely impacted conditions. In such samples the fauna is extremely altered and comprised of tolerant species. Diversity and abundance of organisms is significantly reduced. The nutrient biotic index indicates highly elevated enrichment and impact source determination reveals the fauna to be most similar to communities influenced by point and nonpoint

municipal, industrial sources and organic loads/low dissolved oxygen from sewage wastes. Water quality is considered to be very poor and aquatic life is not supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, January 2009)

These results are consistent with results from a biological survey of the Hutchinson River at multiple sites between Mount Vernon and Maplewood in Westchester County conducted in 1999. Sampling results indicated water quality to be moderately to severely impacted. Most of the impact appears assignable to sewage inputs. The invertebrate fauna at the East Sanford Boulevard (Colonial Avenue) site in Mount Vernon, at the upstream point of this segment indicates extreme sewage pollution. There is likely a major sewage input in the half-mile reach above East Sanford Boulevard. The three stations upstream of Mount Vernon showed moderate impact, from unknown sources. Impact Source Determination showed that macroinvertebrate communities in the river are mostly affected by sewage and municipal/industrial inputs. (DEC/DOW, BWAR/SBU, January 2000)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of the Hutchinson River in Mount Vernon (at Farrell Avenue) was conducted in 1999. Fecal and total coliform values were high. Elevated stream temperatures were also noted; however increased water temperatures are not unusual in shallow, channelized urban streams. (DEC/DOW, BWAR/SWAS, January 2001)

Water quality evaluations have been conducted through the NYCDEP City-Wide Long-Term CSO Control Planning Project, including Hutchinson River Waterbody/Watershed Facility Plan Report. The results of sampling conducted in 2005 along with associated modeling indicate that the impact of CSOs, stormwater discharges and dry weather sanitary flows cause low dissolved oxygen in the middle and upper portions of the creek that do not meet applicable water quality standards. Pathogen levels in the creek also typically exceed applicable criteria during both wet and dry weather. (NYCDEP, City-Wide Long-Term CSO Control Planning Program, June 2011)

In addition, New York City Department of Environmental Protection (NYCDEP) has operated a water quality monitoring program since 1909. The NYCDEP Harbor Survey Program uses primarily four indicators of water quality - fecal coliform bacteria, dissolved oxygen, chlorophyll a and water clarity. Significant improvements have been noted in all of these parameters since the 1970s and 80s. These improvements have coincided with considerable upgrades to the City's wastewater treatment facilities. (NYCDEP, Harbor Survey, 2009)

Water Quality Management/NYC CSO Order

Combined sewer overflows (CSOs) represent a significant source of pollutants to New York Harbor waters and tributaries. In 2005 NYSDEC issued a Consent Order requiring New York City to address the over 400 CSOs of the NYCDEP municipal wastewater system. The Order follows the two-phased approach identified in the USEPA CSO Control Policy which calls for Nine Minimum Control Measures to minimize overflows and CSO pollution and the development of Long Term Control Plans to address water quality issues not fully addressed by the nine minimum controls. As a result NYCDEP is undertaking projects totaling of \$2 billion to capture about 75% of wet-weather overflows. The Order also requires NYCDEP to develop 11 Waterbody/Watershed Facility Plans (WWFPs) to identify remaining water quality issues, evaluate CSOs contributions to these problems and form the basis of subsequent Long Term Control Plans (LTCPs) to bring these waters into compliance with water quality standards. The Order also requires post-construction monitoring to verify modeling projections and actual water quality compliance, inform decisions regarding SPDES permit renewal at five-year intervals, and evaluate future management actions, including additional CSOs controls if necessary. (DEC/DOW, BWC, August 2010)

NY/NJ Harbor Estuary Program

These waters are included within the core area of the New York/New Jersey Harbor Estuary Program (HEP). The HEP is a National Estuary Program authorized in 1987 by the U.S. Environmental Protection Agency. The program is a continuing multi-agency effort to develop and implement a plan to protect, conserve, and restore the estuary.

Participants in the program include representatives from local, state, and federal environmental agencies, scientists, citizens, business interests, environmentalists, and others. (DEC/DOW, BWAM, December 2010)

Section 303(d) Listing

This portion of the Hutchinson River is included on the NYS 2006 Section 303(d) List of Impaired Waters. The river is included on Part 1 of the List as an impaired waterbody for which development of a TMDL is required to meet water quality standards for dissolved oxygen, pathogens and oil and grease. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the portion of the stream and all tribs from East Sandford/Colonial Avenue in Pelham to the south boundary of City Parkway (near New Rochelle Road). The waters of this portion of the stream are Class B. Tribs to this reach/segment are also Class B. The Lower, Upper Hutchinson River are listed separately.

Reservoir No.1 (Lake Isle) (1702-0075)

Impaired Seg

Waterbody Location Information

Revised: 04/11/2011

Water Index No: (MW3.2) LIS- 2-P1075
Hydro Unit Code: 02030102/030 **Str Class:** B
Waterbody Type: Lake (Eutrophic)
Waterbody Size: 58.5 Acres
Seg Description: entire lake

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MOUNT VERNON (R-25-2)

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	Impaired	Known

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF, Other Source (golf course 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

TMDL/303d Status: n/a->1*

Resolution Potential: Medium

Further Details

Overview Recreational uses of Lake Isle (Innisfree Lake, Reservoir #1) are considered to be impaired due to excessive algae and poor water clarity. Aquatic life also experiences impacts from depleted hypolimnetic dissolved oxygen and elevated pH and chloride levels. Urban stormwater runoff and other nonpoint sources are the likely sources of pollutants.

Water Quality Sampling

Lake Isle was sampled as part of the Lake Classification and Inventory Survey (LCI) one time in 2007 and monthly during the summer in 2008. The lake was sampled as part of the LCI at the request of the town to evaluate water quality conditions in the lake. Lake Isle can be characterized as eutrophic, or highly productive. The typical water clarity reading (TSI = 56, representative of eutrophic lakes) was higher than expected given the typical phosphorus reading (TSI = 62, representative of eutrophic lakes), but lower than expected given the typical chlorophyll a reading (TSI = 51, typical of mesoeutrophic lakes). These data indicate that the lake may be susceptible to algal blooms, although both water clarity and algae levels may be limited by turbidity from suspended sediment. The depth profile

indicated the lake was thermally stratified at depth of about three meters, although dissolved oxygen levels are already typical of hypoxic lakes at a depth of two meters and indicate complete anoxia from a depth of three meters to the lake bottom (eight meters deep). Deepwater phosphorus and arsenic levels are highly elevated (the latter ranged from 6-8 ppb, slightly below the state maximum contaminant level, or MCL), and hypolimnetic ammonia levels are well above the state water quality standard, consistent with persistent deepwater anoxia and a strong sulfur odor in bottom samples. *Najas minor*, an invasive aquatic plant, was observed growing near the beach, although submergent aquatic plant growth was low and minimal diversity was apparent. Chloride levels were highly elevated, suggesting significant runoff from road salting operations in the watershed. (DEC/DOW, BWAM/LMAS, March 2011)

Segment Description

Lake Isle is also known as Lake Innisfree and Reservoir #1, is a heavily urbanized 58 acre lake in the town of Eastchester in Westchester County. The lake was constructed in 1894 as a water supply source for lower Westchester County. The lake is no longer used as an active reservoir, but provides outdoor recreation for the people who live in the homes, townhouses, and apartments on the lake's perimeter. It is the only inland body of water in lower Westchester County that is used for swimming and boating. There is a public (town) beach along the western shore of the lake, with non-power boats available for use by town residents near the northwest edge of the swimming area. Most of the lake is shallow, with a deep hole associated with the outlet dam. It is a Class B lake, in support of contact recreation. (DEC/DOW, BWAM/LMAS, March 2011)

Burling Brook and tribs (1702-0120)

Impaired Seg

Waterbody Location Information

Revised: 12/14/2009

Water Index No: (MW3.2) LIS- 4
Hydro Unit Code: 02030102/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 0.2 Miles
Seg Description: entire stream and tribs

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MOUNT VERNON (R-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: UNKNOWN TOXICITY, Oil and Grease
Suspected: Aesthetics, D.O./Oxygen Demand, Nutrients, Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/Reg3
TMDL/303d Status: n/a->3b

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in Burling Brook are impaired by unknown toxicity. Nutrient loadings and organic impacts from municipal or other sources are suggested. Previous assessments indicate urban storm runoff is also a contributing source.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Burling Brook in Pelham (at Mount Tom Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated severely impacted conditions. In such samples the fauna is extremely altered and comprised of tolerant species. Diversity and abundance of organisms is significantly reduced. The nutrient biotic index indicates highly elevated enrichment and impact source determination reveals a community that is most similar to those with impacts from municipal discharges or organic wastes. Water quality is considered to be very poor and aquatic life is not supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, December 2009)

Previous Assessment

The Burling Brook watershed is medium density residential with a few large commercial tracts and recreational (golf course) areas. Stormwater runoff from parking lots, roadways (I-95) and other impervious surfaces transports oil, grease and other pollutants to the stream. Oil sheens in the stream have been reported. Storm runoff also causes flooding concerns and possible streambank erosion. A 1997 water quality report (Westchester County WAC 5 report) includes some discussion of the stream. (Committee on Nonpoint Source Pollution in LIS, March 2000)

Section 303d Listing

Burling Brook is included on the 2010 NYS Section 303(d) List of Impaired Waters. It is included on Part 3b of the List due to aquatic toxicity, as a waterbody for which TDML development may be deferred pending the verification of the cause/pollutant causing the impairment. (DEC/DOW, BWAM, WQAS, July 2010)

Segment Description

This segment includes the entire stream from the mouth to Boston Post Road and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C. Note that although the stream is classified as freshwater (Class C) it would appear to be tidal.

Premium River and tribs (1702-0121)

MinorImpacts

Waterbody Location Information

Revised: 08/24/2010

Water Index No: (MW3.2) LIS- 6
Hydro Unit Code: 02030102/030 **Str Class:** SC
Waterbody Type: Estuary
Waterbody Size: 10.0 Acres
Seg Description: reach and tribs from mouth to Route 1 (tidal portion)

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MOUNT VERNON (R-25-2)

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: Aesthetics (floatables)
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS, PATHOGENS, Oil and Grease, Silt/Sediment
Possible: Metals

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Habitat Modification, Municipal
Possible: On-Site/Septic Syst (illegal connections), Streambank Erosion

Resolution/Management Information

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

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in Premium River are thought to experience minor impacts due to pathogens, low dissolved oxygen and nutrient loads attributed to urban stormwater runoff and other nonpoint sources. Floatable debris also degrades water quality in the stream.

Shellfishing Use

Shellfish harvesting for consumption purposes in Western Long Island Sound, just below this reach, is designated as uncertified for the taking of shellfish for use as food. Although neither this portion of the Sound nor Premium River include shellfishing as an appropriate use, other recreational uses are considered to be impacted based on the shellfish program pathogen monitoring. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Bathing Beach Assessment

Recreational use is considered to be impacted based on monitoring at beaches in surrounding waters of Long Island Sound. The majority of these are pre-emptive closures during heavier rainstorms that are known to wash pollutants

into the waterways. The Premium River is not classified for the support of public bathing, but this assessment indicates likely recreational impacts. (summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Segment Description

This segment includes the entire stream and tribs from the mouth to Route 1 in Larchmont. The waters of the stream are Class C. Tribs to this reach/segment, including Pine Brook (-1), are also Class C.

East Creek and tidal tribs (1702-0042)

MinorImpacts

Waterbody Location Information

Revised: 08/24/2010

Water Index No: (MW3.2) LIS- 7
Hydro Unit Code: 02030102/030 **Str Class:** SC
Waterbody Type: Estuary
Waterbody Size: 10.7 Acres
Seg Description: entire tidal reach and tribs

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MAMARONECK (R-26-1)

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: Aesthetics (floatables)
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS, PATHOGENS, Metals, Oil and Grease
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Comb. Sewer Overflow, Municipal
Possible: - - -

Resolution/Management Information

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

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in East Creek are thought to experience minor impacts due to pathogens, low dissolved oxygen and nutrient loads attributed to urban stormwater runoff and other nonpoint sources. Floatable debris also degrades water quality in the stream.

Shellfishing Use

Shellfish harvesting for consumption purposes in Larchmont Harbor, just below this reach, is designated as uncertified for the taking of shellfish for use as food. Although neither the harbor nor East Creek include shellfishing as an appropriate use, other recreational uses are considered to be impacted based on the shellfish program pathogen monitoring. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Bathing Beach Assessment

Recreational use is considered to be impacted based on monitoring at beaches in surrounding waters of Larchmont Harbor. The majority of these are pre-emptive closures during heavier rainstorms that are known to wash pollutants

into the waterways. Though Larchmont Harbor is classified for public bathing use, there are currently no beaches in this waterbody. (summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Segment Description

This segment includes the entire stream and tribs from the mouth to Route 1 in Larchmont. The waters of the stream are Class C. Tribs to this reach/segment are also Class C. Above this point the stream is largely piped underground.

Mamaroneck Harbor (1702-0125)

Impaired Seg

Waterbody Location Information

Revised: 08/19/2010

Water Index No: (MW3.3) LIS (portion 2b) **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/040 **Str Class:** SB Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 127.2 Acres **Quad Map:** MAMARONECK (R-26-1)
Seg Description: entire harbor

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: AESTHETICS (floatables), PATHOGENS
Suspected: D.O./Oxygen Demand, Nutrients (nitrogen), Oil and Grease, Priority Organics (PCBs/migratory fish)
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, Other Source (boat pollution)
Suspected: MUNICIPAL (Mamaroneck NYC WWTPs), OTHER SOURCE (migratory fish species), Industrial
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/muni **Resolution Potential:** High
TMDL/303d Status: 1 (Individual Waterbody Impairment Requiring a TMDL)

Further Details

Overview

Public bathing and recreation in Mamaroneck Harbor are impaired due to pathogen levels that results in shellfishing restrictions and periodic beach. Floatable debris has also been cited as impacting recreation and aesthetics. Urban stormwater runoff is the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Aquatic life in the harbor also experiences minor impacts due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Fish consumption in this embayment to Long Island Sound is also considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Bathing Beach Assessment

Recreational use including public bathing is considered to be impaired based on monitoring at beaches in the segment and the shellfish advisory indicating elevated bacteriological levels. Beach monitoring revealed elevated bacteriological levels at beaches that often occurred in more than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within or nearby this reach include Mamaroneck Beach and Cabana Club Beach, Shore Acres Beach and Harbor Island Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Shellfishing Use

Shellfish harvesting for consumption purposes in Mamaroneck Harbor (a portion of Shellfish Growing Area #55) is designated as uncertified for the taking of shellfish for use as food. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. This designation is based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria for pathogens. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Although this waterbody is monitored through the shellfish program, its class SB designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, based on the shellfishing restrictions, other recreational uses are considered to be impacts/impaired. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Long Island Sound Hypoxia

The Long Island Sound Study found that nitrogen from area WWTPs and other sources promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. Atmospheric deposition also contributes nitrogen to the Sound. The resulting low dissolved oxygen conditions have caused crustacean kills and limits the fishery in this passageway for diadromous fish. While this problem is most severe in the Western Sound, similar impacts are also a concern in these adjacent waters. (DEC/DOW and FWMR, Region 1, August 2010)

Fish Consumption Advisories

NYS DOH has issued precautionary health advisories recommending limiting consumption of American eel, bluefish, striped bass and weakfish from Long Island Sound and tributary waters, including Mamaroneck Harbor, due to possible elevated levels of PCBs. These advisories are largely precautionary and are related to the specific habits and characteristics of these species, specifically the wide migratory range, predatory nature and high lipid/fat content that make them more likely to accumulate contaminants. Because possible contamination is more a result of the migratory range and other factors rather than any known sources of PCBs in this waterbody, fish consumption use in this segment is considered to be stressed. In addition, for some species the advisories recommend limiting consumption to no more than one meal per week which is no more stringent than the general statewide advisory for all New York waters and does not result in significant impact to uses. Health advisories regarding the consumption of fish are revised regularly; for the most current advisories, go to www.nyhealth.gov/environmental/outdoors/fish/fish.htm. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Water Quality Management (NYC Nitrogen Consent Judgment)

Since 2006, New York City has been under a Nitrogen Consent Judgment to reduce nitrogen loads associated with the discharge of treated effluent to the Long Island Sound and Upper East River. Under the current Consent Judgment, which was amended in 2011, the City must install new nitrogen control technologies at four wastewater

treatment plants that discharge effluent to these waterbodies in order to reduce nitrogen loads in accordance with the Long Island Sound nitrogen TMDL. The treatment plants being upgraded are: Wards Island, Bowery Bay, Tallman Island, and Hunts Point. The first upgrades under the Consent Judgment will become operational starting in 2010 and all improvements required under the Consent Judgment will be completed by 2020. The requirements added to the amended Consent Judgment in 2011 are valued at \$115 million, of which \$15 million be used for marshland restoration. The \$115 million represents only a portion of the value of all the upgrades and related environmental benefit projects being executed under the Nitrogen Consent Judgment.

Watershed Management/TMDL

A Total Maximum Daily Load (TMDL) plan for to reduce nitrogen loadings and address low dissolved oxygen in the Western Long Island Sound was developed and approved in 2001. This TMDL plan calls for point and nonpoint source nitrogen reductions throughout the Long Island Sound Watershed. The county and local municipalities have been performing extensive inspection and maintenance of its sanitary sewer system. In 2004 the County began a capital program to televise and inspect all 155 miles of County owned gravity sewer and sanitary manholes over a ten year period. GIS mapping of its trunk sewer system was also completed. The Village of Mamaroneck recently completed slip lining of sewers and rehabilitation of manholes ahead of time and this Order is closed. The most recent county submitted report on sanitary sewer overflows indicates there were no dry weather overflows in 2009 from any County owned facilities in the New Rochelle Sewer District. (DEC/DOW, Region 3, August 2010)

Long Island Sound Study

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York, and Connecticut in 1985 to focus on the overall ecosystem. In 1994, the LISS completed a Comprehensive Conservation and Management Plan that identified seven issues - low dissolved oxygen (hypoxia), toxic contamination, pathogen contamination, floatable debris, living resources and habitat management, land use and development, public involvement and education. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education, and water quality monitoring. (DEC/DOW, BWAM/WQMS, July 2010)

Section 303(d) Listing

Mamaroneck Harbor is included on the NYS 2010 Section 303(d) List of Impaired Waters. The harbor is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards for pathogens and for floatables. This waterbody was first included on the Section 303(d) List in 2002. (DEC/DOW, BWAM/WQAS, August 2010)

Segment Description

This segment includes harbor waters north and west of a line from Orienta Point to Spike Island.

Mamaroneck River, Lower (1702-0071)

Impaired Seg

Waterbody Location Information

Revised: 08/23/2010

Water Index No: (MW3.3) LIS- 8
Hydro Unit Code: 02030102/040 **Str Class:** SC
Waterbody Type: Estuary
Waterbody Size: 75.9 Acres
Seg Description: river from mouth to Route 1 (tidal portion)

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MAMARONECK (R-26-1)

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, Priority Organics (PCBs), Pathogens
Suspected: D.O./OXYGEN DEMAND, SILT/SEDIMENT, Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: TOX/CONTAM. SEDIMENT, Industrial, Municipal,
Possible: - - -

Resolution/Management Information

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

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in this portion of Mamaroneck River are considered to be impaired by low dissolved oxygen and nutrient loads as well as silt and sediment attributed to urban stormwater runoff and other nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of the Mamaroneck River just above this reach in Mamaroneck (at Ward Avenue) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated moderately impacted conditions. In such samples sensitive species are markedly reduced or missing and the distribution of major groups is significantly unbalanced relative to what would be expected. Samples are dominated by more tolerant species. The nutrient biotic index indicates elevated enrichment and impact source determination reveals the fauna to be most similar to communities influenced by and nonpoint municipal, industrial sources, nonpoint toxics from urban sources/stormwater runoff and organic loads and low dissolved oxygen from sewage or

animal wastes. Water quality is considered to be poor and aquatic life is not fully supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, August 2010)

These results are consistent with biological sampling conducted on the river in 1999. A biological (macroinvertebrate) survey of the Mamaroneck River at multiple sites between Mamaroneck and White Plains in Westchester County was conducted in 1999. Sampling results indicated water quality to be moderately impacted at all sites. Impact Source Determination indicated multiple sources of impact, including nutrient additions, organic wastes, complex (municipal/industrial) sources, and siltation. (Mamaroneck River Stream BioAssessment, Bode et al, DEC/DOW, BWAR/SBU, September 2000)

Shellfishing Use

Shellfish harvesting for consumption purposes in Mamaroneck Harbor, just below this reach, is designated as uncertified for the taking of shellfish for use as food. Although neither the harbor nor Lower Mamaroneck River include shellfishing as an appropriate use, other recreational uses are considered to be impacted based on the shellfish program pathogen monitoring. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Bathing Beach Assessment

Recreational use is considered to be impacted based on monitoring at beaches in the segment and surrounding waters. Beach monitoring revealed elevated bacteriological levels at beaches that often occurred in more than ten percent of the samples. Occasional beach closures that occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within or nearby this reach include Mamaroneck Beach and Cabana Club Beach, Shore Acres Beach and Harbor Island Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Section 303d Listing

This portion of the Mamaroneck River is included on the NYS 2010 Section 303(d) List of Impaired Waters. The river is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards for low dissolved oxygen and for silt/sediment. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the tidal portion of the stream and tribs from the mouth to Route 1 in Mamaroneck. The waters of the stream are Class SC. Tribs to this reach/segment are also Class SC.

farther upstream in White Plains reveal only slightly impacted conditions. The suspected sources (urban stormwater runoff and related nonpoint sources) were similar to the downstream results, but less severe. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, August 2010)

These results are consistent with biological sampling conducted on the river in 1999. A biological (macroinvertebrate) survey of the Mamaroneck River at multiple sites between Mamaroneck and White Plains in Westchester County was conducted in 1999. Sampling results indicated water quality to be moderately impacted at all sites. Impact Source Determination indicated multiple sources of impact, including nutrient additions, organic wastes, complex (municipal/industrial) sources, and siltation. (Mamaroneck River Stream BioAssessment, Bode et al, DEC/DOW, BWAR/SBU, September 2000)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of the Mamaroneck River in Mamaroneck Vernon (at Ward Avenue) was conducted in 1999. Fecal coliform values were found to be high. Other findings were typical of urban streams. (DEC/DOW, BWAR/SWAS, January 2001)

Section 303d Listing

This portion of the Mamaroneck River is included on the NYS 2010 Section 303(d) List of Impaired Waters. The river is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards for low dissolved oxygen and for silt/sediment. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the portion of the stream and tribs above Route 1 in Mamaroneck; above the tidal portion of the river. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Sheldrake River and tribs (1702-0069)

Impaired Seg

Waterbody Location Information

Revised: 08/23/2010

Water Index No: (MW3.3) LIS- 8- 1
Hydro Unit Code: 02030102/040 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 7.5 Miles
Seg Description: stream and tribs from mouth to Upper Larchmont Reserv.

Drain Basin: Atlantic-Long Island Sound
Reg/County: 3/Westchester Co. (60)
Quad Map: MAMARONECK (R-26-1)

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	Suspected
RECREATION	Impaired	Suspected
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: PESTICIDES (chlordane), PESTICIDES (dieldrin), Aesthetics (floatables)
Suspected: NUTRIENTS (phosphorus), SILT/SEDIMENT, D.O./Oxygen Demand, Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: TOX/CONTAM. SEDIMENT, Other Sanitary Disch, Streambank Erosion
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/Reg3 **Resolution Potential:** Medium
TMDL/303d Status: 1,2b (Individual Waterbody Impairment Requiring a TMDL, more)

Further Details

Overview

Fish consumption in the Sheldrake River is known to be impaired due to pesticides levels in contaminated sediment. Aquatic life and recreational uses are considered to be impaired by nutrients as well as silt and sediment loads attributed to urban stormwater runoff and other nonpoint sources. However these impairments have not been fully documented with water quality sampling.

Fish Consumption Advisories

Fish consumption in Sheldrake River is impaired due to a NYS DOH health advisory that recommends eating no American eel and no more than one meal per month of Goldfich because of elevated Chlordane and Dieldrin levels. The source of this contamination is considered to be contaminated sediment, the result of past applications of these pesticides. The advisory for this river was first issued prior to 1998-99. (2009-10 NYS DOH Health Advisories and DEC/FWMMR, Habitat, January 2010).

Water Quality Sampling

Aquatic life support and recreational uses in this portion of the Mamaroneck River are considered to be affected by various pollutants from stormwater and urban nonpoint runoff within this region of high population density. A biological (macroinvertebrate) survey of the Mamaroneck River at multiple sites between Mamaroneck and White Plains in Westchester County conducted in 1999 found water quality to be moderately impacted at all sites. While sampling on the Sheldrake was not conducted, similar impacts are considered likely. (Mamaroneck River Stream Biological Assessment, Bode et al, DEC/DOW, BWAR/SBU, September 2000)

Section 303d Listing

Sheldrake River is included on the NYS 2010 Section 303(d) List of Impaired Waters. The river is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards for phosphorus and for silt/sediment. The river is also on Part 2b of the List as a fish consumption water. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

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

Sheldrake Lake/Upper Larchmont Reservoir (1702-0067) MinorImpacts

Waterbody Location Information

Revised: 08/23/2010

Water Index No: (MW3.3) LIS- 8- 1-P1087
Hydro Unit Code: 02030102/040 **Str Class:** A
Waterbody Type: Lake (Unknown Trophic)
Waterbody Size: 28.5 Acres
Seg Description: entire lake

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: MOUNT VERNON (R-25-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: NUTRIENTS, SILT/SEDIMENT, Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected:
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

Water supply, public bathing and other recreational uses of Sheldrake Lake/Upper Larchmont Reservoir are known to experience minor impacts from various pollutants from urban stormwater nonpoint runoff, including storm sewer and roadway drainage.

Source (Drinking) Water Assessment

The reservoir was formerly use as a water supply for Larchmont. However that use was discontinued in the mid-1970s. Currently the reservoir is used as a stormwater management and flood control impoundment.

Silver Lake (1702-0040)

Impaired Seg

Waterbody Location Information

Revised: 04/19/2011

Water Index No: (MW3.3) LIS- 8-P1094
Hydro Unit Code: 02030102/040 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 45.3 Acres
Seg Description: entire lake

Drain Basin: Atlantic-Long Island Sound
Long Isl Sound/Bronx
Reg/County: 3/Westchester Co. (60)
Quad Map: WHITE PLAINS (Q-25-3)

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	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic veg, algal blooms), NUTRIENTS (phosphorus)
Suspected: - - -
Possible: Pathogens

Source(s) of Pollutant(s)

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

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))

Verification Status: 4 (Source Identified, Strategy Needed)

Lead Agency/Office: DOW/Reg3

TMDL/303d Status: n/a->1*

Resolution Potential: Medium

Further Details

Overview

Public bathing and recreational uses in Silver Lake are considered to be impaired due to algal blooms and low water clarity, the result of high nutrient levels and other pollutants associated with urban stormwater runoff. Aquatic life experiences minor impacts due to low dissolved oxygen.

Water Quality Sampling

Silver Lake was included in the 2009 intensive (once a month from July to September) Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/Long Island Sound Drainage Basin. During these sampling visits water quality conditions were evaluated through standard limnological indicators. The lake can generally be characterized as eutrophic, or highly productive. The average water clarity reading (TSI = 70, typical of eutrophic lakes) was expected given the average phosphorus reading (TSI = 69, typical of eutrophic lakes), and the average chlorophyll a reading (TSI = 64, typical of eutrophic lakes). These data along with visual observation indicate that algal blooms

were occurring during the August and September sampling events and that baseline nutrients can and do support persistent algal blooms in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Silver Lake appears to be typical of shallow weakly colored, hardwater, alkaline lakes that are in highly developed watersheds. Like most shallow lakes in New York State, Silver Lake does not exhibit thermal stratification. Phosphorus, iron, manganese, sodium, and chloride levels were all elevated. No invasive aquatic plants were observed, and submergent aquatic plant diversity was minimal. (DEC/DOW, BWAM/LMAS, March 2011)

Segment Description

Silver Lake is 45 acre lake just outside the City of White Plains in Westchester County. The lake is a Class B lake, in support of contact recreation. Silver Lake Preserve County Park is just to the north of the lake, but does not provide an access point to the lake itself. At the southwestern end of the lake there is a small park owned by the City of White Plains. This small park has a parking area and a boat dock that at one time was used by the city to rent row boats. On the southeastern shore of the lake, the Town/Village of Harrison has a recreational area with athletic fields and swimming pool as well as a small boat dock. However, access to the lake is limited, and neither of the boat docks is currently available for public use. The lake's watershed consists of a mix of land uses including urban and suburban housing, recreation fields, and forest. (DEC/DOW, BWAM/LMAS, March 2011)

This segment includes the entire area of the lake.

Beaver Swamp Brook, Lower (1702-0126)

MinorImpacts

Waterbody Location Information

Revised: 08/23/2010

Water Index No: (MW3.3) LIS- 9 **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 02030102/040 **Str Class:** SC Long Isl Sound/Bronx
Waterbody Type: Estuary **Reg/County:** 3/Westchester Co. (60)
Waterbody Size: 7.6 Acres **Quad Map:** ()
Seg Description: reach from mouth to end of tidal portion

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS, Pathogens, Silt/Sediment
Possible: ---

Source(s) of Pollutant(s)

Known: 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: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in this portion of Beaver Swamp Brook are known to experience minor impacts due to nutrients, and other pollutants from urban stormwater runoff and municipal point and nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Beaver Swamp Brook just above this segment in Mamaroneck (at Cassel Court) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated moderately impacted conditions. In such samples sensitive species are markedly reduced or missing and the distribution of major groups is significantly unbalanced relative to what would be expected. Samples are dominated by more tolerant species. The nutrient biotic index indicates elevated enrichment. However impact source determination reveals a community that is similar to water experiencing impoundment effects and poor sampling habitat was noted at the site. These conditions are known to skew biological sampling results and are not always a true reflection of water quality. Further investigation and/or other indicators are recommended to determine the actual extent of water quality impacts. (DEC/DOW, BWAM/SBU, January 2010)

Shellfishing Use

Shellfish harvesting for consumption purposes in Mamaroneck Harbor, just below this reach, is designated as uncertified for the taking of shellfish for use as food. Although neither the harbor nor Lower Beaver Swamp Brook include shellfishing as an appropriate use, other recreational uses are considered to be impacted based on the shellfish program pathogen monitoring. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Segment Description

This segment includes the tidal portion of the stream and tribs from the mouth to unnamed trib (-1) in Mamaroneck. The waters of (this portion of) the stream are Class SC. Tribs to this reach/segment are also Class C. Upper Beaver Swamp Brook is listed separately.

Beaver Swamp Brook, Upper, and tribs (1702-0090)

MinorImpacts

Waterbody Location Information

Revised: 08/23/2010

Water Index No: (MW3.3) LIS- 9
Hydro Unit Code: 02030102/040 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 3.9 Miles
Seg Description: stream and tribs above trib -1 (freshwater)

Drain Basin: Atlantic-Long Island Sound
Reg/County: Long Isl Sound/Bronx
Quad Map: 3/Westchester Co. (60)
MAMARONECK (R-26-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS, SILT/SEDIMENT, Pathogens
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: URBAN/STORM RUNOFF, Municipal,
Possible: Streambank Erosion

Resolution/Management Information

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

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses in this portion of Beaver Swamp Brook are known to experience minor impacts due to nutrients, and other pollutants from urban storm runoff and municipal point and nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Beaver Swamp Brook in Mamaroneck (at Cassel Court) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated moderately impacted conditions. In such samples sensitive species are markedly reduced or missing and the distribution of major groups is significantly unbalanced relative to what would be expected. Samples are dominated by more tolerant species. The nutrient biotic index indicates elevated enrichment. However impact source determination reveals a community that is similar to water experiencing impoundment effects and poor sampling habitat was noted at the site. These conditions are known to skew biological sampling results and are not always a true reflection of water quality. Further investigation and/or other indicators are recommended to determine the actual extent of water quality impacts. (DEC/DOW, BWAM/SBU, January 2010)