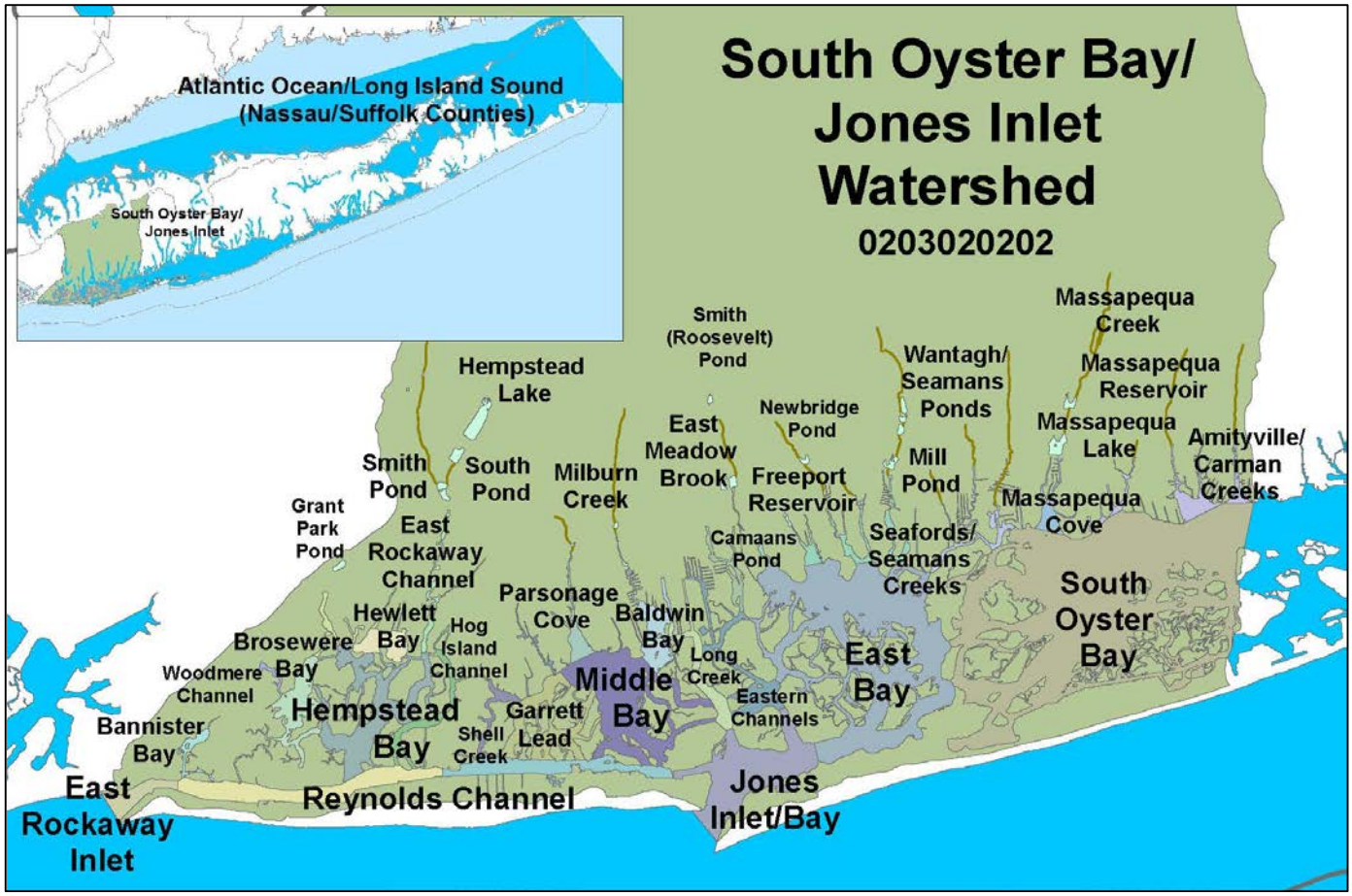

South Oyster Bay/Jones Inlet Watershed

(0203020202)

Water Index Number	Waterbody Segment	Assessment Category
(MW8.1) SOB	South Oyster Bay (1701-0041)	Impaired
(MW8.1a) SOB-216 thru 219	Tidal Tribs to South Oyster Bay (1701-0200)	Impaired
(MW8.1a) SOB-216 thru 219	Amityville/Carman Creeks, Upper, and tribs (1701-0087)	Need Verification
(MW8.1a) SOB-220	Massapequa Cove, and tidal tribs (1701-0391)	Impaired
(MW8.1a) SOB-220	Massapequa Creek, Upper, and tribs (1701-0174)	Impaired
(MW8.1a) SOB-220-P968	Massapequa Lake (1701-0156)	Minor Impacts
(MW8.1a) SOB-220-P969	Massapequa Reservoir (1701-0157)	Impaired
(MW8.1a) SOB-221 thru 223	Seaford/Seaman Creeks, and tidal tribs (1701-0389)	Impaired
(MW8.1a) SOB-221 thru 223	Seafords/Seamans Creeks, Upper, and tribs (1701-0201)	Need Verification
(MW8.2) EB	East Bay (1701-0202)	Impaired
(MW8.2a) EB-224 thru 227 (selected)	Tidal Tribs to East Bay (1701-0203)	Minor Impacts
(MW8.2a) EB-224 thru 227 (selected)	Tribs (fresh) to East Bay (1701-0204)	Impaired
(MW8.2a) EB-224-P981	Mill (Jones) Pond (1701-0205)	Threatened
(MW8.2a) EB-224-P982,P983	Wantagh/Seamans Pond (1701-0159)	Impaired
(MW8.2a) EB-226-P986	Newbridge Pond (1701-0207)	Unassessed
(MW8.2a) EB-227-P987a	Camaans Pond (1701-0052)	Impaired

South Oyster Bay/Jones Inlet Watershed (con't)

(0203020202)

Water Index Number	Waterbody Segment	Assessment Category
(MW8.3) MDB (portion 1)	Middle Bay (1701-0208)	Impaired
(MW8.3) MDB (portion 2)/BB	Baldwin Bay/Milburn Cr and tidal tribs (1701-0385)	Minor Impacts
(MW8.3) MDB (portion 3)/PC	Parsonage Cove/Creek and tidal tribs (1701-0384)	Minor Impacts
(MW8.3) MDB (portion 4)	Garrett Lead/East Channel (1701-0386)	Impaired
(MW8.3) MDB (portion 5)/LC	Long Creek (1701-0214)	Minor Impacts
(MW8.3) MDB (portion 6)	Middle Bay, Eastern Channels (1701-0387)	Impaired
(MW8.3) MDB (portion 7)/JIJB	Jones Inlet/Jones Bay (1701-0373)	Impaired
(MW8.3) MDB (portion 8)/RC	Reynolds Channel, East (1701-0215)	Impaired
(MW8.3a) MDB-228	Freeport Creek/East Meadow Brook, Lower (1701-0388)	Impaired
(MW8.3a) MDB-228	East Meadow Brook, Upper, and tribs (1701-0211)	Need Verification
(MW8.3a) MDB-228-P989	Freeport Reservoir/East Meadow Pond (1701-0025)	Impaired
(MW8.3a) MDB-228-P989-P991	Smith (Roosevelt) Pond (1701-0136)	Impaired
(MW8.3a) MDB-230,231	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Impaired
(MW8.3a) MDB-232	Bedell Creek, and tidal tribs (1701-0210)	Minor Impacts
(MW8.3a) MDB-232a	Shell Creek/Barnums Channel (1701-0213)	Minor Impacts
(MW8.4) HB (portion 1)	Hempstead Bay, Broad Channel (1701-0032)	Impaired
(MW8.4) HB (portion 2)	Hewlett Bay (1701-0382)	Impaired
(MW8.4) HB (portion 3)	Brosewere Bay (1701-0383)	Impaired
(MW8.4) HB (portion 4)/HIC	Hog Island Channel (1701-0220)	Impaired
(MW8.4) HB (portion 4a)/IPC	Island Park Channel (1701-0374)	Minor Impacts
(MW8.4) HB (portion 5)/RC	Reynolds Channel, West (1701-0216)	Impaired
(MW8.4) HB (portion 6)/ERI	East Rockaway Inlet (1701-0217)	Impaired
(MW8.4a) HB-233	East Rockaway Channel (1701-0381)	Impaired
(MW8.4a) HB-234 thru 235	Tidal Tribs to Hempstead Bay (1701-0218)	Impaired
(MW8.4a) HB-233-P1005	Smith Pond (1701-0028)	Impaired
(MW8.4a) HB-233-P1005-	Tribs to Smith/Halls Ponds (1701-0221)	Impaired
(MW8.4a) HB-233-P1005-2-P1011	South Pond (1701-0223)	No Known Impacts
(MW8.4a) HB-233-P1005-2-P1012	Hempstead Lake (1701-0015)	Impaired
(MW8.4a) HB-235-P1017a	Grant Park Pond (1701-0054)	Impaired
(MW8.4a) HB-236	Woodmere Channel (1701-0219)	Impaired
(MW8.4a) HB-237, 237a	Bannister Creek/Bay (1701-0380)	Impaired

South Oyster Bay (1701-0041) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1) SOB			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	6,019.9	Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire bay, as delineated				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Impaired	Known
Public Bathing	Fully Supported	Known
Recreation	Threatened	Suspected
Aquatic Life	Fully Supported	Unconfirmed
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other Source (migratory species)
Unconfirmed:	- - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DEC/FWMR
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
South Oyster Bay is assessed as impaired due to shellfishing use that is known to be impaired by pathogens from stormwater and urban nonpoint runoff. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
South Oyster Bay is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of portions of the area as year-round or seasonally uncertified for the taking of shellfish for use as food. Year-round closures are in place for several coves/tribs of the bay, and most of the near-shore waters along the north shore of the bay. Many of these

restrictions apply to Class SC waters which are listed separately. The areas within the segment boundaries where shellfishing is restricted include the northern near-shore waters (uncertified) and mid-bay and around the Jones Beach area in the western bay (seasonally uncertified). The South Oyster Bay Shellfish Growing Area (SGA #2) is among the most productive hard clam areas in the state. 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing use is fully supported. Beach monitoring revealed no elevated bacteriological levels at beaches and the sampling resulted in few closures. Occasional beach closures that do occur are pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Jones Beach-Zachs Bay and Tobay Beach. General recreational use is also fully supported but evaluated as threatened, due to the restrictions on shellfishing and fish consumption. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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 Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in South Oyster Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment,

sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

South Oyster Bay is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody 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. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes bay waters between the Wantaugh State Parkway (Jones Beach Causeway) and the Suffolk-Nassau County line, including Zachs Bay, State Boat Channel, eastern Sloop Channel, Stone Creek, Great Island Channel, Bulkhead Drain/Goose Creek.

Tidal Tribs to South Oyster Bay (1701-0200) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.1a) SOB-216 thru 219
Hydro Unit Code: 0203020202 **Class:** SC
Water Type/Size: Estuary 324.0 Acres
Description: total area of selected tidal tribs

Drain Basin: Atlantic-Long Island Sound
Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Unconfirmed
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Good	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS
Suspected: - - -
Unconfirmed: Algal/Plant Growth

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Other (waterfowl)
Unconfirmed: Other/Non-Permitted Sanitary Discharge

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

These Tidal Tribs to South Oyster Bay are assessed as an impaired waterbody due to recreational use that is known to be impaired by pathogens from stormwater and other urban nonpoint sources. Algal growth (brown tides) may also impact uses. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

The Tidal Tribs to South Oyster Bay segment is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not for shellfishing or public bathing.

Shellfish harvesting for consumption purposes in these tribs is restricted due to the year-round and seasonal designations of these waters (a portion within Shellfish Growing Area #3) 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 SC 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 stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Recreational use is considered to be impaired based on monitoring at beaches in the segment and the shellfish advisory indicating somewhat elevated bacteriological levels. Beach monitoring revealed frequent elevated bacteriological levels at beaches. Occasional beach closures are the result of both bacteriological results and pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Phillip Healy Beach. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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 Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and

coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

These Tidal Tribs to South Oyster Bay are included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as a waterbody requiring TMDL development for pathogens. This waterbody was first listed on the 2012 List. (DEC/DOW, BWAM, July 2014)

Segment Description

This segment includes the tidal portions of Amityville Creek (-216), Narraskutuck (Unqua) Creek (-217), Carmans Creek (-218), Jones Creek (-219), and several marinas and boat basins. Massapequa Cove, including Lower (tidal) Massapequa Creek, and Seafords/Seamans Creek and tidal tribs – which were previously included within this segment – are now listed separately.

Amityville/Carman Creeks, Upper, and tribs (1701-0087) Need Verification

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-216 thru 219		**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:** C(T)		Southern Long Island
Water Type/Size:	River	3.5 Miles	**Reg/County:**	1/Nassau Co. (30)
Description:	total length of selected (freshwater) tribs			

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -
Suspected: NUTRIENTS, SILT/SEDIMENT, Algal/Plant Growth
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: URBAN/STORM RUNOFF
Unconfirmed: Other/Non-Permitted Sanitary Discharge

Management Information

Management Status: Verification of Problem Severity Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water with Insufficient Data (IR Category 3)

Further Details

Overview

These freshwater Tribs to South Oyster Bay are assessed as needing verification of impacts due to recreational uses and aquatic life that may be impacted by pollutants from stormwater and other urban nonpoint sources. Aesthetics along the streams in these highly developed and densely populated suburban areas are also reported to be degraded. However, this assessment was conducted more than 10 years ago and more recent monitoring to verify current conditions is recommended.

Use Assessment

Upper Amityville and Carman Creeks are a class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply or for public bathing. Upper Amityville Creek is designated C(T), suitable for the support of a cold water trout fishery.

Aquatic life reflects impacts that may be the result of poor habitat conditions. Additional study is needed to determine if poor water quality is also influencing the biological community. Recreational uses are also influenced by habitat and aesthetic conditions. Additional sampling is necessary to determine if poor water quality also contributes to impacts to these uses. (DEC/DOW, BWAM, June 2014)

Fish consumption in this waterbody has not been assessed. There is currently no evidence of impacts to this use, however there are advisories for other nearby waters with similar surrounding land use. (DEC/DOW, BWAM, July 2014)

Water Quality Information
There is currently no available sampling data for this waterbody. (DEC/DOW, BWAR/SBU, November 2010)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of possible pollutants to this waterbody are urban/storm runoff. (DEC/DOW, BWAM, June 2014)

Management Actions
No specific management actions have been identified for this waterbody.

Section 303(d) Listing
Upper Amityville/Carman Creeks is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM, June 2014*)*

Segment Description
This segment includes the entire freshwater portions and tribs of Amityville Creek (-216) and Carman Creek (-218). It is not believed that there are any significant freshwater portions of Narraskatuck (Unqua) Creek (-217)

Massapequa Cove, and tidal tribs (1701-0391) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-220	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	020302002 **Class:** SC		Southern Long Island
Water Type/Size:	Estuary 123.3 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of tidal cove and lower creek		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Unconfirmed
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Good	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	- - -
Unconfirmed:	Algal/Plant Growth

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other (waterfowl)
Unconfirmed:	Other/Non-Permitted Sanitary Discharge

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Massapequa Cove (including Lower Massapequa Creek) is assessed as an impaired waterbody due to recreational use that is known to be impaired by pathogens from stormwater and other urban nonpoint sources. Algal growth (brown tides) may also impact uses. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Massapequa Cove is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not for shellfishing or public bathing.

Shellfish harvesting for consumption purposes in these tribs is restricted due to the year-round and seasonal designations of these waters (a portion within Shellfish Growing Area #3) 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 SC 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 stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Recreational use is considered to be impaired based on monitoring at beaches in the segment and the shellfish advisory indicating somewhat elevated bacteriological levels. Beach monitoring revealed frequent elevated bacteriological levels at beaches. Occasional beach closures are the result of both bacteriological results and pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Biltmore Beach. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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 Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment,

sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Massapequa Cove is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was included as part of the Tidal Tribs to South Oyster Bay (1701-0200) segment on Part 1 of the List as a water requiring development of a TMDL for pathogens. This waterbody was first included on the List for pathogens in 2012. The Massapequa Cove segment was subsequently separated and is now assessed as a separate waterbody and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes the tidal portions of Massapequa Cove, including Lower (tidal) Massapequa Creek and tidal tribs.

Massapequa Creek, Upper, and tribs (1701-0174) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-220			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	020302002	**Class:**	C		Southern Long Island
Water Type/Size:	River	3.6 Miles		**Reg/County:**	1/Nassau Co. (30)
Description:	stream above Massapequa Reservoir				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Impaired	Known
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	NUTRIENTS (phosphorus), PATHOGENS
Suspected:	Low D.O./Oxygen Demand, Algal/Plant Growth (native)
Unconfirmed:	Pesticides, Priority Organics

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF, OTHER/NON-PERMITTED SANITARY DISCHARGE
Suspected:	Other Source (waterfowl), Landfill/Land Disposal
Unconfirmed:	- - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Massapequa Creek is assessed as an impaired waterbody due to recreation use and aquatic life that are known to be impaired by nutrients and pathogens from stormwater and other urban nonpoint sources. Aesthetics along the stream in this highly developed and densely populated suburban areas are also degraded.

Use Assessments
Massapequa Creek is a Class C waterbody, suitable for general recreation and support of aquatic life, but not as a water supply or public bathing.

Aquatic life is impaired by nutrient enrichment and other impacts. Biological sampling indicates a macroinvertebrate community dominated by tolerant species. (DEC/DOW, BWAM/SMAS, May 2011)

Recreational uses are also considered to be impaired based on the poor aquatic community and the presence of elevated levels of pathogens and other indicators of organic loads and possible sewage inputs to the creek. Waterfowl may also be a contributing source of pathogens. (DEC/DOW, BWAM/SMAS, May 2011)

Fish consumption is also stressed by impacts from an upstream abandoned plating plant that is now a superfund site which has contaminated groundwater with cadmium, chromium and volatile organics. This groundwater plume has reached Massapequa Creek. Fish sampling did not necessitate change in the health advisory. (DEC/FWMR, Region 1, 1998)

Water Quality Information

NYSDEC Rotating Integrated Basin Studies (RIBS) monitoring of Massapequa Creek in Massapequa was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, toxicity testing, sediment assessment and macroinvertebrate tissue analysis. Biological (macroinvertebrate) sampling 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 some enrichment and impact source determination reveals the fauna to be most similar to communities influenced by point and nonpoint municipal and industrial sources as well as organic loads and low dissolved oxygen from sewage or animal wastes. Water column chemistry indicated nitrite and coliform to be present at levels that constitute parameters of concern. Toxicity testing using water from this location detected significant reproductive effects on the test organism. Sediment screening for acute toxicity indicated possible sediment toxicity. Bottom sediments analysis based on sediment quality guidelines developed for freshwater ecosystems revealed elevated levels of cadmium and PAHs, but overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrate tissue was not collected at this site but small non-game fish analyzed for selected metals and PAHs showed mercury and chromium to be present in elevated levels. Based on the consensus of these established assessment indicators, 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/RIBS, May 2011)

A biological assessment of Massapequa Creek in Massapequa was also conducted in 1998 and 1999. Water quality was assessed as slightly impacted in 1998 and moderately impacted in 1999. Caddisflies were abundant at this site, and mayflies were present but limited; tolerant sowbugs were numerous. This site was assessed as slightly impacted in 1994. Impacts at this site may be caused in large part by flow-dependent urban runoff. (DEC/DOW, BWAR/SBU, January 2000)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Massapequa Creek in Massapequa (at Clark Avenue) was conducted in 1999. Fecal and total coliform, ammonia and temperature values were found to be high. Other sampling results were typical of urban streams. (DEC/DOW, BWAR/SWAS, January 2001)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of nutrients and pathogens in the waterbody are stormwater and other urban point and nonpoint sources. Unregulated sanitary discharges may be present. Contamination from a groundwater plume traced to an abandoned plating plant that is now a superfund site have also been documented. (DEC/DOW, BWAM and Reg 1, March 2011)

Management Actions

Nassau County DPW received state Clean Water/Clean Air Bond Act funding in 2001 to rehabilitate Massapequa Preserve, which includes the creek. These rehabilitation measures include construction of a stormwater treatment system, restoration of eroding pond/stream banks and construction of a flow augmentation system. Massapequa Creek had been regularly stocked with trout by the DEC. But declines in water quality and decreased baseflow (due to sewering in the area) prevent the stream from holding trout year-round. (DEC/DOW, Region 1, October 2001)

Section 303(d) Listing

Massapequa Creek is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL for nutrients and pathogens. This waterbody was first listed on the 2012 List. (DEC/DOW, BWAM, January 2014)

Segment Description

This segment includes the entire freshwater portion of the stream and all tribs above Massapequa Reservoir.

Massapequa Lake (1701-0156) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-220-P968	**Drain Basin:**	Atlantic-Long Island Sound Southern Long Island
Hydro Unit Code:	0203020202 **Class:** C		
Water Type/Size:	Lake 39.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Known
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Stressed	Unconfirmed
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (native), AQUATIC INVASIVE SPECIES
Suspected:	NUTRIENTS (Phosphorus), Low D.O./Oxygen Demand
Unconfirmed:	Pesticides

Source(s) of Pollutant(s)

Known:	HABITAT ALTERATION, Urban/Storm Runoff
Suspected:	Other/Non-Permitted Sanitary Discharge
Unconfirmed:	Other (waterfowl)

Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	ext/WQCC
IR/305(b) Code:	Water Attaining Some Standards (IR Category 2)

Further Details

Overview

Massapequa Lake is assessed as having minor impacts due to recreational uses that are known to be stressed by algal and native and non-native/invasive plant growth. High nutrient loading from urban/storm runoff and other nonpoint sources are likely contributors to the problems.

Use Assessment

Massapequa Lake is a Class C waterbody, suitable for general recreation and support of aquatic life, but not as a water supply or for public bathing.

Water Quality Information

Massapequa Lake was sampling in 1999 as part of the NYSDEC Lake Classification and Inventory (LCI) lake monitoring program. Water quality analyses noted extremely high nitrate levels and low dissolved oxygen.

Extremely shallow water depths also limit development of a desirable recreation area or fishery. These conditions were noted during a 1998 Lake Classification and Inventory study by NYSDEC, but conditions need to be verified. (DEC/DOW, BWM/Lake Services, August 2000).

Fish consumption is also stressed. Fish flesh analyses show chlordane contamination in some species. However, at present, there is no health advisory. (DEC/FWMR, Region 1, 1998)

Management Actions

The lake is included in the Nassau County Suburban Pond Management Plan. The county received state Clean Water/Clean Air Bond Act funding in 2001 to rehabilitate Massapequa Preserve, which include the lake. These rehabilitation measures include construction of a stormwater treatment system, restoration of eroding pond/stream banks and construction of a flow augmentation system. (DEC/DOW, Region 1, October 2001)

Section 303(d) Listing

Massapequa Lake is currently included on the NYS 2010 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. Because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, April 2011)

Segment Description

This segment includes the total area of the entire lake.

Massapequa Reservoir (1701-0157) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-220-P969	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** A		Southern Long Island
Water Type/Size:	Lake(R) 16.6 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	Unassessed	-
Shellfishing	N/A	-
Public Bathing	Unassessed	-
Recreation	Stressed	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PESTICIDES (chlordane), Algal/Plant Growth (native)
Suspected:	Nutrients (Phosphorus)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	Urban/Storm Runoff
Suspected:	TOXIC/CONTAMINATED SEDIMENT
Unconfirmed:	- - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Massapequa Reservoir is assessed as an impaired waterbody due to fish consumption that is known to be impaired by pesticide contamination. The source of this contamination is considered to be contaminated sediment, the result of past pesticide use. Recreation is considered to be stressed due to the fish consumption advisory, and the presence of nuisance native plant species.

Use Assessment
Massapequa Reservoir is a Class A waterbody, suitable for use as a water supply, public bathing beach, general recreation and support of aquatic life. The reservoir is no longer used as a public water supply.

Fish consumption in the waterbody is impaired due to a NYS DOH health advisory that recommends eating more than one meal per month of white perch because of elevated chlordane levels. The source of this contamination is

considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued in prior to 1998-99. (2013-14 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014).

Recreational uses are considered to be stressed due to the consumption advisory and by the presence of nuisance native plant species. However the pond supports a diverse fishery and is stocked for fishing use. (DEC/DOW, BWAM/LMAS, March 2011)

Aquatic life is fully supported. The Division of Fish Wildlife and Marine Resources has conducted 8 fisheries surveys on the reservoir since 1989. Each survey indicated that the reservoir supports a large diverse fish population that includes: largemouth bass, white perch, bluegill, pumpkinseed, brown bullhead, black crappie, golden shiners, common carp, banded killifish, American eel, as well as a small number of brown and rainbow trout. Their most recent survey in 2007 did not yield any white perch, the subject of the active fish consumption advisory. Although the lake is classified as a warmwater fishery, the lake is presently stocked in the spring and fall with rainbow and the county has proposed augmentation of the stream flow with cold water and dredging portions of the reservoir to make trout survival in the reservoir more likely in the future. (DEC/DFWMR, Bureau of Fisheries, September 2010)

The waterbody is not currently used as a water supply, nor is there a public bathing area located on the pond. Additional sampling is necessary to confirm conditions, but these uses are thought to experience no significant impacts. (DEC/DOW, BWAM, July 2014)

Water Quality Information

The reservoir was included in a joint DEC and Nature Conservancy aquatic plant sampling of waterbodies in Long Island in the summer of 2005. In addition, the reservoir was included in the NYSDEC 2009 intensive (monthly sampling) Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound basin. During these sampling visits water quality conditions were evaluated through standard limnological indicators. Massapequa Reservoir can be characterized as mesoeutrophic, or moderately to highly productive. The water clarity readings typical of eutrophic waterbodies was expected given the average phosphorus readings that are typical of mesoeutrophic waterbodies, and the average chlorophyll a readings typical of mesoeutrophic waterbodies. These data indicate that nutrient levels are in the moderate to high range and may occasionally be high enough to produce algal blooms. It should be noted that Secchi disk transparency readings could not be accurately measured, since the disk was visible while sitting on the bottom of the reservoir. However, the phosphorus and chlorophyll a data suggest that the actual Secchi disk transparency readings are probably only slightly greater than those recorded during the LCI sampling sessions.

Massapequa Reservoir appeared to be typical of other shallow, hardwater, uncolored, alkaline waterbodies. Other waterbodies with similar water quality characteristics often support warmwater fisheries, although fisheries habitat cannot be fully evaluated through this monitoring program. Several common native rooted aquatic plants species were observed in the reservoir as well as two invasive species Myriophyllum aquaticum (parrot feather) and Potamogeton crispus (curlyleaf pondweed). Parrot feather and curlyleaf pondweed can outcompete native vegetation and grow to nuisance levels. However, the overall plant community is dominated by Ceratophyllum demersum (coontail), a nuisance native plant.

Source Assessment

The source of pesticide contamination is believed to be from contaminated sediments, the result of past pesticide use. Although Massapequa Reservoir is within confines of the forested preserve, much of the watershed is in the large residential developments on either side of the preserve. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for these ponds. The waterbody is the second largest waterbody in Massapequa Preserve Park, which is managed by Nassau County. Nassau County is currently working to improve water quality throughout the preserve. Additional background and fishing information for the reservoir can be found at http://www.dec.ny.gov/outdoor/24182.html. The reservoir was used as a drinking water source for New York City from the late 1800's to the mid 1900's, but is no longer used for potable water supply. (DEC/DOW, BWAM/LMAS, March 2011)

Section 303(d) Listing

Massapequa Lake is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as a fish consumption water due to pesticide contamination. This waterbody was first listed on the 1998 Section 303(d) List. (DEC/DOW, BWAM, March 2011)

Segment Description

This segment includes the total area of the entire lake.

Seafords/Seamans Creeks, and tidal tribs (1701-0389) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-216 thru 219	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	02030202/050 **Class:** SC		Southern Long Island
Water Type/Size:	Estuary 199.2 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of selected tidal tribs to bay		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Unconfirmed
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Good	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	- - -
Unconfirmed:	Algal/Plant Growth

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other (waterfowl)
Unconfirmed:	Other/Non-Permitted Sanitary Discharge

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

These Tidal Tribs to South Oyster Bay are assessed as an impaired waterbody due to recreational use that is known to be impaired by pathogens from stormwater and other urban nonpoint sources. Algal growth (brown tides) may also impact uses. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

The Tidal Tribs to South Oyster Bay segment is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not for shellfishing or public bathing.

Shellfish harvesting for consumption purposes in these tribs is restricted due to the year-round and seasonal designations of these waters (a portion within Shellfish Growing Area #3) 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 SC 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 stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Recreational use is considered to be impaired based on monitoring at beaches in the segment and the shellfish advisory indicating somewhat elevated bacteriological levels. Beach monitoring revealed frequent elevated bacteriological levels at beaches. Occasional beach closures are the result of both bacteriological results and pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Phillip Healy Beach. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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 Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and

coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Seafords/Seamans Creeks and tidal tribs is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was included as part of the Tidal Tribs to South Oyster Bay (1701-0200) segment on Part 1 of the List as a water requiring development of a TMDL for pathogens. This waterbody was first included on the List for pathogens in 2012. The Seafords/Seamans Creek segment was subsequently separated and is now assessed as a separate waterbody and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes the tidal portions of Seaford Creek (-221), Seamans Creek (-222) and tidal tribs, including Island Creek and Lower Cedar Creek, and several marinas and boat basins. Massapequa Cove, including Lower (tidal) Massapequa Creek, is listed separately.

Seafords/Seamans Creeks, Upper, and tribs (1701-0201) Need Verification

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.1a) SOB-221 thru 223 (select)		**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:** C		Southern Long Island
Water Type/Size:	River	3.8 Miles	**Reg/County:**	1/Nassau Co. (30)
Description:	total length of selected (freshwater) tribs			

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	- - -
Suspected:	NUTRIENTS, SILT/SEDIMENT, Algal/Plant Growth
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	- - -
Suspected:	URBAN/STORM RUNOFF
Unconfirmed:	Other/Non-Permitted Sanitary Discharge

Management Information

Management Status:	Verification of Problem Severity Needed
Lead Agency/Office:	DOW/BWAM
IR/305(b) Code:	Water with Insufficient Data (IR Category 3)

Further Details

Overview

Seafords/Seamans Creeks is assessed as needing verification of impacts due to recreational uses and aquatic life that may be impacted by pollutants from stormwater and other urban nonpoint sources. Aesthetics along the streams in these highly developed and densely populated suburban areas are also reported to be degraded. However, this assessment was conducted more than 10 years ago and more recent monitoring to verify current conditions is recommended.

Use Assessment

Upper Seafords and Seamans Creeks are a class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life reflects impacts that may be the result of poor habitat conditions. Additional study is needed to determine if poor water quality is also influencing the biological community. Recreational uses are also influenced by habitat and aesthetic conditions. Additional sampling is necessary to determine if poor water quality also contributes to impacts to these uses. (DEC/DOW, BWAM, June 2014)

Fish consumption in this waterbody has not been assessed. There is currently no evidence of impacts to this use, however there are advisories for other nearby waters with similar surrounding land use. (DEC/DOW, BWAM, July 2014)

Water Quality Information
There is currently no available sampling data for this waterbody. (DEC/DOW, BWAR/SBU, November 2010)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of possible pollutants to this waterbody are urban/storm runoff. (DEC/DOW, BWAM, June 2014)

Management Actions
No specific management actions have been identified for this waterbody.

Section 303(d) Listing
Upper Seafords/Seamans Creeks is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM, June 2014*)*

Segment Description
This segment includes the entire freshwater portions and tribs of Seaford Creek (-221), Seamans Creek (-222) and Cedar Creek (-223). The lower (tidal) portions of these streams are listed separately. This segment was previously referred to as LI Tribs (fresh) to South Oyster Bay and included additional tribs that are now assessed separately.

East Bay (1701-0202) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.2) EB
Hydro Unit Code: 0203020202 **Class:** SA
Water Type/Size: Estuary 3028.1 Acres
Description: entire bay, as delineated

Drain Basin: Atlantic-Long Island Sound
Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Impaired	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS
Suspected: Priority Organics (PCBs/migratory fish)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Other Source (migratory species)
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DEC/FWMR
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
East Bay is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
East Bay is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of much of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are thought to be stressed due to the restrictions on shellfishing and fish consumption. However, beach monitoring to verify any impacts is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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 Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in East Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

East Bay is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes all Class SA tidal waters between Meadowbrook Parkway and Wantagh State Parkway (Jones Beach Causeway), including channels and inlets. Class SC tributaries are listed separately.

Tidal Tribs to East Bay (1701-0203) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.2a) EB-224 thru 227 (selected)	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SC		Southern Long Island
Water Type/Size:	Estuary 260.0 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of selected tidal tribs to bay		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	- - -
Unconfirmed:	- - -

Source(s) of Pollutant(s)

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

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	ext/WQCC
IR/305(b) Code:	Water Attaining All Standards (IR Category 2)

Further Details

Overview

The Tidal Tribs to East Bay segment is assessed as having minor impacts due to recreational uses that are known to be stressed by pathogens from urban/storm runoff and other nonpoint sources.

Use Assessment

The Tidal Tribs to East Bay segment is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water or for public bathing.

Recreational use is considered to experience minor impacts based on monitoring at beaches in the segment and the shellfish advisory indicating somewhat elevated bacteriological levels. Beach monitoring revealed no elevated bacteriological levels at beaches and few closures. Occasional beach closures that do occur are pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include

Merrick Estates Civic Association Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Shellfishing harvesting for consumption purposes in these tribs is restricted due to the year-round and seasonal designations of these waters (a portion within Shellfish Growing Area #1) 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 SC designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, the shellfishing restrictions indicate other recreational uses could be stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM/WQAS, July 2010)

Water Quality Information

NYSDEC does not routinely collect water quality data in this waterbody. NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. The Town of Hempstead has conducted Bay sampling through 2010 which shows more favorable water quality than found in western Hempstead Bay waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants in the Tidal Tribs to East Bay are urban/storm runoff and other nonpoint sources from the highly developed watershed. (DEC/DOW, BWAM and Region 1, March 2010)

Management Actions

No specific management actions have been identified for these tribs.

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire Peconic Estuary in 2009 to address impacts from boat pollution. (DEC/DOW, Region 1, March 2010)

Section 303(d) Listing

The Tidal Tribs to East Bay segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM, August 1, 2014)

Segment Description

This segment includes Class SC portions of tribs Wantaugh Canal (-224a), Bellmore Creek (-224), Newbridge Creek (-225), Baldwin Creek/Cedar Swamp Creek (-226), Simmond Creek (-227), Mud Creek (-227a).

Tribs (fresh) to East Bay (1701-0204) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.2a) EB-224 thru 227 (selected)		**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:** C		Southern Long Island
Water Type/Size:	River	3.6 Miles	**Reg/County:**	1/Nassau Co. (30)
Description:	total length of selected (freshwater) tribs			

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Suspected
Aquatic Life	Impaired	Known
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	NUTRIENTS (phosphorus), Other Pollutant (debris, trash)
Suspected:	SILT/SEDIMENT
Unconfirmed:	Pathogens

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	OTHER/NON-PERMITTED SANITARY DISCHARGE
Unconfirmed:	- - -

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

These freshwater tribs are assessed as an impaired waterbody due to recreation use and aquatic life that are known or thought to be impaired by nutrients and silt sediment from urban/storm runoff and other nonpoint sources. Other sanitary discharges in this highly developed watershed may also be a contributing sources.

Use Assessment

These freshwater tribs are Class C waterbodies, suitable for general recreation use and support of aquatic life, but not as a water supply, or for public bathing.

Additional bacteriological sampling is needed to more fully evaluate swimming use. Conditions suggest at least stresses to public bathing.

Aquatic life is considered to be impaired based on the results of biological sampling that reveals moderately impacted conditions. Recreational use is thought to be impaired as well. No additional sampling to evaluate recreational use specifically has been conducted. But the likely sources identified by the biological monitoring suggest significant impacts to recreational use. (DEC/DOW, BWAM, December 2010)

Water Quality Information

A biological (macroinvertebrate) assessment of Bellmore Creek in Bellmore (at Wantagh State Parkway) was conducted as part of the RIBS biological screening effort in 2003. 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 impoundment effects 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, December 2010)

These results are consistent with results collected at the site in 1998. Sampling results at that time also indicated moderately impacted water quality conditions; municipal/industrial sources were indicated. The dominance of worms and sowbugs points to organic inputs. Filamentous algae was also heavy at this site. (DEC/DOW, BWAR/SBU, January 2000)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of pollutants is urban/storm runoff and other nonpoint sources. The biological community indicates organic loads and sewage inputs may be present, suggesting possible unregulated sanitary discharges. (DEC/DOW, BWAM, July 2014)

Management Actions

No specific management actions have been identified for these trib waters.

Section 303(d) Listing

The Tribs (fresh) to East Bay segment is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as an impaired waterbody requiring the development of a TMDL for phosphorus and silt/sediment. However the evidence of impairment based on silt/sediment is not clear and should be re-evaluated. This waterbody was first listed on the 2002 List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the upper (freshwater) portion of Bellmore Creek (-224), Newbridge Creek (-225), Cedar Swamp Creek (-226), Simmond Creek (-227).

Mill (Jones) Pond (1701-0205) Threatened

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.2a) EB-224-P981	**Drain Basin:**	Atlantic-Long Island Sound Southern Long Island
Hydro Unit Code:	0203020202 **Class:** A		
Water Type/Size:	Lake 17.0 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Fully Supported	Unconfirmed
Public Bathing	Fully Supported	Unconfirmed
Recreation	Threatened	Known
Aquatic Life	Fully Supported	Unconfirmed
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	Aquatic Invasive Species
Suspected:	- - -
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	Habitat Alteration
Suspected:	- - -
Unconfirmed:	- - -

Management Information

Management Status: No Action Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Mill (Jones) Pond is assessed as threatened due to recreation uses that are threatened by aquatic invasive species. All other uses are considered to be fully supported.

Use Assessment
Mill (Jones) Pond is a Class A waterbody, suitable for use as a water supply, public bathing beach, general recreation and support of aquatic life.

Recreational use is considered to be threatened due to the presence of invasive aquatic plants, which have the potential to restrict recreational use. Swimming and boating are not currently permitting in the waterbody, and recreational use of the lake is limited to shoreline fishing and other passive enjoyment. (DEC/DOW, BWAM, July 2011)

Aquatic life is fully supported in the waterbody. The pond supports an active sports fishery, including largemouth bass, chain pickerel, bluegill, pumpkinseed sunfish, black crappie, yellow perch, white perch, carp, American eel, black bullhead, and brown bullhead. The state record and United Fishing Association all-tackle world record black bullhead (7lb 7oz) was caught in Mill Pond in 1993. (DEC/DOW, BWAM/LMAS, March 2011)

The waterbody is not currently used as a water supply, nor is there a public bathing area located on the pond. Additional sampling is necessary to confirm conditions, but these uses are thought to experience no significant impacts. (DEC/DOW, BWAM, July 2014)

Water Quality Information

Mill (Jones) Pond was surveyed monthly by the NYSDEC in 2004 as part of the Lake Classification and Inventory (LCI) survey. This survey work found extensive surface beds of water chestnut (Trapa natans), Eurasian watermilfoil (Myriophyllum spicatum) and brittle naiad (Najas minor), invasive exotic plant species, throughout the lake. The water chestnut finding was the first in Long Island, and the Eurasian watermilfoil finding occurred shortly after this exotic plant was first found in Long Island in Twin Lakes North and South (aka Seamens Pond and Wantagh Pond), a few miles north of the lake. The lake also suffers from extensive populations of spadderdock (Nuphar sp). (DEC/DOW, BWAM/LMAS, March 2011)

The pond can be characterized as mesotrophic, or moderately productive. The water clarity readings (trophic state index (TSI) = 70, representative of eutrophic lakes) were much lower than expected given the phosphorus readings (TSI = 48, representative of mesoeutrophic lakes), and much lower than expected given the chlorophyll a readings (TSI = 46, representative of mesotrophic lakes. However, water clarity readings are substantially compromised by the shallow (appx 1.2 meters) maximum depth of the lake, limiting the use of water clarity as a trophic indicator. These data indicate that the lake does not appear to be susceptible to algal blooms, although some shoreline blooms are commonly found in shallow ponds, particularly within weed beds. The depth profile is typical of shallow lakes, with oxygenated conditions to the lake bottom. The lake has a circumneutral pH with moderately hard water, elevated chloride and nitrogen levels (though below the state water quality standards) and low water color. These data did not indicate any significant water quality problems. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment

The source of the impacts in the waterbody are attributed to habitat alteration.

Management Actions

The presence of invasive aquatic plants triggered a 1999 hydraulic dredging project involving several thousand cubic yards of sediment from the pond, aquatic harvesting of aquatic vegetation, and creation of new pond shoreline plantings, pathways, benches, and trash receptacles. The estimated project cost was $1.2 million, of which $300,000 were a NYS Clean Water/Clean Air Bond Act award. Jones Pond is part of the (Wantagh) Mill Pond County Park managed by Nassau County. (DEC/DOW, BWAM/LMAS, March 2011)

Section 303(d) Listing

Mill (Jones) Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the total area of the entire lake.

Wantagh/Seamans Ponds (1701-0159) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.2a) EB-224-P982,P983	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** A		Southern Long Island
Water Type/Size:	Lake 29.6 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	Total area of both ponds		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	Fully Supported	Unconfirmed
Shellfishing	N/A	-
Public Bathing	Fully Supported	Unconfirmed
Recreation	Stressed	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Good	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PESTICIDES (chlordane), Aquatic Invasive Species
Suspected:	- - -
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	Habitat Alteration
Suspected:	TOX/CONTAMINATED SED
Unconfirmed:	- - -

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	ext/WQCC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Wantaugh/Seamans Ponds are assessed as an impaired waterbody due to fish consumption that is known to be impaired by pesticide contamination. The source of this contamination is considered to be contaminated sediment, the result of past pesticide use. Recreation is considered to be stressed due to the fish consumption advisory, and the presence of exotic invasive plant species.

Use Assessment

Seamans Pond is a Class A waterbody, suitable for use as a water supply, public bathing beach, general recreation and support of aquatic life. Wantagh Pond is a Class C waterbody, with uses limited to general recreation and support of aquatic life.

Fish consumption in the waterbody is impaired due to a NYS DOH health advisory that recommends eating more than one meal per month of carp and American eel because of elevated chlordane levels. The source of this contamination is considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued in 2005. (2013-14 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014).

Recreational uses are considered to be stressed due to the consumption advisory and by the presence of exotic invasive plant species. However the pond supports considerable fishing use, cited by NYSDEC FWMR as one of the most heavily fished lakes in Nassau County. (DEC/DOW, BWAM/LMAS, March 2011)

Aquatic life is fully supported. The fishery includes largemouth bass, bluegill, pumpkinseed sunfish, black crappie, carp, brown bullhead, and American eel. Brown trout and rainbow trout are stocked in the pond. (DEC/DOW, BWAM/LMAS, March 2011)

The Class A portion of the waterbody is not currently used as a water supply, nor is there a public bathing area located on the pond. Additional sampling is necessary to confirm conditions, but these uses are thought to experience no significant impacts. (DEC/DOW, BWAM, July 2014)

Water Quality Information

Wantaugh Pond was surveyed by the NYSDEC and the Long Island Nature Conservancy as part of a joint DEC -TNC aquatic plant survey of Long Island lakes in 2006. These lakes were surveyed in an attempt to identify the range of water chestnut (Trapa natans), found in Wantagh Mill Pond a few miles downstream from the lake. This survey work found extensive growth of native plants, particularly spadderdock (Nuphar sp) in Upper Twin/Seamans Pond, as well as Eurasian watermilfoil (Myriophyllum spicatum) and fanwort (Ceratophyllum demersum) in both lakes, and Brazilian elodea (Egeria densa) in Lower Twin/Wantaugh Pond. It is likely that Brazilian elodea is also found in Upper Twin/Seamans Pond, but the lake couldn't be fully surveyed due to the extensive spadderdock beds. Eurasian watermilfoil, fanwort, and Brazilian elodea are invasive exotic plant species. The Eurasian watermilfoil finding in these lakes represent the first documented sighting of this common exotic plant in Long Island. Water chestnut was not found in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

No water quality survey work has been conducted on this waterbody.

Source Assessment

The source of pesticide contamination is believed to be from sediments, the result of past/historic use.

Management Actions

No specific management actions have been identified for these ponds. Nassau County oversees the management of recreational use. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake (NYSDEC/FOLA, 2009).

Segment Description

This segment includes the total area of both Wantagh (Lower Twin) Pond (P982) and Seamans (Upper Twin) Pond (P983), as well as a connecting smaller pond (P983a).

Newbridge Pond (1701-0207) Unassessed

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.2a) EB-226-P986
Hydro Unit Code: 0203020202 **Class:** C
Water Type/Size: Lake 8.3 Acres
Description: entire lake

Drain Basin: Atlantic-Long Island Sound Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Unassessed	-
Aquatic Life	Unassessed	-
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -
Suspected: - - -
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Unconfirmed: - - -

Management Information

Management Status: Unassessed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water with Insufficient Data (IR Category 3)

Further Details

Overview
Newbridge Pond is currently unassessed.

Camaans Pond (1701-0052) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.2a) EB-227-P987a	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** C		Southern Long Island
Water Type/Size:	Lake 6.0 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Impaired	Unconfirmed
Fish Consumption	Fully Supported	Unconfirmed
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	NUTRIENTS, ALGAL/PLANT GROWTH
Suspected:	Low D.O./Oxygen Demand
Unconfirmed:	Pathogens

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other (waterfowl)
Unconfirmed:	- - -

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Camaans Pond is assessed as an impaired waterbody due to recreational uses and aquatic life that are thought to be be impaired by high nutrient loads and resulting excessive aquatic plant growth, occasional algal blooms and reduced water clarity. Urban stormwater runoff is considered the most significant source of pollutants to the waterbody. Impacts from waterfowl are also a concern.

Use Assessment

Camaans Pond is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Recreational use is limited by high nutrient levels that result in algal blooms, aquatic plant growth and reduced water clarity.

Aquatic life is thought to be limited by low dissolved oxygen as well as other pollutants in this small eutrophic urban pond. However a fishery assessment has not been conducted on this waterbody. The lake supports some fishing (white perch and American eel). (DEC/DOW, WAM/LMAS, March 2001)

Water Quality Information

Camaans Pond was included in the NYSDEC 2009 intensive (four sampling events between June and September) Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound (AO/LIS) basin. During LCI sampling visits, water quality conditions were evaluated through standard limnological testing. From the data collected in 2009, Camaans Pond can be characterized as eutrophic, or highly productive, with reduced water clarity and chlorophyll a levels also typical of eutrophic waterbodies. The LCI data suggest that algal blooms were occurring in July and August of 2009 and that baseline nutrient levels support persistent algal blooms. Extreme algal densities are also possible, but it is not known if this potentially contributes toxic algae to the pond. The waterbody appears to have substantially degraded water quality compared to other small shallow urban ponds in Nassau County that were sampled as part of the 2009 LCI program. Substantial amounts of detritus and debris have accumulated along the southern shore near the fishing dock. (DEC/DOW, BWAM/LMAS, March 2011)

Sources Assessment

Nassau County indicated the pond was originally created for drainage purposes. The majority of the water in the pond is stormwater from the surrounding area. Urban runoff and stormwater is the likely source of pollutants to the waterbody as well. The pond's outlet flows into a small canal which empties into the East Bay.

Management Actions

No specific management actions have been identified for Camaans Pond. Nassau County manages a small parking area and walking path on the eastern shore of the pond, as well as a small fishing platform at the southern end of the pond.

Section 303(d) Listing

Camaans Pond is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3a of the List as an impaired waterbody requiring verification of Impairment for phosphorus. The pond was previously included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. The water was added to Part 3a of the List for phosphorus – the likely cause of oxygen demand – in 2012. Moving the waterbody to listing on Part 1 of the List as a waterbody with impairment requiring a TMDL should be considered during the next listing cycle. (DEC/DOW, BWAM/WQAS, April 2011)

Segment Description

This segment includes the total area of the entire pond.

Middle Bay (1701-0208) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 1)	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SA		Southern Long Island
Water Type/Size:	Estuary 1210.3 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire bay, as delineated		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other Source (migratory fish species), Municipal, Habitat Alteration
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Middle Bay is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Middle Bay is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in Middle Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Middle Bay is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes all Class SA tidal waters between Long Beach Boulevard and Meadowbrook Parkway; excluding Garrett Lead/East Channel, Reynolds Channel, Jones Inlet/Jones Bay and other Eastern Channels, which are listed separately. Baldwin Bay, Parsonage Cove, Long Creek, and Shell Creek/Barnums Channel are also separately listed Class Sb waters.

Baldwin Bay/Milburn Cr and tidal tribs (1701-0385) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 2)/BB			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SB		Southern Long Island
Water Type/Size:	Estuary	309.8	Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of bay/creek, northeast of main Middle Bay				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -

Suspected: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (nitrogen), Pathogens, Priority Organics (PCBs/migratory fish),

Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff

Suspected: MUNICIPAL, HABITAT ALTERATION, Other Source (migratory fish species)

Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway

Lead Agency/Office: DOW/Reg1

IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Baldwin Bay/Milburn Creek is thought to experience minor impacts due to public bathing and recreational uses that are thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Long Creek/Baldwin Bay/Parsonage Cove.

Use Assessment

Baldwin Bay/Milburn Creek is a class SB waterbody, classified for public bathing, general recreation uses and support of aquatic life, but not for shellfishing.

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Baldwin Bay/Milburn Creek is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. However a proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes Class SB portions of the bay and creek northeast of the main portion of Middle Bay.

Parsonage Cove/Creek and tidal tribs (1701-0384) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 3)/PC		**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:** SB		Southern Long Island
Water Type/Size:	Estuary	131.8 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of cove/creek, northwest of main Middle Bay			

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -

Suspected: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (nitrogen), Pathogens, Priority Organics (PCBs/migratory fish),

Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff

Suspected: MUNICIPAL, HABITAT ALTERATION, Other Source (migratory fish species)

Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway

Lead Agency/Office: DOW/Reg1

IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Parsonage Cove/Creek is thought to experience minor impacts due to public bathing and recreational uses that are thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Long Creek/Baldwin Bay/Parsonage Cove.

Use Assessment

Parsonage Cove/Creek is a class SB waterbody, classified for public bathing, general recreation uses and support of aquatic life, but not for shellfishing.

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Parsonage Cove/Creek is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. However a proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes Class SB portions of these tidal waters northwest of the main portion of Middle Bay.

Garrett Lead/East Channel (1701-0386) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 4)			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	538.6 Acres		**Reg/County:**	1/Nassau Co. (30)
Description:	total area of channels, east of main Middle Bay				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other Source (migratory fish species), Municipal, Habitat Alteration
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Garrett Lead/East Channel is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Garrett Lead/East Channel is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in Middle Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Garrett Lead/East Channel is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered to be a part of the Middle Bay (1701-0208) segment which is included on Part 2c of the List as a shellfishing restricted water. The Garrett Lead/East Channel portion of Middle Bay was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes Class SA tidal waters portions of these tidal waters west of the main portion of Middle Bay.

Long Creek (1701-0214) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion5)/LC		**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:** SB		Southern Long Island
Water Type/Size:	Estuary	232.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of channel, east of Main Middle Bay			

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -
Suspected: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (nitrogen), Pathogens, Priority Organics (PCBs/migratory fish),
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff
Suspected: MUNICIPAL, HABITAT ALTERATION, Other Source (migratory fish species)
Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Long Creek is thought to experience minor impacts due to public bathing and recreational uses that are thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Long Creek/Baldwin Bay/Parsonage Cove.

Use Assessment
Long Creek is a class SB waterbody, classified for public bathing, general recreation uses and support of aquatic life, but not for shellfishing.

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in these waters are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Long Creek is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. However a proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes Class SB portions of this channel east of the main portion of Middle Bay.

Middle Bay, Eastern Channels (1701-0387) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 6)			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	394.8 Acres		**Reg/County:**	1/Nassau Co. (30)
Description:	total area of tidal water, east of main Middle Bay/Long Creek				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other Source (migratory fish species), Municipal, Habitat Alteration
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Middle Bay, Eastern Channels is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also thought to be affected by the presence of macroalgae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Middle Bay, Eastern Channels is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels in the waters of adjacent western Hempstead Bay may contribute to damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in Middle Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Middle Bay, Eastern Channels is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered to be a part of the Middle Bay (1701-0208) segment which is included on Part 2c of the List as a shellfishing restricted water. The Eastern Channels portion of Middle Bay was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes all Class SA tidal waters between Long Creek and Meadowbrook Parkway; Long Creek, Baldwin Bay, and other portions of and East Middle Bays, as well as other Class SB, SC tidal waters are listed separately.

Jones Inlet/Jones Bay (1701-0373) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3) MDB (portion 7) JI/JB	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SA		Southern Long Island
Water Type/Size:	Estuary 1050.6 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire inlet/bay, btw Loop & Meadowbrook Pkwys		

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Stressed	Known
Public Bathing	Stressed	Suspected
Recreation	Impaired	Known
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (ulva/sea lettuce), Pathogens
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	OTHER (macroalgae deposition), Urban/Storm Runoff
Suspected:	Other Source (migratory fish species)
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water, Pollution, not Pollutant (IR Category 4c)

Further Details

Overview

Jones Inlet/Jones Bay is assessed as an impaired waterbody due to recreation uses that are considered to be impaired by excessive macroalgae that washes into the Bay/Inlet from other shallower parts of the western Hempstead Bays complex and deposits along the shorelines. Large municipal wastewater discharges to Reynolds Channel (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients (nitrogen) that feed algal growth in the shallower, warmer back bays and subsequently washes into other waterbodies and out through Jones Bay and Inlet. Shellfishing and public bathing are also considered to be stressed by pathogens from stormwater and urban nonpoint runoff. Fish consumption is also considered to be stressed due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Jones Inlet/Jones Bay is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Recreational uses are considered to be impaired due to the routine occurrence of excessive macroalgae (ulva, or sea lettuce) that proliferates in the shallower back bays of the Western Bays complex and subsequently washes into the Bay/Inlet and onto shore. After washing on shore, the algal mats die, rot, and create odor and aesthetics issues that significantly affect the unsuitability of the beaches for recreation. Public bathing is also considered to be stressed by the deposited algae. However beach monitoring revealed no elevated bacteriological levels at beaches and no closures. Beaches within this reach include Rockaway Beach West. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

Shellfish harvesting for consumption purposes in the waterbody is restricted due to the designation of a portion of the area around Short Beach Boat Basin (included within Hempstead Bay Shellfish Growing Area #1) as only seasonally certified for the taking of shellfish for use as food. The remaining areas within the segment boundaries are open to shellfishing. As a result of the limited and seasonal nature of the restrictions, shellfishing use in the Bay/Inlet is listed as stressed. 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. (DEC/DFWMR, Region 1, July 2010)

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)

Both the habitat and aesthetic condition of the waterbody are affected by excessive macroalgae that wash into the Bay/Inlet from adjacent waterbodies and is deposited on the shore. These conditions significantly and negatively impact recreational use. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

Monitoring data from the Town of Hempstead Bay Study has shown that nutrient levels in the Bay/Inlet are fairly low relative to other waters in the Hempstead Bay Complex. Mapping of bottom cover of ulva by SUNY SoMAS also shows that the bottom coverage of this rooted plant is limited (about 10%) in the Bay/Inlet, whereas bottom density is as high as 60% in the warmer, shallower western Hempstead Bay. (Town of Hempstead, 2000-2010 and SUNY SoMAS, 2011)

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae along the waterbody shore. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Current data and information regarding nitrogen levels and ulva cover in the Bay/Inlet indicate that the macroalgae that causes the recreational impact on the shores of Jones Bay/Jones Inlet are not originating in the Bay/Inlet, but are washing in from the shallower, warmer waters of Hempstead Bay where nitrogen concentrations and ulva growth are

very high. Hempstead Bay receives high nitrogen loads from wastewater discharges to adjacent waters, primarily Reynolds Channel. The most significant of these dischargers is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in the waterbody are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of Hempstead Bay as the primary cause of the macroalgae impairment throughout the Western Bays. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – is already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bays entirely and to the Atlantic Ocean. These resulting reductions of nitrogen loading are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas are regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Jones Inlet/Jones Bay was not included on the proposed 2014 NYS Section 303(d) List of Impaired Waters that was submitted by NYSDEC. EPA has questioned the decision to omit this waterbody from the List and indicated that a listing for this waterbody due to nitrogen should be considered. However, as noted above, data show that nitrogen levels in the Bay/Inlet are quite low and among the lowest within all of the western South Shore Estuary (Town of Hempstead, 2000-2010), and bottom coverage of ulva in the waters of the Bay/Inlet is less than 10% (SUNY-SoMAS, 2011). Based on this information, these waters are not violating the narrative standard for nitrogen ("none in amounts that will result in growths of algae…that will impair the waters for their best usages"). The information does support NYSDEC's contention that the ulva is proliferating in other areas of the Western Bays (which are listed) and is being transported by winds and tidal currents into the Bay/Inlet. (DEC/DOW, BWAM, August 2014)

Based on this assessment, NYSDEC has assessed the waterbody as an Integrate Reporting (IR) Category 4c water, and considers it to be impaired (by the macroalgae that washes on shore) but not requiring a TMDL for nitrogen because of the already low levels of nitrogen in the waterbody. Although a 303(d) Listing and TMDL is not appropriate for Jones Inlet/Jones Bay, a reduction in macroalgae limiting recreation along the shore of this segment is expected to be achieved through the western Hempstead Bays Nitrogen TMDL and other efforts to address macroalgae growth at its source. (DEC/DOW, BWAM, August 2014)

Segment Description

This segment includes all Class SA tidal waters east and south of Loop Parkway, and west of Meadowbrook State Parkway.

Reynolds Channel, East (1701-0215) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.3) MDB-RC **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 0203020202 **Class:** SA Southern Long Island
Water Type/Size: Estuary 476.7 Acres **Reg/County:** 1/Nassau Co. (30)
Description: total channel area, from Jones Inlet to Long Beach Blvd

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Suspected
Recreation	Impaired	Known
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: ALGAL/PLANT GROWTH (ulva/sea lettuce), PATHOGENS, NUTRIENTS (Nitrogen)
Suspected: Priority Organics (PCBs/migratory fish)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, HABITAT ALTERATION, MUNICIPAL (Bay Park, other)
Suspected: Other Source (migratory fish species)
Unconfirmed: - - -

Resolution/Management Information

Management Status: Funding for Strategy Implementation Needed
Lead Agency/Office: DOW/BWC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Reynolds Channel East is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are considered to be precluded/impaired by pathogens and nutrient loads that result in excessive macroalgae that washes through the channel from the shallower parts of the Western Bays complex and deposits along the shorelines. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Large municipal wastewater discharges to the channel and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients that feed algal growth in the shallower, warmer back bays and subsequently wash into the channel. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Reynolds Channel East is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. (DEC/DFWMR, Region 1, July 2010)

Recreational uses are considered to be impaired due to the routine occurrence of excessive macroalgae (ulva, or sea lettuce) that proliferates in the shallower back bays of the Western Bays complex and subsequently wash into the Channel. These algal mats cover surface waters for much of the summer and washes up on shore where it rots leaving beaches unsuitable for recreation. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. However there are no designated beaches in this portion of the Channel and beach monitoring is not conducted at any location in the segment. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae that wash into the Channel from adjacent waterbodies. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The macroalgae that causes the use impairments in Reynolds Channel mostly originates in the shallower, warmer waters of Hempstead Bay; it is not certain that nitrogen levels are causing growth in the Channel. Hempstead Bay receives high nitrogen loads from wastewater discharges to adjacent waters, including Reynolds Channel. The most significant of these dischargers is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the macroalgae impairment throughout the Western Bays. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – is already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bays entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Reynolds Channel East is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed for this impairment on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, May 2014)

Reynolds Channel East was also added to the List in 2014 for nitrogen; the waterbody is included in Part 3b of the List as a waterbody for which TMDL development may be deferred pending verification of the cause/pollutant/source of impairment. Because of the hydrology and bathemetry, nitrogen levels may not be causing macroalgae growth – or a water quality standards exceedence – in the Channel. However nitrogen discharges to the Channel support macroalgae growth in adjacent waters, significant amounts of which are pushed into the Channel by tides and prevailing winds and currents. Additionally the impact of the transported macroalgae into the Channel and deposits along the shore result in the impairment of uses. Although listed, the situation suggests that characterization of the waterbody as a 4c water (impaired but not requiring a TMDL because a TMDL cannot be developed for algal or aquatic weed impairment) was considered and may be more appropriate. Although a nitrogen TMDL specifically for Reynolds Channel is not planned, nitrogen levels and resulting macroalgae in the Channel will be addressed through the Western Bays Nitrogen TMDL and other efforts to restore water quality and coastal habitat in Hempstead Bay and other adjacent waters. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes the channel waters east of Bob Jones Canal in Long Beach.

Freeport Creek/East Meadow Brook, Lower (1701-0388) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-228			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	126.2 Acres		**Reg/County:**	1/Nassau Co. (30)
Description:	total area of tidal waters, northwest of East Bay				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS
Suspected:	Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Other Source (migratory fish species), Municipal, Habitat Alteration
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Freeport Creek/East Meadow Brook is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also thought to be affected by the presence of macroalgae. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of these waters with Middle and East Bays.

Use Assessment

Freeport Creek/East Meadow Brook is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels may contribute to the macroalgae growth and damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in Middle Bay are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the Bay. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Freeport Creek/East Meadow Brook is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered to be part of the Middle Bay (1701-0208) and East Bay (1701-0202) segments which are included on Part 2c of the List as a shellfishing restricted water. The Freeport Creek/East Meadow Brook portion of these bays was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes all Class SA tidal waters north of Middle and East (Merrick) Bays; Middle Bay, East Bay and Upper East Meadow Brook are listed separately.

East Meadow Brook, Upper, and tribs (1701-0211) Needs Verification

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-228			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	C		Southern Long Island
Water Type/Size:	River	1.0 Miles		**Reg/County:**	1/Nassau Co. (30)
Description:	stream and tribs above P989 (freshwater)				

Water Quality Problem/Issue Information

Use(s) Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Impaired	Unconfirmed
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	SILT/SEDIMENT
Suspected:	Water Level/Flow, Nutrients
Unconfirmed:	Algal/Plant Growth

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF
Suspected:	Roadbank Erosion
Unconfirmed:	Other/Non-Permitted Sanitary Discharge

Management Information

Management Status:	Verification of Problem Severity Needed
Lead Agency/Office:	DOW/BWAM
IR/305(b) Code:	Water with Insufficient Data (IR Category 3)

Further Details

Overview

Upper East Meadow Brook is assessed as needing verification of impacts due to aquatic life that may be impaired by silt/sediment and/or other pollutants from urban storm runoff. Roadway runoff from Meadowbrook Parkway which runs along the stream also affects water quality.

Use Assessment

Upper East Meadow Brook is a class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life reflects impacts that may be the result of poor habitat conditions. Additional study is needed to determine if poor water quality is also influencing the biological community. Recreational uses are also influenced

by habitat and aesthetic conditions. Additional sampling is necessary to determine if poor water quality also contributes to impacts to these uses. (DEC/DOW, BWAM, June 2014)

Fish consumption in this waterbody has not been assessed. There is currently no evidence of impacts to this use, however there are advisories for other nearby waters with similar surrounding land use. (DEC/DOW, BWAM, July 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of East Meadow Brook in Roosevelt was conducted in 1998. Sampling results indicated water quality to be moderately impacted. Poor substrate consisting of concrete pieces over gravel likely contributed to the limited fauna. This situation made it difficult to determine the extent of any water quality problems. Due to the uncertainty of the previous assessment and the lack of more recent data, additional monitoring is recommended to verify current conditions in the stream. (DEC/DOW, BWAR/SBU, November 2010)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of silt/sediment and other pollutants in Upper East Meadow Brook are urban/storm runoff. (DEC/DOW, BWAM, June 2014)

Management Actions
Water levels and flows in the creek were cited as a concern if previous assessments. Nassau County has taken action to increase base flows by installing check dams to the stream. Siltation remains a water quality issues. (Nassau County WQCC, October 2000)

Section 303(d) Listing
Upper East Meadow Brook is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as an impaired waterbody requiring TMDL development for silt/sediment. However the level of problem verification is insufficient for a listing in most cases and its continued listing should be re-evaluated during the next listing cycle. This waterbody was first listed on the 2002 List. (DEC/DOW, BWAM, June 2014*)*

Segment Description
This segment includes the entire freshwater portion of the stream and tribs.

Freeport Reservoir/East Meadow Pond (1701-0025) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-228-P989	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** A		Southern Long Island
Water Type/Size:	Lake(R) 20.3 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	Threatened	Suspected
Shellfishing	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PESTICIDES (chlordane), Nutrients (Phosphorus), Algal/Plant Growth
Suspected: Silt/Sediment
Unconfirmed: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff
Suspected: TOX/CONTAM. SEDIMENT
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Freeport Reservoir/East Meadow Pond is assessed as an impaired waterbody due to fish consumption that is known to be impaired pesticides. The source of the pesticide contamination is considered to be from past use and previously contaminated sediment. Public bathing and other recreational use is known to be stressed by excessive invasive and native aquatic plant and algal growth.

Use Assessment

Freeport Reservoir/East Meadow Pond is a Class A waterbody, suitable for use as a water supply, public bathing beach, general recreation and support of aquatic life.

Fish consumption in Freeport Reservoir/East Meadow Pond is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of carp because of elevated chlordane concentrations. The

source of this contamination is considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued in 1998-99. (2009-10 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Public bathing and other recreational uses of the waterbody are considered to be stressed by excessive aquatic plant and algal growth that restrict swimming and boating and make fishing difficult. Public bathing use impairment is assessed as suspected due to the lack of pathogen data. There is limited public access and use of the waterbody for bathing. (DEC/DOW, BWAM/LMAS, March 2011)

Freeport Reservoir is classified for use as a water supply; however it is not currently used for this purpose. Although available data are not sufficient to fully evaluate potable water use, elevated levels of iron, chloride, and manganese may impact potable water use. (DEC/DOW, BWAM/LMAS, March 2011)

Aquatic life is thought to be fully supported based on favorable assessment of the fishery. The lake provides fishing opportunities for largemouth bass, bluegill, pumpkinseed sunfish, black crappie, carp, brown bullhead, and American eel. Most of the fish are less than 12 inches, but there are good numbers of 12 to 15 inch fish present. The introduction of bluegills reduced the size of the pumpkinseed population, but both are plentiful enough to provide fast action for those that target them. Black Crappie provide a good spring time fishery. Large carp are reported to be caught every year from the reservoir, although there is an advisory restricting the consumption of carp to one fish per month. Although the reservoir is not classified as a trout water, it was stocked for a time but is no longer considered to be suitable as a cold water fishery. (DEC/DFWMR, Region 1, March 2011)

The aesthetics of the lake are considered to be poor, based on the excessive plant and weed growth. Habitat is considered to be fair, based on the presence of invasive plants. (DEC/DOW, BWAM/LMAS, March 2011)

Water Quality Information

Freeport Reservoir/East Meadow Pond was included in the 2009 NYSDEC Lake Classification and Inventory (LCI) survey of waterbodies in the Atlantic Ocean/ Long Island Sound (AO/LIS) basin. Only two samples were taken in the lake, one of the two revealed elevated high phosphorus levels. The recreational suitability of the western reservoir was described as "slightly impacted" due to reduced water clarity, definite algal greenness and the difficulty to access the reservoir. The recreational suitability of the eastern reservoir was described as "substantially impacted" due to the high densities of exotic and native aquatic plant species, definite algal greenness and the difficulty to access the reservoir. The invasive species Myriophyllum aquaticum (parrot feather) was observed to be growing throughout the eastern reservoir. High densities of parrot feather and other aquatic plants species may make boating and fishing difficult on the eastern reservoir. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment

Freeport Reservoir/East Meadow Pond is comprised of two hydrologically connected reservoirs that are on either side of the Meadowbrook Parkway. The land surrounding the reservoirs is owned by the state and is mostly forested. The course of the East Meadow Brook and the unnamed tributaries are mostly forested; however, much of the water in these streams comes from runoff associated with the large residential areas on either side of the Meadowbrook Parkway. Based on surrounding land use and other knowledge of the waterbody, the most likely source(s) of nutrients in the waterbody is/are urban/storm runoff from roadways and other impervious surfaces. The source of the pesticide contamination is considered to be from lake sediments contaminated by past pesticide use. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for this waterbody. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake. (NYSDEC/FOLA, 2009).

Section 303(d) Listing

Freeport Reservoir/East Meadow Pond is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as a water impaired due to fish consumption restrictions due to chlordane. This waterbody was first listed on the 2002 List. (DEC/DOW, BWAM, July 2014)

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

Smith (Roosevelt) Pond (1701-0136) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-228-P989-P991	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** C		Southern Long Island
Water Type/Size:	Lake 6.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Known
Aquatic Life	Threatened	Suspected
Fish Consumption	Precluded	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PESTICIDES (chlordane), Algal/Plant Growth (vegetation), Nutrients
Suspected: - - -
Unconfirmed: Pathogens

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff, Other Sanitary Disch
Suspected: TOX/CONTAM. SEDIMENT
Unconfirmed: - - -

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Smith (Roosevelt) Pond is assessed as an impaired waterbody due to fish consumption that is known to be impaired by pesticides. The source of the pesticide contamination is considered to be from past use and previously contaminated sediment. Recreational use is known to be stressed by excessive invasive and native aquatic plant and algal growth, nutrients, and silt/sedimentation from urban stormwater runoff and other nonpoint sources.

Use Assessment

Smith (Roosevelt) Pond is a Class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply of for public bathing.

Fish consumption in Smith/Roosevelt Pond is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of carp or goldfish and eating no American eel because of elevated chlordane

concentrations. The source of this contamination is considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued prior to 1998-99. (2009-10 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Recreational use of the waterbody is somewhat limited by reduced water clarity and algal growth in this shallow, urban, eutrophic pond. (DEC/DOW, BWAM/LMAS, September 2009)

Aquatic life support is considered to fully supported, but threatened based on a mostly favorable fishery assessment. The Bureau of Fisheries conducted a few fisheries surveys in the 1990's. These surveys indicated that the pond supported: largemouth bass, golden shiners, goldfish, common carp, brown bullhead, black crappie, pumpkinseed, bluegill, and American eel. Discoloration and lesions were noted on some of the fish in the 1994 survey. A new fisheries survey would need to be conducted to verify the pond still supports a similar fish community (DEC/DFWMR, Bureau of Fisheries, October 2007).

Water Quality Information

Smith (Roosevelt) Pond was included in the NYSDEC 2009 intensive Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound basin. During these sampling visits water quality conditions were characterized as eutrophic, or highly productive. The average water clarity reading is typical of eutrophic ponds and was expected given elevated phosphorus levels typical of eutrophic ponds. Clarity was less favorable than expected given chlorophyll a readings that were typical of mesoeutrophic ponds. These data suggest that baseline nutrient levels may support persistent algal blooms, although algae production does not appear to be limited by phosphorus. Phosphorus, iron, sodium and chloride were found to be at elevated concentrations in the pond. No invasive aquatic plants were observed, and submergent aquatic plant diversity was minimal. Sediment from the pond was found to have levels of lead, chrysene and pyrene above the Threshold Effect Concentration (TEC), the point at which adverse effects to sediment biota might be expected to occur. (DEC/DOW,BWAM/LMAS, September 2009)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source of nutrients and other pollutants in the waterbody is urban/storm runoff from roadways and other impervious surfaces. The pond is located in a local park. Some of the surrounding area is forested, however East Meadow Brook which feeds the pond flows along the Meadowbrook Parkway and is influences by urban and roadway runoff. The source of the pesticide contamination is considered to be from lake sediments contaminated by past pesticide use. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for this waterbody. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake. (NYSDEC/FOLA, 2009).

Section 303(d) Listing

Smith (Roosevelt) Pond is included on the current (2014) Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as a water impaired due to fish consumption restrictions due to chlordane. This waterbody was first listed on the 1998 List. (DEC/DOW, BWAM, July 2014)

Segment Description

This segment includes the total area of the entire lake.

Milburn/Parsonage Creeks, Upp, and tribs (1701-0212) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-230,231			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	C		Southern Long Island
Water Type/Size:	River	2.5 Miles		**Reg/County:**	1/Nassau Co. (30)
Description:	total length of (freshwater) portions of both streams				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Impaired	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: UNKNOWN POLLUTANT (Biological Impact), PESTICIDES (chlordane)
Suspected: D.O./Oxygen Demand, Nutrients, Algal/Plant Growth, Silt/Sediment
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, TOX/CONTAM. SEDIMENT
Suspected: OTHER SANITARY DISCH
Unconfirmed: On-Site/Septic Syst

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Upper Millburn/Parsonage Creeks is assessed as an impaired waterbody due to recreational use, fish consumption and aquatic life that are known to be impaired. Recreational use and aquatic life are thought to be impaired by nutrient enrichment and organic waste loads from urban stormwater runoff and other unknown sources that result in algal and plant growth and other eutrophic conditions. The impairment to fish consumption is the result of pesticide contamination that results in a health advisory discouraging the consumption of fish taken from a small pond (lofts pond) within the segment. The source of the pesticide contamination is considered to be from past use and previously contaminated sediment.

Use Assessment

Upper Millburn/Parsonage Creeks is a Class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply of for public bathing.

Recreational use of the waterbody is impaired by reduced water clarity, excessive algal/plant growth and other eutrophic conditions in this shallow, urban, waterway. Aquatic life was also found to be impaired by nutrient enrichment and other pollutants cited as contributing to biological impacts. (DEC/DOW, BWAM/LMAS, September 2009)

Fish consumption in Smith/Roosevelt Pond is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of carp or goldfish and eating no American eel because of elevated chlordane concentrations. The source of this contamination is considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued prior to 1998-99. (2009-10 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Water Quality Information

A biological (macroinvertebrate) assessment of Milburn Creek in Baldwin (at end of Jayne Street) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated moderately to 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)

Lofts Pond, located within this segment, was included in the NYSDEC 2009 intensive Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound basin. During these sampling visits water quality conditions were characterized as eutrophic, or highly productive. The average water clarity reading is typical of eutrophic ponds but was better than expected given elevated phosphorus levels that were also typical of eutrophic ponds. Clarity was less favorable than expected given chlorophyll a readings that were typical of mesoeutrophic ponds. These data suggest that baseline nutrient levels support persistent algal blooms, although algae production is lower than expected. Milburn Pond, also in the watershed, was included in the 2004 LCI survey. (DEC/DOW, BWAM/LMAS, September 2009)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source of nutrients and other pollutants in the waterbody is urban/storm runoff from roadways and other impervious surfaces. The biological community assessment suggests organic wastewater sources may also be present. The source of the pesticide contamination is considered to be from lake sediments contaminated by past pesticide use. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for this waterbody. However the Nassau County Parks website indicates that Lofts Pond was included in a capital improvement restoration effort that included dredging, harvesting of vegetation and planting native flora around the pond. Milburn Pond was included in the Nassau County Suburban Pond Management Plan. The county DPW is using capital funds and Clean Water/Clean Air Bond Act funding to dredge, install sediment traps and conduct streambank stabilization to control erosion. (Nassau County WQCC, 2005)

Section 303(d) Listing

The Upper Milburn/Parsonage Creeks segment is included on the current (2014) Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3b of the List as an impaired waterbody where TMDL development may be deferred pending the verification of sources causing aquatic toxicity. Lofts Pond within this segment is included on Part 2b of the List as a water impaired due to fish consumption restrictions due to chlordane. This waterbody was first listed on the 1998 List. Milburn Pond is also included in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. Updating of the List to reflect the combining of these waters into a single segment should be considered during the next listing cycle. (DEC/DOW, BWAM, July 2014)

Segment Description

This segment includes the entire stream above tidal waters and all freshwater tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C. The segment also includes Silver Lake (P996) and Lofts Pond (P998) which had been assessed as a separate waterbody (1701-0029) but was incorporated into this segment in 2014. Similarly the segment also includes Milburn Pond (P994) which was previously assessed separately (as waterbody 1701-0053) but was also incorporated into this segment in 2014.

Bedell Creek, and tidal tribs (1701-0210) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.3a) MDB-232
Hydro Unit Code: 0203020202 **Class:** SC
Water Type/Size: Estuary 42.7 Acres
Description: total area of tidal portion of trib

Drain Basin: Atlantic-Long Island Sound Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Unassessed	-
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: - - -
Suspected: ALGAL/PLANT GROWTH (ulva/sea lettuce), Nutrients (nitrogen), Pathogens
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff
Suspected: HABITAT ALTERATION, Municipal
Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview
Bedell Creek is thought to experience minor impacts due to recreational uses thought to be affected by the presence of macroalgae. Pathogens from stormwater and urban nonpoint runoff may also affect recreational uses.

Use Assessment
Bedell Creek is a class SC waterbody, classified for general recreation uses and support of aquatic life, but not for shellfishing or public bathing.

Recreational uses are thought to be stressed due to the presence of macroalgae (ulva, or sea lettuce) in the waterbody and on the shore. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

Both the habitat and aesthetic condition of the waterbody are thought to be stressed by the presence of macroalgae in the waterbody and deposits on the shore. Additionally, high nitrogen levels may contribute to the macroalgae growth and damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. Although this waterbody is monitored through the shellfish program, its class SC designation does not include shellfishing as an appropriate use so these waters are not assessed for support of shellfishing use. However, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling in adjacent waters, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented presence of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Significant nitrogen loading from wastewater discharges to the Western Bay complex is thought to contribute to macroalgae growth in the tidal creek. Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in these back-bay tribs. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Bedell Creek is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. However a proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes Class SC portions of Bedell Creek and tidal tribs.

Shell Creek/Barnums Channel (1701-0213) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.3a) MDB-SC, 232a	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SB		Southern Long Island
Water Type/Size:	Estuary 102.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	tidal portions of both streams/channels		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS, Algal/Plant Growth (ulva/sea lettuce)
Suspected: Priority Organics (PCBs/migratory fish), Nutrients (nitrogen)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Other Source (migratory fish species), Municipal
Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Shell Creek and Barnums Channel is assessed as having minor impacts due to public bathing and recreational uses that are thought to be stressed by pathogens from stormwater and urban nonpoint runoff. These uses are also affected by excessive macroalgae that washes through the channel from the shallower parts of the Western Bays complex and deposits along the shorelines. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
Shell Creek and Barnums Channel is a class SB waterbody, suitable for use for public bathing, general recreation uses and support of aquatic life, but not classified for shellfishing.

Recreational uses are thought to be stressed due to the occurrence of excessive macroalgae (ulva, or sea lettuce) that proliferates in the shallower back bays of the Western Bays complex and subsequently wash into this waterbody. These algal mats cover surface waters for much of the summer and washes up on shore where it rots leaving beaches unsuitable for recreation. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. However there are no designated beaches in this portion of the Channel and beach monitoring is not conducted at any location in the segment. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are stressed by excessive macroalgae that wash into the channel from adjacent waterbodies and deposits on the shore. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in the waterbody are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex contribute to macroalgae growth in the shallower back bays which is subsequently washed into adjacent waters, including Hog Island Channel. However it is not certain that nitrogen is causing algal growth in this waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing
Shell Creek and Barnums Channel is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. However a proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, May 2014)

Segment Description
This segment includes all of Shell Creek and Barnum Island Channel. The western end of Barnums Channel (from the mouth to Shell Creek) is Class SC.

Hempstead Bay, Broad Channel (1701-0032) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.4) HB (portion 1)
Hydro Unit Code: 0203020202 **Class:** SA
Water Type/Size: Estuary 862.2 Acres
Description: total area of main bay

Drain Basin: Atlantic-Long Island Sound Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS, Oxygen Demand/Low D.O.
Suspected: Priority Organics (PCBs/migratory fish)
Unconfirmed: Ammonia

Source(s) of Pollutant(s)

Known: MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected: Other Source (migratory fish species)
Unconfirmed: - - -

Management Information

Management Status: Funding for Strategy Implementation Needed
Lead Agency/Office: DOW/BWC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Hempstead Bay is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are known to be precluded/impaired by pathogens and nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to the Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
Hempstead Bay is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of the area (included within Hempstead Bay Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. A year-round shellfishing closure applies to the all tidal waters of the bay. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody, largely attributed to excessive nitrogen levels. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Water Quality Information
NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment
The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Hempstead Bay is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 1 of the List as a water requiring development of a TMDL for nitrogen. The waterbody is also included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed on the 1998 Section 303(d) List for pathogens and was added to the 2006 List due to nitrogen. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes all Class SA tidal waters bounded by Brosewere Bay to the west, Hewlett Bay to the north, Hog Island Channel to the east and Reynolds Channel to the south. These other adjacent waterbodies are listed separately. Selected tributary waters to Hempstead Bay are also listed separately.

Hewlett Bay (1701-0382) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4) HB (portion 2)			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	197.0 Acres		**Reg/County:**	1/Nassau Co. (30)
Description:	total area of bay, north of main Hempstead Bay				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS, Oxygen Demand/Low D.O.
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	Ammonia

Source(s) of Pollutant(s)

Known:	MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected:	Other Source (migratory fish species)
Unconfirmed:	- - -

Management Information

Management Status:	Funding for Strategy Implementation Needed
Lead Agency/Office:	DOW/BWC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Hewlett Bay is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are known to be precluded/impaired by pathogens and nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to the Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Hempstead Bay that included these waters.

Use Assessment

Hewlett Bay is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of the area (included within Hempstead Bay Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. A year-round shellfishing closure applies to the all tidal waters of the bay. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody, largely attributed to excessive nitrogen levels. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Monitoring at beaches in the segment also indicate occasionally elevated bacteriological levels. Periodic beach closures that do occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Hewlett Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Hewlett Bay is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered included to be a part of the Hempstead Bay (1701-0032) segment on Part 1 of the List as a water requiring development of a TMDL for nitrogen. The waterbody is also included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed on the 1998 Section 303(d) List for pathogens and was added to the 2006 List due to nitrogen. The Hewlett Bay segment was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes all Class SA tidal waters north of the main Hempstead Bay and selected tidal tribs. Other trib waters to Hempstead/Hewlett Bays are listed separately.

Brosewere Bay (1701-0383) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4) HB (portion 3)			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	376.3 Acres		**Reg/County:**	1/Nassau Co. (30)
Description:	total area of bay, west of main Hempstead Bay				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS, Oxygen Demand/Low D.O.
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	Ammonia

Source(s) of Pollutant(s)

Known:	MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected:	Other Source (migratory fish species)
Unconfirmed:	- - -

Management Information

Management Status:	Funding for Strategy Implementation Needed
Lead Agency/Office:	DOW/BWC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Brosewere Bay is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are known to be precluded/impaired by pathogens and nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to the Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Hempstead Bay that included these waters.

Use Assessment
Brosewere Bay is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of the area (included within Hempstead Bay Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. A year-round shellfishing closure applies to the all tidal waters of the bay. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody, largely attributed to excessive nitrogen levels. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Water Quality Information
NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment
The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Brosewere Bay is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered included to be a part of the Hempstead Bay (1701-0032) segment on Part 1 of the List as a water requiring development of a TMDL for nitrogen. The waterbody is also included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed on the 1998 Section 303(d) List for pathogens and was added to the 2006 List due to nitrogen. The Brosewere Bay segment was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes all Class SA tidal waters west of the main Hempstead Bay, which is listed separately. Selected tributary waters to Hempstead/Brosewere Bays are also listed separately.

Hog Island Channel (1701-0220) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4) HB (portion 4)/HIC	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SB		Southern Long Island
Water Type/Size:	Estuary 202.0 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire channel		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS, ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (nitrogen)
Suspected: Priority Organics (PCBs/migratory fish), Oxygen Demand/Low D.O.
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, MUNICIPAL (Bay Park, other)
Suspected: Other Source (migratory fish species)
Unconfirmed: - - -

Resolution/Management Information

Management Status: Funding for Strategy Implementation Needed
Lead Agency/Office: DOW/BWC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Hog Island Channel is assessed as an impaired waterbody due to public bathing and recreation uses that are considered to be impaired by nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to Reynolds Channel and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Hog Island Channel is a class SB waterbody, suitable for use for public bathing, general recreation uses and support of aquatic life, but is not classified for shellfishing.

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody, largely attributed to excessive nitrogen levels. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. Periodic beach closures that do occur are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Island Park Beach and Harbor Isle Beach. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009 and DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae that wash into the Channel from adjacent waterbodies. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Hog Island Channel is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 1 of the List as a water requiring development of a TMDL for nitrogen. This waterbody was added to the List in 2014. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes all of Hog Island Channel and selected tidal tribs, including unnamed channel (-232b), Reeds Channel (-232c).

Island Park Channel (1701-0374) Minor Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.4) HB (portion 4a)/IPC
Hydro Unit Code: 0203020202 **Class:** SC
Water Type/Size: Estuary 10.7 Acres
Description: entire channel

Drain Basin: Atlantic-Long Island Sound
Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Known
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS, Algal/Plant Growth (ulva/sea lettuce)
Suspected: Priority Organics (PCBs/migratory fish)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF
Suspected: Other Source (migratory fish species), Municipal
Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Island Park Channel is assessed as having minor impacts due to recreational uses that are known to be stressed by pathogens from stormwater and urban nonpoint runoff. These uses are also affected by excessive macroalgae that washes through the channel from the shallower parts of the Western Bays complex and deposits along the shorelines. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
Island Park Channel is a class SC waterbody, suitable for use for general recreation uses and support of aquatic life, but not classified for shellfishing or public bathing.

Recreational uses are considered to be stressed due to occasionally elevated bacteriological levels. Periodic beach closures occur at nearby beaches and are thought to be reflective of conditions in this waterbody. These closures are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches in adjacent waters include and Island Park Beach and Harbor Isle Beach. Recreational uses are also limited by excess macroalgae (ulva, or sea lettuce) that accumulates on the waterbody shore where it rots leaving beaches unsuitable for recreation. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are stressed by excessive macroalgae that wash through the channel and deposits on the shore. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW, BWRM and Reg 1, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in Island Park Channel are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex contribute to macroalgae growth in the shallower back bays which is subsequently washed into adjacent waters, including Island Park Channel. However it is not certain that nitrogen is causing algal growth in the Channel. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the wastewater loading to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas and then spread throughout the adjacent waters. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing
Island Park Channel is not included on the NYS Section 303(d) List of Impaired/TMDL Waters. A proposed nitrogen TMDL for waters of the Western Bays is expected to provide water quality benefits to this adjacent waterbody.

Segment Description
This segment includes all of Island Park Channel.

Reynolds Channel, West (1701-0216) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.4) HB (portion 5)/RC **Drain Basin:** Atlantic-Long Island Sound
Hydro Unit Code: 0203020202 **Class:** SB Southern Long Island
Water Type/Size: Estuary 680.3 Acres **Reg/County:** 1/Nassau Co. (30)
Description: channel, from Long Beach Blvd to Atlantic Beach Bridge

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	Impaired	Suspected
Recreation	Impaired	Known
Aquatic Life	Unassessed	
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen)
Suspected: Pathogens, Priority Organics (PCBs/migratory fish)
Unconfirmed: Ammonia

Source(s) of Pollutant(s)

Known: HABITAT ALTERATION, MUNICIPAL (Bay Park, other), Urban/Storm Runoff
Suspected: Other Source (migratory fish species)
Unconfirmed: - - -

Management Information

Management Status: Funding for Strategy Implementation Needed
Lead Agency/Office: DOW/BWC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Reynolds Channel West is assessed as an impaired waterbody due to public bathing and recreation uses that are considered to be impaired by excessive macroalgae that washes through the channel from the shallower parts of the Western Bays complex and deposits along the shorelines. Large municipal wastewater discharges to the channel and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients that feed algal growth in the shallower, warmer back bays and subsequently wash into the channel. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Reynolds Channel West is a class SB waterbody, suitable for use for public bathing, general recreation uses and support of aquatic life, but is not classified for shellfishing.

Recreational uses are considered to be impaired due to the routine occurrence of excessive macroalgae (ulva, or sea lettuce) that proliferates in the shallower back bays of the Western Bays complex and subsequently wash into the Channel. These algal mats cover surface waters for much of the summer and washes up on shore where it rots leaving beaches unsuitable for recreation. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. However there are no designated beaches in this portion of the Channel and beach monitoring is not conducted at any location in the segment. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae that wash into the Channel from adjacent waterbodies. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The macroalgae that causes the use impairments in Reynolds Channel mostly originates in the shallower, warmer waters of Hempstead Bay; it is not certain that nitrogen levels are causing growth in the Channel. Hempstead Bay receives high nitrogen loads from wastewater discharges to adjacent waters, including Reynolds Channel. The most significant of these dischargers is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the macroalgae impairment throughout the Western Bays. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – is already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bays entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Reynolds Channel West was added to the List in 2014 for nitrogen; the waterbody is included in Part 3b of the List as a waterbody for which TMDL development may be deferred pending verification of the cause/pollutant/source of impairment. Because of the hydrology and bathemetry, nitrogen levels may not be causing macroalgae growth – or a water quality standards exceedence – in the Channel. However nitrogen discharges to the Channel support macroalgae growth in adjacent waters, significant amounts of which are pushed into the Channel by tides and prevailing winds and currents. Additionally the impact of the transported macroalgae into the Channel and deposits along the shore result in the impairment of uses. Although listed, the situation suggests that characterization of the waterbody as a 4c water (impaired but not requiring a TMDL because a TMDL cannot be developed for algal or aquatic weed impairment) was considered and may be more appropriate. Although a nitrogen TMDL specifically for Reynolds Channel is not planned, nitrogen levels in the Channel will be addressed through the Western Bays Nitrogen TMDL and other efforts to restore water quality and coastal habitat in Hempstead Bay and other adjacent waters. (DEC/DOW, BWAM, May 2014)

Segment Description
This segment includes the channel waters between the Atlantic Beach Bridge and Bob Jones Canal in Long Beach.

East Rockaway Inlet (1701-0217) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4) HB (portion 6)/ERI	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SA		Southern Long Island
Water Type/Size:	Estuary 178.9 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	channel, west of Atlantic Beach Blvd		

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Stressed	Suspected
Recreation	Stressed	Known
Aquatic Life	Unassessed	-
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PATHOGENS, Algal/Plant Growth (ulva/sea lettuce)
Suspected:	Priority Organics (PCBs/migratory fish), Nutrients (nitrogen)
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	URBAN/STORM RUNOFF, Habitat Alteration
Suspected:	Other Source (migratory fish species), Municipal
Unconfirmed:	- - -

Resolution/Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg1
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

East Rockaway Inlet is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also affected excessive macroalgae that washes through the channel from the shallower parts of the Western Bays complex and deposits along the shorelines. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

East Rockaway Inlet is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Inlet is restricted due to the designation of most of the area (included within Hempstead Bay Shellfish Growing Area #1) 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. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be stressed due to the presence of macroalgae (ulva, or sea lettuce) that accumulate in the waterbody and along the shore. Beach monitoring revealed no elevated bacteriological levels at beaches and no closures. Beaches within this reach include Rockaway Beach from 15th to 22nd Street. (2008 beach monitoring data as cited in *Testing the Waters*, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are stressed by excessive macroalgae that wash into the channel from adjacent waterbodies and deposits on the shore. Additionally, high nitrogen levels damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of the Western Bays system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens in East Rockaway Inlet are stormwater and urban/nonpoint runoff from this highly developed watershed. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. Significant nitrogen loading from wastewater discharges to the Western Bay complex contribute to macroalgae growth in the shallower back bays which is subsequently washed into adjacent waters, including Hog Island Channel. However it is not certain that nitrogen is causing algal growth in the Inlet. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels in specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

East Rockaway Inlet is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 2002 Section 303(d) List. A proposed nitrogen TMDL for waters of the Western Bays is also expected to provide water quality benefits to this adjacent waterbody. (DEC/DOW, BWAM, July 2010)

Segment Description

This segment includes all waters of the inlet west of the Atlantic Beach Bridge.

East Rockaway Channel (1701-0381) Impaired

Waterbody Location Information

Revised: 11/24/2015

Water Index No:	(MW8.4a) HB 233	**Drain Basin:**	Atlantic-Long Island Sound
Unit Code:	0203020202 **Class:** SC		Atlantic Ocean
Water Type/Size:	Estuary Waters 99.2 Acres	**Reg/County:**	1/Nassau (30)
Description:	total area of selected tidal tribs to bay		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	-
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s)

Known:	ALGAL/PLANT GROWTH (ULVA/SEA LETTUCE), NUTRIENTS (NITROGEN), Low D.O./Oxygen Demand, Pathogens
Suspected:	Ammonia, Priority Organics (PCBs)
Unconfirmed:	

Source(s) of Pollutant(s)

Known:	MUNICIPAL DISCHARGES (Bay Park, Other), Urban/Storm Runoff
Suspected:	Other Source
Unconfirmed:	

Management Information

Management Status:	Funding for Strategy Implementation Needed
Lead Agency/Office:	DOW/BWC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

This Hempstead Bay Tribs segment is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to Hempstead Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment
The Tribs to Hempstead Bay segment is a class SC waterbody, suitable for use for general recreation use and support of aquatic life, but not classified for shellfishing or public bathing.

Recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Monitoring at beaches in the segment also indicate occasionally elevated bacteriological levels. Periodic beach closures that occur in adjacent waters are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the waters. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information
NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment
The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to Hempstead Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody.
Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions
There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at a facility (Lawrence) that discharges to tribs of Hempstead Bay. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing
The Tribs to Hempstead Bay segment is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 1 of the List as a water requiring development of a TMDL for nitrogen. This waterbody was added to the 2014 List due to nitrogen. (DEC/DOW, BWAM, May 2014)

Segment Description
This segment includes Class SC tidal portions of East Rockaway Channel and tidal tribs, including Mill River (-1). In previous assessment, this segment was grouped with other Tidal Tribs to Hempstead Bay (1701-0218), but was broken out and assessed as a separate segment in 2014.

Tidal Tribs to Hempstead Bay (1701-0218) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-234 thru 235	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** SC		Southern Long Island
Water Type/Size:	Estuary 82.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of selected tidal tribs to bay		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), Pathogens, Oxygen Demand/Low D.O.
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	Ammonia

Source(s) of Pollutant(s)

Known:	MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected:	Other Source (migratory fish species)
Unconfirmed:	- - -

Management Information

Management Status:	Funding for Strategy Implementation Needed
Lead Agency/Office:	DOW/BWC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

The Hempstead Bay Tidal Tribs segment is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to Hempstead Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

The Tidal Tribs to Hempstead Bay segment is a class SC waterbody, suitable for use for general recreation use and support of aquatic life, but not classified for shellfishing or public bathing.

Recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Monitoring at beaches in the segment also indicate occasionally elevated bacteriological levels. Periodic beach closures that occur in adjacent waters are typically pre-emptive closures during heavier rainstorms that are known to wash pollutants into the waters. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Shellfish harvesting for consumption purposes in the channel is restricted due to the year-round designations of these waters (a portion within Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. 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, the shellfishing restrictions support the evaluation of other recreational uses as stressed. (DEC/DFWMR, BMR and DEC/DOW, BWAM, July 2010)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to Hempstead Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody.

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at a facility (Lawrence) that discharges to tribs of Hempstead Bay. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau-Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary-related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

The Tidal Tribs to Hempstead Bay segment is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 1 of the List as a water requiring development of a TMDL for nitrogen. This waterbody was added to the 2014 List due to nitrogen. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes Class SC tidal portions of Thixton Creek (-234), Cauerbach Canel (-234a), and Macy Channel (-235).

Smith Pond (1701-0028) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-233-P1005	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** C		Southern Long Island
Water Type/Size:	Lake 22.2 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire pond		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Known
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PESTICIDES (chlordane), Aquatic Invasive Species, Nutrients (phosphorus)
Suspected: Silt/Sediment, Low D.O./Oxygen Demand
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM SED, Habitat Alteration, Urban/Storm Runoff
Suspected: - - -
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Smith Pond is assessed as an impaired waterbody due to fish consumption that is known to be impaired by pesticides. The source of the pesticide contamination is considered to be from past use and previously contaminated sediment. Other recreational use is known to be stressed by excessive invasive aquatic plant and algal growth, nutrient enrichment and silt/sedimentation from urban stormwater runoff and other nonpoint sources.

Use Assessment
Smith Pond is a Class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply of for public bathing.

Fish consumption in Smith Pond is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of white perch because of elevated chlordane concentrations. The source of this

contamination is considered to be contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued prior to 1998-99. (2009-1[0] NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Recreational use of the waterbody is somewhat limited by reduced water clarity and algal growth in this shallow, urban, eutrophic pond. (DEC/DOW, BWAM/LMAS, September 2009)

Aquatic life support is considered to fully supported, but threatened based on a mostly favorable fishery assessment. The Bureau of Fisheries conducted a few fisheries surveys in the 1990's. These surveys indicated that the pond supported: largemouth bass, golden shiners, goldfish, common carp, brown bullhead, black crappie, pumpkinseed, bluegill, chain pickerel, yellow and white perch, and American eel. A new fisheries survey would need to be conducted to verify the pond still supports a similar fish community (DEC/DFWMR, Bureau of Fisheries, October 2007).

Water Quality Information

Smith Pond was included in the NYSDEC 2009 intensive (monthly sampling) Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound basin. During these sampling visits water quality conditions were evaluated through standard limnological indicators. From the data collected in through the LCI in 2009, Smith Pond can be characterized as mesoeutrophic, or moderately to highly productive. The average water clarity reading is typical of eutrophic waterbodies) but was less favorable than expected given an average phosphorus reading that was typical of mesoeutrophic waterbodies), and an average chlorophyll a reading that was also typical of mesotrophic waterbodies. These data suggest that baseline nutrient levels may support persistent algae blooms; however, algal production may be limited by something other than phosphorus. Smith Pond appears to be typical of other shallow suburban/urban hardwater, uncolored, alkaline ponds. Like most shallow water bodies, Smith Pond does not exhibit thermal stratification. Spadderdock was observed to be growing in high densities throughout the pond, drastically reducing the amount of open water. Phosphorus, nitrate, iron, sodium and chloride were found to be at elevated concentrations in the pond. Dissolved oxygen levels in July and August of 2009 were very low even at the surface of the pond indicating possible stress to aquatic life. (DEC/DOW, BWAM/LMAS, March 2011)

The data collected through the LCI indicated that non-contact recreation is impacted by high densities of Nuphar sp. (spatterdock). The recreational suitability of the pond was described as "substantially impaired" to "enjoyment Impossible" due to reduced water clarity and high densities of spatterdock. Spatterdock covered nearly the entire pond with only small open water areas. The density of the spatterdock made boating nearly impossible for DEC field staff. In addition, the Bureau of Fisheries website indicates that the high densities of spatterdock make shoreline fishing difficult. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source of nutrients and other pollutants in the waterbody is urban/storm runoff from impervious surfaces in the highly developed watershed. The pond is located in a local park (Morgan Days Park) and the immediate surrounding area is forested. The source of the pesticide contamination is considered to be from lake sediments contaminated by past pesticide use. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for this waterbody. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake. (NYSDEC/FOLA, 2009)

Section 303(d) Listing

Smith Pond is included on the current (2014) Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as a water impaired due to fish consumption restrictions due to chlordane. This waterbody was first listed on the 2002 List. (DEC/DOW, BWAM, July 2014)

Segment Description

This segment includes the total area of Smith Pond and other lakes included in this segment, including Pines Pond (P1005a).

Tribs to Smith Pond/Halls Pond (1701-0221) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-233-P1005-			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	C		Southern Long Island
Water Type/Size:	River	3.3 Miles		**Reg/County:**	1/Nassau Co. (30)
Description:	total length of selected (freshwater) tribs				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	PESTICIDES (chlordane),
Suspected:	Nutrients, Silt/Sediment, Algal/Plant Growth
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	TOX/CONTAM. SEDIMENT
Suspected:	Urban/Storm Runoff
Unconfirmed:	- - -

Management Information

Management Status:	Verification of Problem Severity Needed
Lead Agency/Office:	ext/WQCC
IR/305(b) Code:	Water with Insufficient Data (IR Category 3)

Further Details

Overview

Tribs to Smith Pond/Halls Pond is assessed as an impaired waterbody due to fish consumption that is known to be impaired by pesticides. The source of the pesticide contamination is considered to be from past use and previously contaminated sediment. Other impacts to uses were noted in previous assessments but were not well documented and need to be verified.

Use Assessment

Tribs to Smith Pond/Halls Pond is a Class C waterbody, suitable for use for general recreation and support of aquatic life, but not as a water supply of for public bathing.

Fish consumption in Halls Pond is impaired due to a NYS DOH health advisory that recommends eating no carp or goldfish because of elevated chlordane concentrations. The source of this contamination is considered to be

contaminated sediment, the result of past pesticide use. The advisory for this lake was first issued prior to 1998-99. The other waters of this segment do not have advisories but the advisories for Halls Pond and Smith Pond downstream suggest impact to the streams as well. (2009-10 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Previous assessments indicated that aquatic life support may be limited by silt, sedimentation and nutrients from stormwater and urban nonpoint runoff and streambank erosion. Aesthetics in the stream are also a concern. (Nassau County WQCC, October 2000)

Water Quality Information
There is limited water quality data available for this waterbody.

Halls Pond, which was incorporated into this segment in 2014, was included in the NYSDEC 2009 intensive (monthly sampling) Lake Classification and Inventory (LCI) survey of the Atlantic Ocean/ Long Island Sound basin. From the data collected in 2009, Halls Pond can be characterized as eutrophic, or highly productive, with high algae levels, baseline nutrient levels that support persistent algal blooms, and low dissolved oxygen. Though these conditions suggest significant impacts, additional sampling on the larger waterbody is recommended in order to provide a more complete assessment of the segment. (DEC/DOW, BWAM/LMAS, July 2014)

Source Assessment
The source of the fish consumption impairment is considered to be contaminated sediment, the result of past pesticide use. Other specific sources of pollutants to this waterbody have not been fully confirmed, but based on surrounding land use are thought to include urban/stormwater runoff.

Management Actions
No specific management actions have been identified for this waterbody. Assessment to verify any possible impacts are present is appropriate. (DEC/DOW, BWAM, June 2014)

Section 303(d) Listing
Tribs to Smith Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Halls Pond is included on Part 2b of the current List as a fish consumption water due to pesticide contamination. The pond was first included on the List in 1998. Halls Pond has been assessed separately but was incorporated into this segment in 2014. Updating the List to reflect the combining of these assessments should be considered during the next listing cycle. (DEC/DOW, BWAM, March 2011)

Segment Description
This segment includes the total length of all tribs to Smith Pond, including Pines Stream (-1). The segment also include Halls Pond (P1008), which prior to 2014 was listed separately.

South Pond (1701-0223) No Known Impacts

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-233-P1005-2-P1011	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202 **Class:** C		Southern Long Island
Water Type/Size:	Lake 22.7 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Threatened	Suspected
Aquatic Life	Fully Supported	Suspected
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	AQUATIC INVASIVE SPECIES
Suspected:	- - -
Unconfirmed:	- - -

Source(s) of Pollutant(s)

Known:	HABITAT ALTERATION
Suspected:	- - -
Unconfirmed:	- - -

Management Information

Management Status:	No Action Needed
Lead Agency/Office:	DOW/BWAM
IR/305(b) Code:	Water Attaining All Standards (IR Category 1)

Further Details

Overview

South Pond is assessed as having No Known Impacts; all evaluated uses are considered to be Fully Supported. Recreation use is evaluated as threatened based on the presence of aquatic invasive plants in the pond.

Use Assessment

South Pond is a Class C waterbody, suitable for general recreation and support of aquatic life, but not as a water supply or for public bathing.

Recreational use, primarily fishing, is supported. There is evidence of nutrient enrichment, but this does not appear to significantly impact uses. Shoreline access is available in a number of locations. (DEC/DOW, BWAM/LMAS, March 2011)

Aquatic life is considered to be fully supported. The lake is stocked in the fall with rainbow, brown and brook trout, and the lake actively supports a population of largemouth bass, chain pickerel, black crappie, pumpkinseed sunfish, carp, yellow perch, brown bullhead, and American eel. (DEC/DOW, BWAM/LMAS, March 2011)

Water Quality Information

South Pond was surveyed by the NYS Office of Parks, Recreation and Historic Preservation (OPR) as part of the OPR ambient lake monitoring program in 2000, 2001, 2003 and 2007. The 2007 survey found Brazilian elodea (Egeria densa), an invasive exotic plant species. The limited water quality data indicated the lake has a slightly brownish color (indicative of natural tannins), circumneutral pH and moderately hard water. Phosphorus readings were fairly high (typical of eutrophic, or highly productive, lakes), although this does not appear to have resulted in low water clarity or evidence of significant algal blooms. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment

No significant sources of pollutants to this waterbody have been identified.

Management Actions

No specific management actions have been identified for this waterbody. The lake is within the Hempstead Lake State Park and the NYS Office of Parks and Recreation is responsible for its management. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake (NYSDEC/FOLA, 2009).

Section 303(d) Listing

South Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM, July 2014)

Segment Description

This segment includes the total area of the entire lake.

Hempstead Lake (1701-0015) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-233-P1005-2-P1012	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	02030202/030 **Class:** C		Southern Long Island
Water Type/Size:	Lake 76.2 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Fully Supported	Suspected
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Unassessed	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	NUTRIENTS (phosphorus)
Suspected:	Low D.O./Oxygen Demand
Unconfirmed:	- - -

Source(s) of Pollutant(s)

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

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	ext/OPR
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Hempstead Lake is assessed as an impaired waterbody due to recreational uses that are known to be impaired by elevated levels of nutrients and associated algal blooms and weed growth. The source of the impacts is thought to be from urban/stormwater runoff and other nonpoint sources.

Use Assessment

Hempstead Lake is a Class C waterbody, suitable for general recreation and support of aquatic life, but not as a water supply or for public bathing.

Recreational use is considered to be impaired by elevated levels of nutrients and associated algal blooms and weed growth. Although conditions impair contact recreation, boating and fishing are supported activities. (DEC/DOW, BWAM/LMAS, March 2011)

Aquatic life is considered to be fully supported. The lake and surrounding lakes support an active shoreline fishery for largemouth bass, chain pickerel, bluegill, pumpkinseed sunfish, black crappie, yellow perch, carp, goldfish, and brown bullhead. (DEC/DOW, BWAM/LMAS, March 2011)

Water Quality Information

Hempstead Lake, as well as other smaller nearby ponds included in this segment, were surveyed by the NYS Office of Parks, Recreation and Historic Preservation (OPR) as part of the OPR ambient lake monitoring program in one or more of the years 2000, 2001, 2003, 2004, and 2007. Hempstead Lake was also sampled monthly by the NYSDEC Division of Water as part of the Lake Classification and Inventory (LCI) ambient lake monitoring program in the summer of 1999. Hempstead Lake can be characterized as eutrophic, or highly productive. The typical water clarity reading is representative of eutrophic lakes and was as expected given the typical phosphorus and chlorophyll a readings which were also representative of eutrophic lakes. These conditions suggest that the lake is susceptible to algal blooms. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely source of pollutants in the waterbody is urban/storm runoff from the surrounding watershed. (DEC/DOW, BWAM/LMAS, March 2011)

Management Actions

No specific management actions have been identified for this waterbody. The lake is within the Hempstead Lake State Park and the NYS Office of Parks and Recreation is responsible for its management. A range of general best management practices and other recommendations to restore and protect water quality in all lakes is outlined in the NYSDEC manual Diet for a Small Lake (NYSDEC/FOLA, 2009).

Section 303(d) Listing

Hempstead Lake is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as a waterbody with impairments requiring a TMDL due to phosphorus. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM, March 2011)

Segment Description

This segment includes the total area of the entire lake, as well as other smaller ponds in the Hempstead Lake State Park: McDonald Pond, Schodack Pond, and unnamed ponds (P1012b, P1012c). (DEC/DOW, BWAM/LMAS, March 2011)

Grant Park Pond (1701-0054) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-235-P1017a	**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	02030202/030 **Class:** C		Southern Long Island
Water Type/Size:	Lake 12.1 Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	entire lake		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Stressed	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: NUTRIENTS (phosphorus), PRIORITY ORGANICS (PCBs), D.O./Oxygen Demand, Silt/Sediment
Suspected: Algal/Plant Growth (vegetation, algal blooms)
Unconfirmed: Pathogens

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, Other Sanitary Disch
Suspected: TOX/CONTAM. SEDIMENT
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Grant Park Pond is assessed as an impaired waterbody due to recreational use and fish consumption that are known to be impaired. Recreation is limited by high nutrient levels that result in excessive algal and plant growth. Fish consumption is restricted due to PCB contamination. Urban/stormwater runoff, and past use of pesticides and contaminated sediments are the likely sources of pollutants to the waterbody.

Use Assessment

Grant Park Pond is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply, or as a public bathing beach.

Recreational use of the waterbody is limited by poor water clarity and other eutrophic conditions that are the result of elevated nutrient levels in this small, shallow, urban lake. (DEC/DOW, BWAM/LMAS, 2000)

Fish consumption in Grant Park Pond is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of carp because of elevated PCB levels. The advisory for this lake was first issued prior to 1998-99. (2009-10 NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2010).

Water Quality Information

Grant Park Pond was included in the 1999 Lake Classification and Inventory study by NYSDEC. Results of this monitoring study found elevated phosphorus and poor clarity in the lake throughout the summer. (DEC/DOW, BWAM/LMAS, 2000)

Source Assessment

Most of the impairment to recreational use in the waterbody is attributable to poor stormwater management practices which result in the direct input of stormwater runoff into the pond. The source of this contamination is considered to be contaminated sediment, the result of past industrial discharges. (DEC/DOW, BWAM/LMAS, 2000)

Management Actions

The lake was included in the Nassau County Suburban Pond Management Plan. However no additional specific management actions have been identified for the waterbody. (Nassau County WQCC, October 2000)

Section 303(d) Listing

Grant Park Pond is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL for phosphorus. The waterbody is also included on Part 2b of the List as impaired due to a fish consumption advisory due to chlordane contamination. This waterbody was first listed on the 1998 List for both of these pollutants. (DEC/DOW, BWAM/WQAS, July 2014)

Segment Description

This segment includes the total area of the entire lake.

Woodmere Channel (1701-0219) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No: (MW8.4a) HB-236
Hydro Unit Code: 02030202/030
Class: SA
Water Type/Size: Estuary 26.2 Acres
Description: entire channel
Drain Basin: Atlantic-Long Island Sound Southern Long Island
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

Use(s) Impacted	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Suspected
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS,
Suspected: Oxygen Demand/Low D.O., Priority Organics (PCBs/migratory fish)
Unconfirmed: Ammonia

Source(s) of Pollutant(s)

Known: MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected: Other Source (migratory fish species)
Unconfirmed: - - -

Management Information

Management Status: Funding for Strategy Implementation Needed
Lead Agency/Office: DOW/BWC
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Woodmere Channel is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are known to be precluded/impaired by pathogens and nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to Hempstead Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Woodmere Channel is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the Channel is restricted due to the designation of the area (included within Hempstead Bay Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. A year round shellfishing closure applies to the all tidal waters of the bay. Shellfish that grow in contaminated waters can accumulate disease causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Public bathing and recreational use may also experience minor impacts from elevated bacteriological levels. However there are no designated beaches in this portion of the Channel and beach monitoring is not conducted at any location in the segment. (DEC/DOW, BWAM and Reg 1, May 2014)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014)

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWAM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Woodmere Channel is included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody is included on Part 1 of the List as a water requiring development of a TMDL for nitrogen. The waterbody is also included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed on the 2002 Section 303(d) List for pathogens and was added to the 2014 List due to nitrogen. (DEC/DOW, BWAM, May 2014)

Segment Description

This segment includes the entire channel.

Bannister Creek/Bay (1701-0380) Impaired

Waterbody Location Information

Revised: 08/01/2014

Water Index No:	(MW8.4a) HB-237, 237a			**Drain Basin:**	Atlantic-Long Island Sound
Hydro Unit Code:	0203020202	**Class:**	SA		Southern Long Island
Water Type/Size:	Estuary	72.7	Acres	**Reg/County:**	1/Nassau Co. (30)
Description:	total area of bay, north of Reynolds Channel				

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Shellfishing	Precluded	Known
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Stressed	Suspected
Conditions Evaluated		
Habitat/Hydrology	Poor	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known:	ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS, Oxygen Demand/Low D.O.
Suspected:	Priority Organics (PCBs/migratory fish)
Unconfirmed:	Ammonia

Source(s) of Pollutant(s)

Known:	MUNICIPAL (Bay Park, Others), Urban/Storm Runoff
Suspected:	Other Source (migratory fish species)
Unconfirmed:	- - -

Management Information

Management Status:	Funding for Strategy Implementation Needed
Lead Agency/Office:	DOW/BWC
IR/305(b) Code:	Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Bannister Creek/Bay is assessed as an impaired waterbody due to shellfishing, public bathing and recreation uses that are known to be precluded/impaired by pathogens and nutrients (nitrogen) and resulting excessive macroalgae growth. Large municipal wastewater discharges to the Bay and adjacent waterbodies (Bay Park WWTP, Long Beach WWTP and West Long Beach WWTP) have been identified as the primary source of nutrients. Stormwater and urban nonpoint runoff from this highly developed watershed are also sources of pathogens and other pollutants. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. This assessment is based on a previous combined assessment of Hempstead Bay that included these waters.

Use Assessment

Bannister Creek/Bay is a class SA waterbody, suitable for use for shellfishing, public bathing, general recreation uses and support of aquatic life.

Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of the area (included within Hempstead Bay Shellfish Growing Area #1) as uncertified for the taking of shellfish for use as food. A year round shellfishing closure applies to the all tidal waters of the bay. Shellfish that grow in contaminated waters can accumulate disease causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. The uncertified 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. (DEC/DFWMR, Region 1, July 2010)

Public Bathing and recreational uses are considered to be impaired due to the proliferation of macroalgae (ulva, or sea lettuce) throughout the waterbody, largely attributed to excessive nitrogen levels. The ulva mats cover surface waters for much of the summer. Eventually the ulva dies and sinks to the bottom of the bays where it drains oxygen from the waters, or it washes up on shore where it rots leaving beaches unsuitable for recreation. Recreational uses are also affected by the restrictions on shellfishing. Beach monitoring is not routinely conducted at any location in the segment. (2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

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)

Both the habitat and aesthetic condition of the waterbody are significantly affected by the excessive macroalgae growth. In addition to feeding algae growth, high nitrogen levels also damage and degrade coastal marshlands, the loss of which negatively affects aquatic and coastal wildlife and reduced natural protection from erosion and shoreline storm damage. (DEC/DOW and DFWMR, May 2014),

Water Quality Information

NYSDEC, in partnership with NYSDOS, SUNY School of Marine and Atmospheric Sciences, and others, has contributed funding to support studies of this system, as well as the development of a nitrogen TMDL for these waters. Other water quality information supporting the assessment include bathing beach sampling, restrictions on shellfishing and a precautionary restriction on fish consumption, and the well documented proliferation of macroalgae. (DEC/DOW, BWAM and Reg 1, April 2014)

Source Assessment

The primary source of nutrient pollutant to the waterbody is large municipal wastewater discharges to the Bay and adjacent waterbodies. The most significant of these is the Bay Park WWTP, which discharges 50-plus MGD of wastewater into adjacent Reynolds Channel which tides, prevailing winds and currents then push into the shallow backwaters and marshes of Hempstead Bay. The discharges from the Bay Park facility, along with two other facilities (Long Beach WWTP and West Long Beach WWTP) contribute over 80% of the nitrogen pollution load to the Hempstead/Western Bays complex. Impacts from Bay Park were further exacerbated when the plant suffered considerable damage during Superstorm Sandy in 2012. (DEC/DOW, BWC and Reg 1, May 2014)

Stormwater and urban/nonpoint runoff from this highly developed watershed are the presumed sources of pathogens and other pollutants. Wildlife sources (waterfowl) may also contribute pathogens to the waterbody. (DEC/DOW, BWRM, May 2014)

Impacts to fish consumption due to elevated PCB levels is specific species is thought to be the result of the migratory range of these species, which are contaminated in other waters; there are no significant sources of contaminated sediments in the waters of this waterbody. (DEC/DOW, BWAM, May 2014)

Management Actions

There are significant efforts to reduce the nutrient loading from wastewater discharges to the Western Bays complex. These reductions are expected to reduce the growths of macroalgae in back bay areas that are subsequently spread throughout the adjacent waters. A number of studies by SUNY SoMAS and others have identified excessive nitrogen loads in the shallow, warm waters of the Bay as the primary cause of the impairment. These studies provide a foundation for the development of a Total Maximum Daily Load (TMDL) to address nitrogen impairment. However efforts to address the documented largest source of nitrogen load – the municipal wastewater discharges – are already underway. The efforts under consideration include consolidation of the multiple wastewater facilities, enhanced treatment to reduce nitrogen concentrations, and the relocation of the discharge out of the Western Bay entirely and to the Atlantic Ocean. (DEC/DOW, BWRM, May 2014)

Stormwater and nonpoint runoff from urbanized areas is regulated through the NYSDEC Municipal Separate Storm Sewer System (MS4) permit program. This general permit provides coverage for MS4 entities that develop and implement a stormwater management program to reduce runoff. (DEC/DOW, BWP, May 2014)

Recent changes to marine ammonia water quality standards necessary to protect resources resulted in the modification of SPDES permit limits for facilities that discharge to Hempstead Bay waters. These more stringent standards require changes to treatment processes and/or upgrades to existing treatment facilities at three (3) facilities Bay Park, Lawrence and Long Beach) that discharge to Hempstead Bay/Reynolds Channel waters. Final permit limits for these facilities will be established by the nitrogen TMDL currently being developed. (DEC/DOW, BWC and Reg 1, May 2014)

This waterbody is included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program as outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment, sustaining and of the estuary related economy, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution. A council of local stakeholders led by the NYS Department of State directs the activities of the SSER. (DEC/DOW, Region 1, May 2014)

Section 303(d) Listing

Bannister Creek/Bay is not specifically included on the current (2014) NYS Section 303(d) List of Impaired Waters. The waterbody was considered included to be a part of the Hempstead Bay (1701-0032) segment on Part 1 of the List as a water requiring development of a TMDL for nitrogen. The waterbody is also included on Part 2c of the List as a shellfishing restricted water due to pathogens. This waterbody was first listed on the 1998 Section 303(d) List for pathogens and was added to the 2006 List due to nitrogen. The Bannister Creek/Bay segment was subsequently separated and should be considered for addition to the List during the next listing cycle. (DEC/DOW, BWAM/WQAS, May 2014)

Segment Description

This segment includes all Class SA waters of the creek and bay, north of Reynolds Channel.