Appendix D

NYSDEC Impaired Water Body Assessments and Water Quality Data
Long Island/Atlantic Ocean Coastline Watershed (0203020209)

<table>
<thead>
<tr>
<th>Water Index Number</th>
<th>Waterbody Segment</th>
<th>Category</th>
</tr>
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<tbody>
<tr>
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Overview
This reach of the Atlantic Ocean shoreline is assessed as an impaired waterbody due to shellfishing use that is known to be impaired by pathogens from urban/stormwater runoff.

Use Assessment
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #65) has been designated uncertified for the taking of shellfish for use as food.
Specifically the waters off the coast at the western end of the reach near Lower New York Bay and at the eastern end of
the reach near East Rockaway Inlet are uncertified. The remainder of the reach has been certified as safe for the taking
of shellfish. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria,
viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality
sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria
and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations
are revised regularly; for the most up to date and detailed descriptions of current designations, go to

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody
and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches
and no beach closures. Beaches within this waterbody include beaches at Breezy Point and a number of Rockaway
Beaches that extend for about half this segment length. (NYSDOH BEACH Act monitoring results, 2015 and
DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports
are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting
consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and
local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is
compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest
and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and
surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included
collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in
2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results
satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report,
USEPA, Region II, February 2014)

Source Assessment
Based on surrounding land use and other knowledge of the watershed, urban/stormwater runoff is the primary source of
pollutants to the waterbody. Combined sewer overflows may also be contributing sources.

Management Action
A Municipal Separate Storm Sewer System (MS4) program requires implementation of control measures to reduce
pollutants into waterbodies. No additional specific management actions have been identified for the waterbody.

Section 303(d) Listing
This portion of the Atlantic coastline is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL
Waters. The waterbody is included on Part 2c of the List as an impaired shellfishing waterbody requiring a TMDL for pathogens. This waterbody was first listed on the 202012 List. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description:
This segment includes the ocean coastline between the tip of Rockaway point on the west and the Nassau–Queens county line at East Rockaway inlet on the east.
Overview
This reach of the Atlantic Ocean shoreline is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included within Shellfish Growing Area #65) has been certified as safe for the taking of shellfish for use as food. These
shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include Atlantic Beach Club, Catalina Beach, Clearwater Cabana Beach, East Atlantic Beach, Lawrence Beach, Lido Beaches, Long City Beach, Pebble Cove Beach, Plaza Beach Club, Point Lookout Park Beach, Sands at Atlantic, Silver Point Beach Club, Sun and Surf Beach, Town Park Point Beach, and numerous other smaller beaches. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in 2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report, USEPA, Region II, February 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
This portion of the Atlantic Ocean coastline is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the ocean coastline between the Nassau–Queens county line at East Rockaway inlet on the west and Jones Inlet on the east.
Atlantic Ocean Coastline (1701-0351)  No Known Impacts

Waterbody Location Information

Water Index No: (MW0.0) AO (portion 3)  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020209  Class: SA
Water Type/Size: Ocean Coast 14.9 Acres  Reg/County: 1/Suffolk (52)
Description: coastline from Jones Inlet to Fire Island Inlet

Revised: 12/21/2015

Water Quality Problem/Issue Information

Uses Evaluated  Severity  Confidence
Shellfishing  Fully Supported  Known
Public Bathing  Fully Supported  Known
Recreation  Fully Supported  Known
Aquatic Life  Fully Supported  Known
Fish Consumption  Stressed  Unconfirmed

Conditions Evaluated
Habitat/Hydrology  Good
Aesthetics  Good

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

Source(s) of Pollutant(s)
Known:  - - -
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
This reach of the Atlantic Ocean shoreline is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. Most of this waterbody (included within Shellfish Growing Area #65) has been certified as safe for the taking of shellfish for use as food. The
only restrictions in this segment are precautionary advisories for limited areas around any portion of the sewer outfalls serving either the Cedar Creek or Suffolk County Sewer District No. 3 (Southwest) WPCPs. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include a number of primarily smaller beaches. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in 2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report, USEPA, Region II, February 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
This portion of the Atlantic Ocean coastline is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the ocean coastline between Jones Inlet on the west and Fire Island Inlet on the east.
Atlantic Ocean Coastline (1701-0350)  No Known Impacts

Waterbody Location Information

Water Index No: (MW0.0) AO (portion 4)  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020209  Class: SA  Drain Basin: Atlantic Ocean
Water Type/Size: Ocean Coast 31.4 Acres  Reg/County: 1/Suffolk (52)
Description: coastline from Fire Island Inlet to Moriches Inlet

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

Uses Evaluated
Shellfishing  Severity: Fully Supported  Confidence: Known
Public Bathing  Severity: Fully Supported  Confidence: Known
Recreation  Severity: Fully Supported  Confidence: Known
Aquatic Life  Severity: Fully Supported  Confidence: Known
Fish Consumption  Severity: Stressed  Confidence: Unconfirmed

Conditions Evaluated
Habitat/Hydrology  Good
Aesthetics  Good

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

Source(s) of Pollutant(s)
Known: - - -
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
This reach of the Atlantic Ocean shoreline is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included within Shellfish Growing Area #65) has been certified as safe for the taking of shellfish for use as food. These
Shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include Robert Moses State Park Beach, Fire Island National Seashore Beach, Watch Hill Beach, and numerous other smaller beaches. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in 2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report, USEPA, Region II, February 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
This portion of the Atlantic Ocean coastline is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the ocean coastline between Fire Island Inlet on the west and Moriches Inlet on the east.
**Atlantic Ocean Coastline (1701-0349)** | **No Known Impacts**

### Waterbody Location Information

- **Water Index No:** (MW0.0) AO (portion 5)
- **Unit Code:** 0203020209
- **Water Type/Size:** Ocean Coast 15.5 Acres
- **Description:** coastline from Moriches Inlet to Shinnecock Inlet
- **Drain Basin:** Atlantic-Long Island Sound
- **Class:** SA
- **Reg/County:** 1/Suffolk (52)

### Water Quality Problem/Issue Information

- **Uses Evaluated**
  - Shellfishing: Fully Supported Known
  - Public Bathing: Fully Supported Known
  - Recreation: Fully Supported Known
  - Aquatic Life: Fully Supported Known
  - Fish Consumption: Stressed Unconfirmed

- **Conditions Evaluated**
  - Habitat/Hydrology: Good
  - Aesthetics: Good

- **Type of Pollutant(s)**
  - Known: - - -
  - Suspected: - - -
  - Unconfirmed: - - -

- **Source(s) of Pollutant(s)**
  - Known: - - -
  - 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**
This reach of the Atlantic Ocean shoreline is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

**Use Assessment**
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included within Shellfish Growing Area #65) has been certified as safe for the taking of shellfish for use as food. These
Shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include a number of primarily smaller beaches. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in 2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report, USEPA, Region II, February 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
This portion of the Atlantic Ocean coastline is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the ocean coastline between Moriches Inlet on the west and Shinnecock Inlet on the east.
Atlantic Ocean Coastline (1701-0348)  No Known Impacts

Waterbody Location Information

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Water Quality Problem/Issue Information

Uses

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<th>Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Fully Supported</td>
<td>Known</td>
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<td>Recreation</td>
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<td>Known</td>
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<td>Aquatic Life</td>
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<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Good |
| Aesthetics        | Good |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

| Known: | - - - |
| 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
This reach of the Atlantic Ocean shoreline is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included
within Shellfish Growing Area #65) has been certified as safe for the taking of shellfish for use as food. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to [www.dec.ny.gov/regs/4014.html](http://www.dec.ny.gov/regs/4014.html). (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed few if any elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include a number of primarily smaller beaches. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

This waterbody is considered to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

From 1974 thru 2013 the USEPA Region II office has conducted regular summer season water quality monitoring and surveillance of the New York Bight, and New Jersey and Long Island coastal waters. Through 2006 this effort included collection of pathogen, phytoplankton, dissolved oxygen data and floatables monitoring. Sampling was discontinued in 2007; floatables monitoring continued until the program ended in 2013. From 1997 through 2006, coliform results satisfied guidelines for bathing beaches in greater than 99% of the samples collected. (The Helicopter Monitoring Report, USEPA, Region II, February 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
This portion of the Atlantic Ocean coastline is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the ocean coastline between Shinnecock Inlet on the west and Montauk Point on the east.
### South Oyster Bay/Jones Inlet Watershed

#### Water Index Number

<table>
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<th>Water Index Number</th>
<th>Waterbody Segment</th>
<th>Assessment Category</th>
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<td>SOB</td>
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<td>SOB-216 thru 219</td>
<td>Tidal Tribs to South Oyster Bay (1701-0200)</td>
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<td>SOB-220</td>
<td>Massapequa Cove, and tidal tribs (1701-0391)</td>
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<td>Massapequa Creek, Upper, and tribs (1701-0174)</td>
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<td>Massapequa Reservoir (1701-0157)</td>
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<td>Seaford/Seamans Creeks, and tidal tribs (1701-0389)</td>
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<td>Seafoords/Seamans Creeks, Upper, and tribs (1701-0201)</td>
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<td>East Bay (1701-0202)</td>
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<td>EB-224 thru 227 (selected)</td>
<td>Tidal Tribs to East Bay (1701-0203)</td>
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<td>Tribs (fresh) to East Bay (1701-0204)</td>
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### South Oyster Bay/Jones Inlet Watershed (con’t)

#### (0203020202)

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<td>(MW8.3) MDB (portion 7)/JJB</td>
<td>Jones Inlet/Jones Bay (1701-0373)</td>
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<td>(MW8.3) MDB (portion 8)/RC</td>
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<td>Shell Creek/Barnums Channel (1701-0213)</td>
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<td>Hewlett Bay (1701-0382)</td>
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<td>Tidal Tribs to Hempstead Bay (1701-0218)</td>
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<td>Hempstead Lake (1701-0015)</td>
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<td>Grant Park Pond (1701-0054)</td>
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<td>(MW8.4a) HB-236</td>
<td>Woodmere Channel (1701-0219)</td>
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<td>(MW8.4a) HB-237, 237a</td>
<td>Bannister Creek/Bay (1701-0380)</td>
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South Oyster Bay (1701-0041)  

**Impaired**

**Waterbody Location Information**

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

**Water Quality Problem/Issue Information**

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Shellfishing</td>
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<td>Aquatic Life</td>
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<tr>
<td>Fish Consumption</td>
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<td>Known</td>
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**Conditions Evaluated**

- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

**Type of Pollutant(s)**

- **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**

- **Water Index No:** (MW8.1a) SOB-216 thru 219
- **Drain Basin:** Atlantic-Long Island Sound
- **Hydro Unit Code:** 0203020202
- **Class:** SC
- **Water Type/Size:** Estuary 324.0 Acres
- **Reg/County:** 1/Nassau Co. (30)
- **Description:** total area of selected tidal tribs

**Water Quality Problem/Issue Information**

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<tr>
<td>Shellfishing</td>
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<td>Public Bathing</td>
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<tr>
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<tr>
<td>Aquatic Life</td>
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<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
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**Conditions Evaluated**

- **Habitat/Hydrology:** Good
- **Aesthetics:** Fair

**Type of Pollutant(s)**

- **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 Seafrds/Seamans Creek and tidal trib – which were previously included within this segment – are now listed separately.
Amityville/Carman Creeks, Upper, and tribs (1701-0087) Need Verification

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Water Quality Problem/Issue Information

Uses Evaluated

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<th>Confidence</th>
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<td>Shellfishing</td>
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<td>Public Bathing</td>
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Conditions Evaluated

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Type of Pollutant(s)

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Source(s) of Pollutant(s)

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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)

**Waterbody Location Information**

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

**Water Index No:** (MW8.1a) SOB-220

**Drain Basin:** Atlantic-Long Island Sound

**Class:** SC

**Reg/County:** 1/Nassau Co. (30)

**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.

**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.
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

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**Water Quality Problem/Issue Information**

**Uses Evaluated**

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**Conditions Evaluated**

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<td>Aesthetics</td>
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**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**

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<tr>
<td>Lead Agency/Office:</td>
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<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
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</table>

**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**
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

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

Water Quality Problem/Issue Information

- **Uses Evaluated**
  - Water Supply: N/A
  - Shellfishing: N/A
  - Public Bathing: N/A
  - Recreation: Stressed
  - Aquatic Life: Stressed
  - Fish Consumption: Stressed
- **Severity**
  - N/A
  - N/A
  - N/A
  - Stressed
  - Stressed
  - Stressed
- **Confidence**
  - -
  - -
  - -
  - Known
  - Unconfirmed
  - Unconfirmed

- **Conditions Evaluated**
  - Habitat/Hydrology: Poor
  - Aesthetics: Poor
- **Type of Pollutant(s)**
  - 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

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

Water Quality Problem/Issue Information

Uses Evaluated

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

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<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
</tbody>
</table>

Type of Pollutant(s)

- **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

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

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Fish Consumption</td>
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Conditions Evaluated

Habitat/Hydrology: Good  Aesthetics: Fair

Type of Pollutant(s)

Known: PATHOGENS  (CAPS indicate MAJOR Pollutants/Sources)
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 NYS DOS, 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 trib 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 trib, including Island Creek and Lower Cedar Creek, and several marinas and boat basins. Massapequa Cove, including Lower (tidal) Massapequa Creek, is listed separately.
Seafor ds/Seamans Creeks, Upper, and tribs (1701-0201) Need Verification

Waterbody Location Information

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<td>Description:</td>
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Water Quality Problem/Issue Information

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<th>Severity</th>
<th>Confidence</th>
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<td>Recreation</td>
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<tr>
<td>Fish Consumption</td>
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<thead>
<tr>
<th>Conditions Evaluated</th>
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<tbody>
<tr>
<td>Habitat/Hydrology</td>
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<td>Aesthetics</td>
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<tr>
<th>Type of Pollutant(s)</th>
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<th>(CAPS indicate MAJOR Pollutants/Sources)</th>
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<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<td>Known:</td>
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<td>Suspected:</td>
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Management Information

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<th>Verification of Problem Severity Needed</th>
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<td>DOW/BWAM</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Water with Insufficient Data (IR Category 3)</td>
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Further Details

Overview
Seafor ds/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 Seafor ds 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 trib 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 tribus that are now assessed separately.
East Bay (1701-0202)  Impaired

Waterbody Location Information  Revised: 08/01/2014

| Water Index No: | (MW8.2) EB          | Drain Basin:  | Atlantic-Long Island Sound |
| Hydro Unit Code: | 0203020202   | Class:        | SA                           |
| Water Type/Size: | Estuary 3028.1 Acres | Reg/County:  | 1/Nassau Co. (30)           |
| Description:    | entire bay, as delineated |

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
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<td>Stressed</td>
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<td>Recreation</td>
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<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
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<tr>
<td>Fish Consumption</td>
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Conditions Evaluated

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<th>Conditions Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Habitat/Hydrology</td>
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<td>-</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Unknown</td>
<td>-</td>
</tr>
</tbody>
</table>

Type of Pollutant(s)

| 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

| Water Index No: | (MW8.2a) EB-224 thru 227 (selected) | Drain Basin: | Atlantic-Long Island Sound |
| Hydro Unit Code: | 0203020202 | Class: | SC |
| 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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
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<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
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</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Unknown |
| Aesthetics        | Unknown |

Type of Pollutant(s)

| 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)**

**Waterbody Location Information**

- **Water Index No:** (MW8.2a) EB-224 thru 227 (selected)
- **Drain Basin:** Atlantic-Long Island Sound
- **Hydro Unit Code:** 0203020202
- **Class:** C
- **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**

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<tr>
<td>Shellfishing</td>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
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</table>

**Conditions Evaluated**

- **Habitat/Hydrology:** Unknown
- **Aesthetics:** Poor

**Type of Pollutant(s)**

- **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

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

Revised: 08/01/2014

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Poor
Aesthetics: Fair

Type of Pollutant(s)

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

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Water Index No.</td>
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</tr>
<tr>
<td>Hydro Unit Code</td>
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<tr>
<td>Water Type/Size</td>
<td>Lake</td>
</tr>
<tr>
<td>Reg/County</td>
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<tr>
<td>Class</td>
<td>A</td>
</tr>
<tr>
<td>Drain Basin</td>
<td>Atlantic-Long Island Sound</td>
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<tr>
<td>Description</td>
<td>Total area of both ponds</td>
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<tr>
<td>Size</td>
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<td>Description</td>
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<td>Class</td>
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<tr>
<td>Drain Basin</td>
<td>Atlantic-Long Island Sound</td>
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<tr>
<td>Description</td>
<td>Total area of both ponds</td>
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| Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
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<td>Unconfirmed</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
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<tr>
<td>Aquatic Life</td>
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<tr>
<td>Fish Consumption</td>
<td>Impaired</td>
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<tr>
<td>Conditions Evaluated</td>
<td>Habitat/Hydrology</td>
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<td>Aesthetics</td>
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<table>
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<th>Type of Pollutant(s)</th>
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<tr>
<td>Known</td>
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<th>Source(s) of Pollutant(s)</th>
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<thead>
<tr>
<th>Management Information</th>
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<tbody>
<tr>
<td>Management Status</td>
<td>Restoration/Protection Strategy Needed</td>
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<td>Lead Agency/Office</td>
<td>ext/WQCC</td>
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<tr>
<td>IR/305(b) Code</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
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</table>

Further Details

Overview
Wantagh/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
Wantagh 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 spatterdock (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 spatterdock 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

Water Index No: (MW8.2a) EB-226-P986  Drain Basin: Atlantic-Long Island Sound
Hydro Unit Code: 0203020202  Class: C  Southern Long Island
Water Type/Size: Lake 8.3 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  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)

Waterbody Location Information
Revised: 08/01/2014

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<tr>
<th>Water Index No:</th>
<th>(MW8.2a) EB-227-P987a</th>
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<td>Class:</td>
<td>C</td>
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<tr>
<td>Water Type/Size:</td>
<td>Lake</td>
<td>Reg/County:</td>
<td>1/Nassau Co. (30)</td>
</tr>
<tr>
<td>Description:</td>
<td>entire lake</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Quality Problem/Issue Information

Uses Evaluated
- Water Supply: N/A
- Shellfishing: N/A
- Public Bathing: N/A
- Recreation: Impaired
- Aquatic Life: Impaired
- Fish Consumption: Fully Supported

Severity
- Water Supply: N/A
- Shellfishing: N/A
- Public Bathing: N/A
- Recreation: Impaired
- Aquatic Life: Impaired
- Fish Consumption: Fully Supported

Confidence
- Water Supply: -
- Shellfishing: -
- Public Bathing: -
- Recreation: Known
- Aquatic Life: Unconfirmed
- Fish Consumption: Unconfirmed

Conditions Evaluated
- Habitat/Hydrology: Fair
- Aesthetics: Poor

Type of Pollutant(s)
- 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 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

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<th>Details</th>
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<tr>
<td>Water Type/Size:</td>
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<td>Description:</td>
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<tr>
<td>Drain Basin:</td>
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**Water Quality Problem/Issue Information**

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
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</tr>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Stressed</td>
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<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
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<td>Fish Consumption</td>
<td>Stressed</td>
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<thead>
<tr>
<th>Conditions Evaluated</th>
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<tbody>
<tr>
<td>Habitat/Hydrology</td>
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<tr>
<td>Aesthetics</td>
<td>Fair</td>
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</tbody>
</table>

**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

Water Index No: (MW8.3) MDB (portion 2)/BB  Drain Basin: Atlantic-Long Island Sound
Hydro Unit Code: 0203020202  Class: SB  Drain Basin: 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
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)
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

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

Revised: 08/01/2014

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Fair |
| Aesthetics        | Fair |

<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
<th>(CAPS indicate MAJOR Pollutants/Sources)</th>
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<tbody>
<tr>
<td>Known:</td>
<td>- - -</td>
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<tr>
<td>Suspected:</td>
<td>ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (nitrogen), Pathogens, Priority Organics (PCBs/migratory fish),</td>
</tr>
<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
</tr>
</tbody>
</table>

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**

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<th>Value</th>
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<tr>
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<tr>
<td>Drain Basin</td>
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<td>Hydro Unit Code</td>
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<td>Class</td>
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<td>Reg/County</td>
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<tr>
<td>Water Type/Size</td>
<td>Estuary 538.6 Acres</td>
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<tr>
<td>Description</td>
<td>total area of channels, east of main Middle Bay</td>
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<tr>
<td>Drain Basin</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Southern Long Island</td>
<td></td>
</tr>
<tr>
<td>Reg/County</td>
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</tr>
</tbody>
</table>

**Water Quality Problem/Issue Information**

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>Precluded</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Recreation</td>
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<td>Unassessed</td>
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</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

| Habitat/Hydrology      | Fair          |
| Aesthetics             | Fair          |

**Type of Pollutant(s)**

- **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.
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

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

Water Quality Problem/Issue Information

Uses Evaluated
- 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)

#### Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No.</th>
<th>Hydro Unit Code</th>
<th>Water Type/Size</th>
<th>Drain Basin</th>
<th>Description</th>
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<td>entire inlet/bay, btw Loop &amp; Meadowbrook Pkwy</td>
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#### Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
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<tr>
<td>Shellfishing</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

#### Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Poor

#### Type of Pollutant(s)

- 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)  

Waterbody Location Information

| Water Index No: | (MW8.3) MDB-RC |
| Drain Basin:    | Atlantic-Long Island Sound |
| Hydro Unit Code:| 0203020202 |
| Class:          | SA |
| 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

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
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<td>Known</td>
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<tr>
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<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology  | Poor |
| Aesthetics         | Poor |

Type of Pollutant(s)

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 and 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 macroalgal 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 macroalgal growth – or a water quality standards exceedence – in the Channel. However nitrogen discharges to the Channel support macroalgal 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 macroalgal 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

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Water Quality Problem/Issue Information

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<th>Uses Evaluated</th>
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<th>Confidence</th>
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<td>Water Supply</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

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<th>Type of Pollutant(s)</th>
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<td>Known: PATHOGENS</td>
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<tr>
<td>Suspected: Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)</td>
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<tr>
<td>Unconfirmed: - - -</td>
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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, Habitat, 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 trib (1701-0211) Needs Verification

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>Waterbody Location Information (MW8.3a) MDB-228</th>
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<th>Atlantic-Long Island Sound</th>
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<tr>
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<td>C</td>
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<td>Water Type/Size:</td>
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<td>Description:</td>
<td>Stream and tribs above P989 (freshwater)</td>
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Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Use(s) Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

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<th>Conditions Evaluated</th>
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<tbody>
<tr>
<td>Habitat/Hydrology</td>
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<tr>
<td>Aesthetics</td>
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Type of Pollutant(s)

<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known: SILT/SEDIMENT</td>
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<tr>
<td>Suspected: Water Level/Flow, Nutrients</td>
</tr>
<tr>
<td>Unconfirmed: Algal/Plant Growth</td>
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</table>

Source(s) of Pollutant(s)

<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<tbody>
<tr>
<td>Known: URBAN/STORM RUNOFF</td>
</tr>
<tr>
<td>Suspected: Roadbank Erosion</td>
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<tr>
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Management Information

<table>
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<tr>
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<th>Verification of Problem Severity Needed</th>
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<tr>
<td>Lead Agency/Office:</td>
<td>DOW/BWAM</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Water with Insufficient Data (IR Category 3)</td>
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</table>

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

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<td>Water Type/Size:</td>
<td>Lake(R)</td>
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<td>Reg/County:</td>
<td>1/Nassau Co. (30)</td>
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| Class:                | A                      |
| Drain Basin:          | Atlantic-Long Island Sound |
| Description:          | entire lake             |
| Reg/County:           | Southern Long Island    |

Water Quality Problem/Issue Information

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<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<td>Suspected</td>
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<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Recreation</td>
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<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
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<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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<tbody>
<tr>
<td>Known:</td>
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<tr>
<td>PESTICIDES (chlordane), Nutrients (Phosphorus), Algal/Plant Growth</td>
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<tr>
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<tr>
<td>Silt/Sediment</td>
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<tr>
<td>D.O./Oxygen Demand</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<tbody>
<tr>
<td>Known:</td>
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<tr>
<td>Urban/Storm Runoff</td>
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<td>TOX/CONTAM. SEDIMENT</td>
</tr>
<tr>
<td>Unconfirmed:</td>
</tr>
<tr>
<td>- - -</td>
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</tbody>
</table>

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
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

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW8.3a) MDB-228-P989-P991</th>
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<td>Hydro Unit Code:</td>
<td>0203020202</td>
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<td>Class:</td>
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<td>Water Type/Size:</td>
<td>Lake</td>
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<td>Description:</td>
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Drain Basin: Atlantic-Long Island Sound

Southern Long Island

Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Use(s) Impacted</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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</tr>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
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<td>Recreation</td>
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Conditions Evaluated

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<th>Habitat/Hydrology</th>
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<tbody>
<tr>
<td>Aesthetics</td>
<td>Fair</td>
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</tbody>
</table>

Type of Pollutant(s)

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 or 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 meso-eutrophic 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, chrysenene 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 |
| Water Index No: | (MW8.3a) MDB-230,231 | Drain Basin: | Atlantic-Long Island Sound |
| Hydro Unit Code: | 0203020202 | Class: | C |
| 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**

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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</tr>
<tr>
<td>Shellfishing</td>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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**Conditions Evaluated**

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</thead>
<tbody>
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**Type of Pollutant(s)**

- **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**

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Restoration/Protection Strategy Needed</th>
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<tr>
<td>Lead Agency/Office:</td>
<td>DOW/Reg1</td>
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<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
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**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)  

Waterbody Location Information  

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Water Quality Problem/Issue Information  

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<th>Confidence</th>
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<tr>
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<tr>
<td>Recreation</td>
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<td>Suspected</td>
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<tr>
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<tr>
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Conditions Evaluated  

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<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Fair</td>
</tr>
</tbody>
</table>

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

Waterbody Location Information

| Water Index No: | (MW8.3a) MDB-SC, 232a | Hydro Unit Code: | 0203020202 | Class: | SB  
| Drain Basin: | Atlantic-Long Island Sound | 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

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

<table>
<thead>
<tr>
<th>Habitat/Hydrology</th>
<th>Fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Fair</td>
</tr>
</tbody>
</table>

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

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### Water Quality Problem/Issue Information

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<tr>
<td>Fish Consumption</td>
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<td>Suspected</td>
</tr>
</tbody>
</table>

| Conditions Evaluated | | |
|----------------------|--|
| Habitat/Hydrology    | Poor |
| Aesthetics           | Poor |

**Type of Pollutant(s)**

- **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) Implied

Waterbody Location Information
Revised: 08/01/2014

<table>
<thead>
<tr>
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<td>1/Nassau Co. (30)</td>
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Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
<th>Source(s) of Pollutant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
<td>MUNICIPAL (Bay Park, Others), Urban/Storm Runoff</td>
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<tr>
<td>Shellfishing</td>
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<td>Known</td>
<td>Priority Organics (PCBs/migratory fish)</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
<td></td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
<td></td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Aesthetics</td>
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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 trib. Other trib waters to Hempstead/Hewlett Bays are listed separately.
Brosewere Bay (1701-0383) Impaired

Waterbody Location Information
Revised: 08/01/2014

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<th>Water Index No.</th>
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<td>Description</td>
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Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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</thead>
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<tr>
<td>Water Supply</td>
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<td>Shellfishing</td>
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<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
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<tr>
<td>Recreation</td>
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<td>Known</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated
- Habitat/Hydrology: Poor
- Aesthetics: Poor

Type of Pollutant(s)
- 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 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

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<td>Reg/County:</td>
<td>1/Nassau Co. (30)</td>
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Water Quality Problem/Issue Information

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<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Water Supply</td>
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<tr>
<td>Shellfishing</td>
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<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
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<tr>
<td>Recreation</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

- Habitat/Hydrology: Poor
- Aesthetics: Poor

Type of Pollutant(s)

| 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 trib, including unnamed channel (-232b), Reeds Channel (-232c).
Island Park Channel (1701-0374)  Minor Impacts

Waterbody Location Information

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Water Quality Problem/Issue Information

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<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
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Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Fair

Type of Pollutant(s)

- 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 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 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

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Water Quality Problem/Issue Information

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<tr>
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<td>Fish Consumption</td>
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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 exceedance – 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 characterizing 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

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Water Quality Problem/Issue Information

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<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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</table>

Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Fair

Type of Pollutant(s)

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

Water Index No: (MW8.4a) HB 233
Unit Code: 0203020202
Water Type/Size: Estuary Waters  99.2 Acres
Description: total area of selected tidal tribs to bay

Drain Basin: Atlantic-Long Island Sound
Class: SC  Atlantic Ocean
Reg/County: 1/Nassau (30)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>N/A</td>
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<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

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)

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 trib, 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

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<td>Class:</td>
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### Water Quality Problem/Issue Information

#### Uses Evaluated

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#### Conditions Evaluated

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</tr>
<tr>
<td>Aesthetics</td>
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#### 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

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<th>Management Status:</th>
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<td>DOW/BWC</td>
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<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
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### 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)

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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
Hydro Unit Code: 0203020202  Class: C
Water Type/Size: Lake  22.2 Acres
Description: entire pond
Drain Basin: Atlantic-Long Island Sound
Reg/County: 1/Nassau Co. (30)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
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<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td></td>
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<tr>
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<td>Aquatic Life</td>
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<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Impaired</td>
<td>Known</td>
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</table>

Conditions Evaluated
Habitat/Hydrology Poor
Aesthetics Poor

Type of Pollutant(s)
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. (2009-10 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, 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 (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. Spatterdock 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)  

**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 |
| 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**

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<td>Fish Consumption</td>
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**Conditions Evaluated**

- Habitat/Hydrology: Fair
- Aesthetics: Fair

**Type of Pollutant(s)**

- **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 or 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

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<td>Reg/County:</td>
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Water Quality Problem/Issue Information

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Water Supply</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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<td>Fish Consumption</td>
<td>Fully Supported</td>
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Conditions Evaluated

| Habitat/Hydrology | Fair |
| Aesthetics        | Unknown |

Type of Pollutant(s)

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Source(s) of Pollutant(s)

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<td>Suspected:</td>
<td>- - -</td>
</tr>
<tr>
<td>Unconfirmed:</td>
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</tbody>
</table>

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

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<th>Severity</th>
<th>Confidence</th>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

<table>
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<th>Score</th>
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<tr>
<td>Aesthetics</td>
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</table>

Type of Pollutant(s)

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)

Waterbody Location Information

**Water Index No:** (MW8.4a) HB-235-P1017a
**Hydro Unit Code:** 02030202/030  **Class:** C
**Water Type/Size:** Lake 12.1 Acres
**Description:** entire lake

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

**Hydro Unit Code:** 02030202/030  **Class:** C

**Water Type/Size:** Lake 12.1 Acres
**Description:** entire lake

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

### Water Quality Problem/Issue Information

**Uses Evaluated**

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<th>Uses</th>
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<td>Public Bathing</td>
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<td>Recreation</td>
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**Conditions Evaluated**

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<th>Severity</th>
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<td>Aesthetics</td>
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**Type of Pollutant(s)**

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)  

Waterbody Location Information

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Water Quality Problem/Issue Information

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<th>Use(s) Impacted</th>
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</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology      | Poor     |
| Aesthetics             | Poor     |

Type of Pollutant(s)

- 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)  

Waterbody Location Information

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<th>Water Index No:</th>
<th>(MW8.4a) HB-237, 237a</th>
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<th>Atlantic-Long Island Sound</th>
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<td>Class:</td>
<td>SA</td>
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<td>Water Type/Size:</td>
<td>Estuary 72.7 Acres</td>
<td>Reg/County:</td>
<td>1/Nassau Co. (30)</td>
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<td>Description:</td>
<td>total area of bay, north of Reynolds Channel</td>
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Revised: 08/01/2014

Water Quality Problem/Issue Information

<table>
<thead>
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Conditions Evaluated

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<td>ALGAL/PLANT GROWTH (ulva/sea lettuce), NUTRIENTS (Nitrogen), PATHOGENS, Oxygen Demand/Low D.O.</td>
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<td>Aesthetics</td>
<td>Priority Organics (PCBs/migratory fish)</td>
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Source(s) of Pollutant(s)

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

Type of Pollutant(s)

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

Management Information

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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 macroalgal 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 (including 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 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.
Great South Bay/Fire Island Inlet Watershed
(0203020204)

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Great South Bay, Middle (1701-0040)  

**Waterbody Location Information**  
Revised: 04/01/2016

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<td>Description:</td>
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**Water Quality Problem/Issue Information**  
(CAPS indicate MAJOR Pollutants/Sources)

**Uses Evaluated**
- Shellfishing: Stressed, Known
- Public Bathing: Stressed, Known
- Recreation: Impaired, Known
- Aquatic Life: Impaired, Known
- Fish Consumption: Stressed, Suspected

**Conditions Evaluated**
- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

**Type of Pollutant(s)**
- Known: ALGAL/PLANT GROWTH (BROWN TIDE), NUTRIENTS (NITROGEN), Pathogens
- Suspected: Priority Organics (PCBs/migratory fish), Low D.O./Oxygen Demand
- Unconfirmed: - - -

**Source(s) of Pollutant(s)**
- Known: URBAN/STORM RUNOFF
- Suspected: Municipal Discharges, ON-SITE/SEPTIC SYST, OTHER SOURCE (migratory fish species)
- Unconfirmed: - - -

**Management Information**

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**Further Details**

**Overview**
This portion of Great South Bay is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrient loadings that result in algal blooms (including brown tide). Urban stormwater runoff and impacts from onsite wastewater treatment in this densely developed area are considered the more significant sources. Impacts from wildlife/waterfowl are also concerns, as are recreational boating impacts, though a vessel no discharge zone has been established for these waters. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. Shellfishing and recreational uses including public bathing are considered to be supported, but with minor impacts due to shellfishing restrictions in small portions of these waters and the periodic occurrence of brown tides. Aquatic life is impacted by low D.O. thought to be the result of nitrogen loads to the stream.

**Use Assessment**
This portion of Great South Bay is a Class SA waterbody, suitable for shellfishing, public bathing, general recreation use
and support of aquatic life.

Much of this portion of Great South Bay (Shellfish Growing Area #4) has been certified as safe for the taking of shellfish for use as food. The remaining areas within the segment boundaries where shellfishing is restricted are limited by year-round restrictions adjacent to Great Cove and at the outlet of the Ocean Beach STP outfall. Seasonal restrictions apply in the northeastern portion of the segment, and adjacent Ocean Beach, Clam Pond and other Fire Island communities and marinas along the southern shore. These year-round or seasonally uncertified waters are quite small relative to the size of the Bay (less than 10%). These shellfishing designations are 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. Although more than 90% of the waters of the Bay are certified for the taking of shellfish, this use is considered to be stressed due to the smaller areas that remain uncertified and the impact of brown tide on the shellfish population. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is considered to be stressed based on monitoring at beaches in shellfishing waters in the segment. Beach monitoring revealed occasional elevated bacteriological levels that occurred in more than ten percent of the samples and resulted in closures at a number of beaches. Other occasional beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches with higher frequency of elevated bacteria and/or sampling-based closures include Point O’Woods Association Bay, Atlantique Beach (Bay), Sayville Marina Park Beach and Bayport Beach. Other regularly sampled beaches within this reach that report few if any water quality problems or closures include Seaview Beach, Ocean Beach (Bay), Dunewood POA Beach, Fair Harbor Community Association Beach and Saltaire Beach. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

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
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

A Long Island dissolved oxygen monitoring effort led by The Nature Conservancy in collaboration with SUNY Stony Brook SoMAS and USGS began continuous monitoring of dissolved oxygen in a number of marine embayments in 2014. This sampling documented significant diurnal swings in dissolved oxygen during some summer periods. The initial results of this sampling are consistent with this assessment that aquatic life is known to be stressed by nutrients and the resulting episodic low dissolved oxygen. (DEC/DOW, BWAM, April 2016)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary
sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Since 1985, algal blooms resulting in extensive brown tide events have occurred periodically in this waterbody. The brown tide reduces light penetration, causing a die-off of seagrass beds, which in turn affects scallops, larval fish, and other species for which the seagrass provides critical habitat. There is evidence the algae may also generate some associated toxicity as be a poor nutrition source for desired species. Chronic brown tides are a likely impediment to ecosystem and fishery recovery efforts on Long Island's south shore. The tides are a known impairment to recreational uses in these waters. The conditions that support algal growth and the resulting brown tide are the result of multiple factors, but elevated nitrogen loading is considered to be a key component. The primary source of nitrogen loads to the South Shore Estuary waters is thought to come from onsite wastewater treatment (septic) systems delivered through groundwater.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewerion of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewerion in not viable. (DEC/DOW, BRWM, November 2015)

Great South Bay has been identified by NYSDEC a a priority for the development of a TMDL/Clean Water Plan over the next few years. (DEC/DOW, BWRM, January 2016)

This waterbody is also 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 2001 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
This portion of Great South Bay is included on the current (2016) 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 to address nitrogen and resulting low dissolved oxygen. This waterbody was first listed on the 2010 List. (DEC/DOW, BWAM, April 2016)

Segment Description
This segment includes bay waters between the Robert Moses Causeway Bridge and Blue Point. Nicoll Bay and Great Cove waters are listed separately.
Great South Bay, West (1701-0173)

Waterbody Location Information

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Type of Pollutant(s)

- Known: ALGAL/PLANT GROWTH (BROWN TIDE), NUTRIENTS (NITROGEN), Pathogens
- Suspected: Priority Organics (PCBs/migratory fish), Low D.O./Oxygen Demand
- Unconfirmed: - - -

Source(s) of Pollutant(s)

- Known: URBAN/STORM RUNOFF
- Suspected: Municipal Discharges, ON-SITE/SEPTIC SYST, OTHER SOURCE (migratory fish species)
- Unconfirmed: - - -

Management Information

<table>
<thead>
<tr>
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Further Details

Overview
This portion of Great South Bay is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrient loadings that result in algal blooms (including brown tide). Urban stormwater runoff and impacts from onsite wastewater treatment in this densely developed area are considered the more significant sources. Impacts from wildlife/waterfowl are also concerns, as are recreational boating impacts, though a vessel no discharge zone has been established for these waters. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. Shellfishing and recreational uses including public bathing are considered to be supported, but with minor impacts due to shellfishing restrictions in small portions of these waters and the periodic occurrence of brown tides. Aquatic life is impacted by low D.O. thought to be the result of nitrogen loads to the stream.

Use Assessment
This portion of Great South Bay is a Class SA waterbody, suitable for shellfishing, public bathing, general recreation use
and support of aquatic life.

Much of this portion of Great South Bay (Shellfish Growing Area #3) has been certified as safe for the taking of shellfish for use as food. Many of these restrictions apply to Class SA, SC waters which are listed separately. Year-round restrictions apply to the northern near-shore waters and area around Oak Island. Seasonal closures apply to areas adjacent to Fire Island communities and boat basins. These year-round or seasonally uncertified waters are quite small relative to the size of the Bay (less than 10%). These shellfishing designations are 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](http://www.dec.ny.gov/regs/4014.html). Although more than 90% of the waters of the Bay are certified for the taking of shellfish, this use is considered to be stressed due to the smaller areas that remain uncertified and the impact of brown tide on the shellfish population. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is considered to be stressed based on monitoring at beaches in shellfishing waters in the segment. Beach monitoring revealed occasional elevated bacteriological levels that occurred in more than ten percent of the samples, however this sampling is limited to a single beach within the segment. Regularly sampled beaches within this segment is limited to Tanner Park Beach, while two other beaches - Amityville Beach and Venetians Shores Beach - are located in trib to the Bay. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

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](http://www.nyhealth.gov/environmental/outdoors/fish/fish.htm). (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

A Long Island dissolved oxygen monitoring effort led by The Nature Conservancy in collaboration with SUNY Stony Brook SoMAS and USGS began continuous monitoring of dissolved oxygen in a number of marine embayments in 2014. This sampling documented significant diurnal swings in dissolved oxygen during some summer periods. The initial results of this sampling are consistent with this assessment that aquatic life is known to be stressed by nutrients and the resulting episodic low dissolved oxygen. (DEC/DOW, BWAM, April 2016)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Since 1985, algal blooms resulting in extensive brown tide events have occurred periodically in this waterbody. The
Brown tide reduces light penetration, causing a die-off of seagrass beds, which in turn affects scallops, larval fish, and other species for which the seagrass provides critical habitat. There is evidence the algae may also generate some associated toxicity as a poor nutrition source for desired species. Chronic brown tides are a likely impediment to ecosystem and fishery recovery efforts on Long Island's south shore. The tides are a known impairment to recreational uses in these waters. The conditions that promote algal growth and the resulting brown tide are the result of multiple factors, but elevated nitrogen loading is considered to be a key component. The primary source of nitrogen loads to the South Shore Estuary waters is thought to come from onsite wastewater treatment (septic) systems delivered through groundwater.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development—with active input from local stakeholders and public—is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewer for unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewer is not viable. (DEC/DOW, BRWM, November 2015)

Great South Bay has been identified by NYSDEC as a priority for the development of a TMDL/Clean Water Plan over the next few years. (DEC/DOW, BWRM, January 2016)

This waterbody is also 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 2001 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
This portion of Great South Bay is included on the current (2016) 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 to address nitrogen and resulting low dissolved oxygen. This waterbody was first listed on the 2010 List. (DEC/DOW, BWAM, April 2016)

Segment Description
This segment includes bay waters between the Suffolk–Nassau County line and the Robert Moses Causeway.
Nicoll Bay (1701-0375)  Impaired

Waterbody Location Information

| Water Index No: | (MW7.6) AO-GSB (portion 6) |
| Hydro Unit Code: | Great South Bay-Fire Island Inlet (0203020204) |
| Water Type/Size: | Estuary Waters  1111.3 Acres |
| Description: | entire bay, as described below |

Water Quality Problem/Issue Information

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<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Public Bathing</td>
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<td>Aquatic Life</td>
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<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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Conditions Evaluated

| Habitat/Hydrology | Unassessed |
| Aesthetics        | Unassessed |

Type of Pollutant(s)

| Known: PATHOGENS |
| Suspected: Nutrients (nitrogen), Low D.O./Oxygen Demand, Priority Organics (PCBs/migratory fish) |
| Unconfirmed: - - - |

Source(s) of Pollutant(s)

| Known: URBAN/STORM RUNOFF |
| Suspected: Onsite/Septic Systems, Other Source |
| Unconfirmed: - - - |

Management Information

| Management Status: Strategy Implementation Scheduled or Underway |
| Lead Agency/Office: DEC/Reg1 |
| IR/305(b) Code: Impaired Water, TMDL Completed (IR Category 4a) |

Further Details

Overview
Nicoll Bay is assessed as an impaired waterbody due to shellfishing use that is known to be precluded by pathogens. Urban and storm runoff are the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. Public bathing and other recreational uses are fully supported, however these uses may also be stressed, as a result of the shellfishing restrictions and related pathogen levels. Aquatic life is impacted by low D.O. thought to be the result of nitrogen loads to the stream. The larger Great South Bay is listed as impaired due to nitrogen and brown tide.

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

Shellfish harvesting for consumption purposes in the bay is restricted due to the designations of much of the area
(Shellfish Growing Area #5) as only seasonally certified for the taking of shellfish for use as food. Seasonal restrictions apply to the portion of the bay north of a line from the Timber Point West Marina to the foot of West Avenue in West Sayville. 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 use including public bathing is considered to experience minor impacts based on monitoring at beaches in the segment. Beach monitoring revealed occasional elevated bacteriological levels at beaches, but typically these results occurred in less than ten percent of the samples and the sampling resulted in few closures. Occasional 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 West Oaks Recreation Club Beach. (from summary of local 2008 beach monitoring data as cited in Testing the Waters, NRDC, 2009)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

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
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

A Long Island dissolved oxygen monitoring effort led by The Nature Conservancy in collaboration with SUNY Stony Brook SoMAS and USGS began continuous monitoring of dissolved oxygen in a number of marine embayments in 2014. This sampling documented significant diurnal swings in dissolved oxygen during some summer periods. The initial results of this sampling are consistent with this assessment that aquatic life is known to be stressed by nutrients and the resulting episodic low dissolved oxygen. It is possible that the conditions found in the near-shore waters, if representative of the larger waterbody, rise to the level of impairment. (DEC/DOW, BWAM, April 2016)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

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 2001 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. (DEC/DOW, Region 1, July 2010)

Section 303(d) Listing
Nicoll Bay is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL 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. The waterbody is also referenced on the current List, noted as a trib to the nitrogen impaired embayment of Great South Bay. (DEC/DOW, BWAM, April 2016)

Segment Description
This segment includes the Class SA waters north of a line from Nicoll Point to Green Point. Connetquot River (-193) is listed separately.
Overview

The Nicoll Bay Tidal Tribs segment is assessed as a waterbody having minor impacts due to recreational uses that are thought to be stressed by pathogens. This assessment is based on pathogens levels identified through shellfishing program monitoring. Algal growth (brown tide) may also impact uses.

Use Assessment

Nicoll Bay Tidal Tribs is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water – although sampling of the waterbody has been included in the shellfish monitoring program – or for public bathing.

All of this waterbody (included within Shellfish Growing Area #5) has been designated as uncertified for the taking of shellfish for use as food. Although this waterbody is monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing is thought to be stressed based on shellfishing certification monitoring, and
the occurrence of algal blooms (brown tide). There are no regularly monitored beaches in this waterbody, but
bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels.
However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is
needed to more fully evaluate swimming use.  (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water
fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice
for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific
advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health
Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and
local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is
compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest
and sportfish consumption.  (NYSDOH and DEC/DFWMA, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the
waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open
space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Onsite/septic systems have also been identified as
a possible contributing source. Relative contributions from each type of source are very site-specific in nature,
particularly in localized areas of study.  (DEC/DOW, BWRM, September 2015)

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long
Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and
public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of
unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater
treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW,
BRWM, November 2015)

This waterbody is also 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 2001 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.
(DEC/DOW, Region 1, March 2010)

Section 303(d) Listing
Middle Great South Bay Tidal Tribs is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL
Waters. There appear to be no impacts that would justify the listing of this waterbody.  (DEC/DOW, BWAM/WQAS,
January 2015)

Segment Description
This segment includes Class SC portions of tribs Namkee Creek (-188a), Hermans Creek (-188b), Brown Creek (-189),
and Green Creek (-190).
Overview
This portion of Connetquot River is assessed as a waterbody having minor impacts due to recreational uses that are thought to be stressed by pathogens due to pathogens from urban stormwater runoff and other nonpoint sources. This assessment is based on pathogens levels identified through shellfishing program monitoring. Algal growth (brown tides) may also impact uses.

Use Assessment
This portion of Connetquot River is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water – although sampling of the waterbody has been included in the shellfish monitoring program – or for public bathing.

All of this waterbody (included within Shellfish Growing Area #5) have been designated as uncertified or only seasonally certified for the taking of shellfish for use as food. Although this waterbody is monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)
Recreational use including public bathing is thought to be stressed based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Biological (macroinvertebrate) sampling at a freshwater site above this reach in 2009 found non–impacted water quality. Similar results were found during 2003 and 2004 sampling. (DEC/DOW, BWAM/SBU, November 2010)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Onsite/septic systems have also been identified as a possible contributing source. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewerage of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewerage is not feasible. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
This portion of Connetquot River is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes Class SC tidal portions of the stream between the mouth and Route 27, including trib -1, -1a and
tidal portion of West Brook (-2).
Connetquot River, Upper, and tribs (1701-0095)  No Known Impacts

Waterbody Location Information

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Water Quality Problem/Issue Information

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Conditions Evaluated

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Type of Pollutant(s)

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Management Information

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Further Details

Overview
This portion of the Connetquot River is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
Upper Connetquot River is a Class B waterbody, suitable for public bathing, general recreation use and support of aquatic life, but not as a water supply. The waterbody is also designated as a cold water (trout) fishery.

Aquatic life is considered to be fully supported based on biological sampling that shows non-impacted conditions. This sampling can also be used to infer that there are no impacts to recreational (fishing) uses. The stream supports native brook trout and is the only source of water for the Connetquot River Fish Hatchery. (DEC/DOW, BWAM/SBU, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific...
advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Connetquot River in Oakdale (at state park hatchery) was conducted as part of the RIBS biological screening effort in 2009. Sampling results indicated non-impacted conditions and very good water quality. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Aquatic life community is fully supported. These results are consistent with a biological assessment at this site conducted in 2003 and 2004. Sampling was also conducted on Rattlesnake Creek, a trib to Connetquot River, in 2013 and 2008. Results of this sampling indicated slightly impacted conditions. The nutrient biotic index and impact source determination indicate some elevated enrichment in the stream and fauna that is most similar to communities influenced by impoundment effects. (DEC/DOW, BWAM/SBU, November 2010)

NYSDEC Rotating Integrated Basin Studies (RIBS) monitoring of Connetquot Creek in Oakdale 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 non-impacted conditions. Water column chemistry measurements indicate dissolved aluminum, dissolved oxygen and pH to be parameters of concern. However the biological results suggest these conditions are not limiting aquatic life. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Bottom sediments analysis based on sediment quality guidelines developed for freshwater ecosystems revealed overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrate tissue collected at this site and chemically analyzed showed no contaminant to be elevated. Based on the consensus of these established assessment indicators, overall water quality at this site shows that aquatic life and recreational uses are considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAM/SMAS, May 2011)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Actions
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
Upper Connetquot River is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the freshwater portion of the stream and trib, including Rattlesnake Creek (-3) and the freshwater portion of trib -2, above Route 27.
West Brook Pond (1701-0339)  Threatened

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW7.6) AO-GSB-193-2-P903</th>
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<tr>
<td>Hydro Unit Code:</td>
<td>Great South Bay-Fire Island Inlet (0203020204)</td>
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<tr>
<td>Water Type/Size:</td>
<td>Lake/Reservoir 14.6 Acres</td>
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<td>Description:</td>
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Water Class: C(T)
Drainage Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

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<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<td>-</td>
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<tr>
<td>Public Bathing</td>
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<td>Recreation</td>
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</tr>
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<td>Aquatic Life</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

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<td>Aesthetics</td>
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Type of Pollutant(s)

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<tr>
<th>Known: Aquatic Invasive Species (milfoil, fanwort)</th>
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<tr>
<td>Suspected: - - -</td>
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Source(s) of Pollutant(s)

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Management Information

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<tr>
<td>Lead Agency/Office:</td>
<td>ext/SSER</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Water Attaining All Standards (IR Category 1)</td>
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</table>

Further Details

Overview
West Brook Pond is assessed as threatened due to recreational uses that are thought to be threatened by invasive plant growth. Although uses are currently fully supported, the presence of invasive plants raise concerns and condition should continue to be monitored.

Use Assessment
West Brook Pond is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Recreational uses are considered to be fully supported but threatened due to presence of invasive plant growth (water milfoil, fanwort). Water quality appears to be supportive of uses, however sampling is limited and follow up monitoring is recommended. This waterbody is considered to support a suitable cold water fishery. (DEC/DOW, BWAM/LMAS, July 2016)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice
for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
West Brook Lake 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 2006. Aquatic plant surveys were also conducted by OPR staff in 2006 as part of a joint DEC–OPR–TNC aquatic plant survey of Long Island lakes. This survey work found a wide variety of native plants, as well as variable watermilfoil (Myriophyllum heterophyllum) and fanwort (Cabomba caroliniana), invasive exotic plant species. The limited water quality data indicated that the pond has moderately softwater, circumneutral pH, fully oxygenated water, and slight turbidity. (DEC/DOW, BWAM/LMAS, March 2011)

There is no indication of any present impacts to fishing in the lake. The presence of invasives could impact recreational use, though the lake is not used for boating. There is no indication of any present impacts to aquatic life in West Brook Pond, although the presence of invasives watermilfoil may ultimately threaten the biological condition and aquatic life in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
Beyond the habitat modification related to the invasive plants, there are no apparent sources of pollutants to the waterbody.

Management Actions
No specific management actions have been identified for the waterbody. West Brook Pond is a small pond within the Bayard Cutting Arboretum State Park in Great River, Suffolk County. It is designated as a passive recreation park. (DEC/DOW, BWAM/LMAS, March 2011)

Section 303(d) Listing
West Brook Pond is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the total area of the entire lake.
Lake Ronkonkoma is assessed as an impaired waterbody due to public bathing and recreational uses that are known to be impaired by pathogens, high nutrient loads, excessive aquatic weed growth, occasional algal blooms and reduced water clarity. Habitat is stressed by the occurrence of invasive species (Hydrilla). The fishery is considered stressed by low hypolimnetic dissolved oxygen. Urban stormwater runoff and other nonpoint sources are the primary contributing source of pollutants.

Lake Ronkonkoma is the largest of Long Island's freshwater lakes. The lake is a glacial kettlehole lake and no outlet and only a minor inlet (draining from the Great Swamp north of the lake). Water level is controlled by the local water table. Portions of the lake's irregular basin are unusually deep for Long Island (65 feet), but most of the lake is less than 15 feet deep.

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

Recreational uses considered to be impaired due pathogen levels, elevated nutrients (phosphorus), excessive algae and plant growth. Frequent beach closures due to high coliform counts occur frequently. Swimming was at one time permitted from the beaches operated by the towns of Islip and Brookhaven; however, there have been numerous beach closures over the past several years due to high bacteria levels, and swimming has not been allowed for at least three years. (DEC/DOW, BWAM/LMAS, July 2013)

Aquatic life is currently considered to be stressed based on suspected low dissolved oxygen related to the eutrophic condition of the lake and low dissolved oxygen. The fishery is limited at depths greater than 15 feet because there is seldom enough dissolved oxygen to sustain fish beyond this depth, though most of the lake is less than 15 feet deep. The primary gamefish are largemouth bass and smallmouth bass, but locating them is a challenge due to the scarcity of natural structure to attract these fish. (DEC/DOW, BWAM, January 2016)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
Water quality sampling of Lake Ronkonkoma has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program, most recently in 2009. The lake is also surveyed annually by the Division of Fish Wildlife and Marine Resources (DFWMR). In 2006 a plant survey was conducted at the lake by the Division of Water as part of a joint effort by New York State Office of Parks Recreation and Historical Preservation, The Nature Conservancy and DEC to assess the plant communities of Long Island lakes. The lake was also sampled as part of a pilot State Wide Lake Biomonitoring project in 2009, during which water quality conditions were evaluated through standard limnological indicators. Based on the single water quality sampling event in 2009, and consistent with historical data, Lake Ronkonkoma can generally be characterized as eutrophic, or highly productive. This assessment is supported by chlorophyll/algal levels above criteria corresponding to impaired recreational uses, while phosphorus concentrations are also typically high. Lake clarity observations indicate water transparency is typically poor. These data suggest that baseline nutrient levels support at least occasional algae blooms in the lake, and high algae levels are regularly reported during the summer months. (DEC/DOW, BWAM/LMAS, March 2011)

Lake Ronkonkoma is atypical of other Long Island waterbodies due to both its overall size and depth. Like most deep waterbodies, Lake Ronkonkoma exhibits thermal stratification. Anoxic conditions and elevated deepwater nutrient (phosphorus and ammonia) readings are found in the hypolimnion (bottom waters), which is consistent with data collected by FWMR. High levels of sodium and chloride were found, indicating impacts from runoff through developed areas. A fisheries survey in 2005 found the invasive species Cabomba caroliniana (fanwort) at a single location in the lake; however it has not been found in subsequent years. During the 2009 DOW sampling event the highly invasive species Hydrilla verticillata, was found at four of the eight sampling sites around the lake shoreline, and subsequent NYSDEC DFW surveys reported explosive growth of this plant throughout the littoral zone in 2010. This species was first found in New York State and on Long Island in 2008. This plant is known to out-compete many native plants as well as alter the physical and chemical characteristic of the waterbodies it invades. It is also known to grow at such high densities that boating, fishing, and swimming can be impacted. Aesthetics in the lake are stressed due to definite algal greenness. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, urban/storm runoff and other nonpoint sources are the most likely sources of impacts to the waterbody. Significant shoreline residential development are contributes to impacts.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewer
unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering is not viable. (DEC/DOW, BRWM, November 2015)

Suffolk County has also undertaken drainage improvement projects and other efforts around the lake over the years. These include a 1986 Clean Lakes Project nutrient flow study, and habitat enhancement projects. (DEC/DOW, Region 1 and DEC/DFWMR/Fisheries, March 2011)

Section 303(d) Listing
Lake Ronkonkoma is included on the current (2016) 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 both pathogens and phosphorus, and the resulting low dissolved oxygen. This waterbody was first listed on the 2002 List. The Lake is also impaired by algal/plant growth and aquatic invasive species, but these impairments cannot be addressed with a TMDL and therefore do not result in listings. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the entire lake.
Great Cove (1701-0376)  Impaired

Waterbody Location Information

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<td>Water Type/Size:</td>
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Water Quality Problem/Issue Information

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<td>Known</td>
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<tr>
<td>Aquatic Life</td>
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<td>Suspected</td>
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<tr>
<td>Fish Consumption</td>
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Type of Pollutant(s)

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Source(s) of Pollutant(s)

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Management Information

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Further Details

Overview
Great Cove is assessed as an impaired waterbody due to shellfishing use that is known to be precluded by pathogens. Urban and storm runoff are the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. Public bathing and other recreational uses are fully supported, however these uses may also be stressed, as a result of the shellfishing restrictions and related pathogen levels. Aquatic life is also thought to be stressed due to impacts from occasional algal blooms (brown tides). The larger Great South Bay is listed as impaired due to nitrogen and brown tide.

Use Assessment
Great Cove is a Class SA waterbody, suitable for shellfishing, public bathing, general recreation use and support of aquatic life.
Shellfish harvesting for consumption purposes in the bay is restricted due to the designation of virtually the entire area 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to [www.dec.ny.gov/regs/4014.html](http://www.dec.ny.gov/regs/4014.html). (DEC/DFWMR, Region 1, July 2015)

Recreation use and public bathing are considered to be supported but stressed. Beach monitoring revealed occasional elevated bacteriological levels at beaches, but typically these results occurred in less than ten percent of the samples and the sampling resulted in few closures. Occasional 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 East Islip Beach, Islip Beach, Brightwaters Beach, Benjamins Beach and Bayberry Beach and Tennis Club. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

A Long Island dissolved oxygen monitoring effort led by The Nature Conservancy in collaboration with SUNY Stony Brook SoMAS and USGS began continuous monitoring of dissolved oxygen in a number of marine embayments in 2014. This sampling documented significant diurnal swings in dissolved oxygen during some summer periods. The initial results of this sampling are consistent with this assessment that aquatic life is known to be stressed by nutrients and the resulting episodic low dissolved oxygen. (DEC/DOW, BWAM, April 2016)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Since 1985, algal blooms resulting in extensive brown tide events have occurred periodically in this waterbody. The brown tide reduces light penetration, causing a die-off of seagrass beds, which in turn affects scallops, larval fish, and other species for which the seagrass provides critical habitat. There is evidence the algae may also generate some associated toxicity as be a poor nutrition source for desired species. Chronic brown tides are a likely impediment to ecosystem and fishery recovery efforts on Long Island's south shore. The tides are a known impairment to recreational uses in these waters. The conditions that promote algal growth and the resulting brown tide are the result of multiple factors, but elevated nitrogen loading is considered to be a key component. The primary source of nitrogen loads to the South Shore Estuary waters is thought to come from is onsite wastewater treatment (septic) systems delivered through
groundwater.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering is not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Great Cove is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2c of the List as a shellfishing restricted water. This waterbody was first listed on the 2010 Section 303(d) List. (DEC/DOW, BWAM, April 2016)

Segment Description
This segment includes the Class SA waters north of a line from Conklin Point to Nicoll Point.
Overview
The Tidal Tribs to Middle Great South 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. Nutrient loads and resulting algal growth (brown tide) may also impact uses. Residential onsite/septic systems serving this high-density area are likely sources of pollutants.

Use Assessment
The Tidal Tribs to Middle Great South 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. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

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 #4) 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)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewer of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewer in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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 is in place for South Shore Estuary waters to address impacts from boat pollution. (DEC/DOW, Region 1, March 2010)

Section 303(d) Listing
The Tidal Tribs to Middle Great South Bay segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, August, 2014)

Segment Description
This segment includes Class SC portions of tribs Heckscher Canal (-193a), Quintuck Creek (-194a), Champlin Creek (-194), unnamed tribs -194b, -194c, -195, Orowoc Creek (-196), Awixa Creek (-197), Penataquit Creek (-198), Watchogue Creek (-199), unnamed trib -199a, Lawrence Creek (-200), Brightwaters Canal (-201), Thorn Canal (-202), Isbransen Canal (-202a), Thompsons Creek (-203), Trues Creek (-204).
Champlin Creek, Upper, and tribs (1701-0019)  

**Waterbody Location Information**

- **Water Index No:** (MW7.8) AO-GSB-194
- **Hydro Unit Code:** Great South Bay-Fire Island Inlet (0203020204)
- **Water Type/Size:** River/Stream 2.2 Miles
- **Description:** stream and tribs above P910 (freshwater)
- **Water Class:** C(TS)
- **Drainage Basin:** Atlantic-Long Island Sound
- **Reg/County:** 1/Suffolk (52)

**Water Quality Problem/Issue Information**

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

- Habitat/Hydrology: Fair
- Aesthetics: Fair

**Type of Pollutant(s)**

- **Known:** UNKNOWN POLLUTANTS (biological impacts)
- **Suspected:** Nutrients (phosphorus), Low D.O./Oxygen Demand
- **Unconfirmed:** Pathogens

**Source(s) of Pollutant(s)**

- **Known:** URBAN/STORM RUNOFF
- **Suspected:** Onsite/Septic Systems
- **Unconfirmed:** - - -

**Management Information**

- **Management Status:** Verification of Problem Severity Needed
- **Lead Agency/Office:** DOW/Reg1
- **IR/305(b) Code:** Impaired Water Requiring a TMDL (IR Category 5)

**Further Details**

**Overview**

Upper Champlin Creek is assessed as an impaired waterbody due to recreational uses and aquatic life that is known to be impaired. No specific pollutant or sources have been identified, but sampling results indicate organic impacts from municipal or other sources are present. Surrounding land use also suggest urban stormwater runoff and onsite/septic impacts.

**Use Assessment**

Upper Champlin Creek 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. The waterbody is also designated as a cold water (trout) fishery.

Aquatic life is evaluated as impaired based on biological sampling that shows significant impacts. This sampling can also be used to infer that there are also significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Champlin Creek in East Islip (at Moffitt Blvd) was conducted as part of the RIBS biological screening effort in 2013. Sampling results reflect moderately impacted (poor) water quality, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. The nutrient biotic index indicates 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 poor and aquatic life is not supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, December 2015)

These sampling results are consistent with results found during sampling of the creek conducted in 2003, 1998 and 1994. All results indicated moderately impacted water quality conditions. The stream bottom was mostly sand gravel, and the fauna was dominated by midges and scuds. (DEC/DOW, BWAR/SBU, December 2015)

Regional Fisheries staff has reported the stream no longer supports trout populations. Sewering has reduced groundwater recharge thus lowering groundwater levels. Consequently there is less cold water from groundwater influencing the stream. (DEC/DFWMR, Region 1, 1998)

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, include onsite wastewater treatment discharges in this high-density residential area.

Management Actions
No specific management actions have been identified for the waterbody. However the creek is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below).

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Champlin Creek is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as a waterbody for which TMDL development is required to address thermal impacts. This waterbody was first listed in 2002. This updated assessment suggests that an additional listing reflecting a cause/pollutant of “Unknown,” but related to biological impacts, be considered during the next update. Such a listing should be included on Part 3b of the List as a impaired waterbody for which TMDL development made be deferred pending verification of the cause/pollutant. (DEC/DOW, BWAM, January 2016)
Segment Description
This segment includes the freshwater portion of the stream and trib above unnamed pond (P910).
Lower/Upper Winganhauppauge, Knapp Lakes (1701-0340)  Unassessed

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW7.8) AO-GSB-194-P910,P911,P912</th>
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</thead>
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<tr>
<td>Hydro Unit Code:</td>
<td>Great South Bay-Fire Island Inlet (0203020204)</td>
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<tr>
<td>Water Type/Size:</td>
<td>Lake/Reservoir 31.7 Acres</td>
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<tr>
<td>Description:</td>
<td>total area of all three lakes</td>
</tr>
<tr>
<td>Water Class:</td>
<td>C</td>
</tr>
<tr>
<td>Drainage Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
</tr>
</tbody>
</table>

Water Quality Problem/Issue Information

Uses Evaluated          Severity          Confidence
Water Supply     Unassessed         -
Public Bathing  Unassessed         -
Recreation       Unassessed         -
Aquatic Life     Unassessed         -
Fish Consumption Unassessed         -

Conditions Evaluated
Habitat/Hydrology Unknown
Aesthetics Unknown

Type of Pollutant(s)
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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment 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. A portion of this segment is also designated as a cold water (trout) fishery.

Water Quality Information
There is currently no water quality information available upon which to base an assessment. A single sample collected in Knapps Lake in 2013 found phosphorus to be slightly elevated, but chlorophyll-a to be below criteria for impacted recreational use. (DEC/DOW, BWAM/LAMAS, May 2016)

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.
Management Action
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the total area of all three lakes. Lower and Upper Wenganhaupauge Lakes are Class C; Knapp Lake is Class C(T).
Orowoc Creek, Upper, and tribs (1701-0094)  Impaired

Waterbody Location Information

- Water Index No: (MW7.8) AO-GSB-196
- Hydro Unit Code: Great South Bay-Fire Island Inlet (0203020204)
- Water Type/Size: River/Stream 2.7 Miles
- Description: stream and tribs above Montauk Highway (freshwater)
- Water Class: C(T)
- Drainage Basin: Atlantic-Long Island Sound
- Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
<td>Impaired</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Fair

Type of Pollutant(s)

- Known: UNKNOWN POLLUTANTS (biological impacts)
- Suspected: Nutrients (phosphorus), Low D.O./Oxygen Demand, Water Level/Flow
- Unconfirmed: Pathogens

Source(s) of Pollutant(s)

- Known: URBAN/STORM RUNOFF
- Suspected: Onsite/Septic Systems, Hydrologic Alteration
- Unconfirmed: - - -

Management Information

- Management Status: Verification of Problem Severity Needed
- Lead Agency/Office: DOW/Reg1
- IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Upper Orowoc Creek is assessed as an impaired waterbody due to recreational uses and aquatic life that is thought to be impaired, although more recent sampling suggests the impacts to uses are less significant. No specific pollutant or sources have been identified, but sampling results indicate organic impacts from municipal or other sources are present. Surrounding land use also suggest urban stormwater runoff and onsite/septic impacts.

Use Assessment

Upper Orowoc Creek 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. The waterbody is also designated as a cold water (trout) fishery.

Aquatic life is currently evaluated as impaired based on biological sampling that shows significant impacts. This sampling can also be used to infer that there are also significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Orowoc Creek in Bay Shore (at Moffitt Blvd) was conducted as part of the RIBS biological screening effort in 2013. Sampling results at that time indicated slightly impacted conditions. However previous assessments of Orowoc Creek at this site in 2003 and 1994, and in Bayshore (at Brook Street) conducted in 1998 and 1999 revealed moderately-slightly impacted water quality conditions, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. The fauna was heavily dominated by tolerant sowbugs and black flies. This segment is currently considered to be impaired. (DEC/DOW, BWAM/SBU, December 2015)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Orowoc Creek in Bay Shore (at Brook Street) was conducted in 1999. Fecal coliform and ammonia values were found to be high; pH in the stream was somewhat low. Other sampling results were typical of urban streams. (DEC/DOW, BWAR/SWAS, January 2001)

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, include onsite wastewater treatment discharges in this high-density residential area. Hydromodification is also thought to contribute to the impacts in the stream.

Management Actions
No specific management actions have been identified for the waterbody. However the creek is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below).

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Orowoc Creek is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3b of the List as a waterbody for which TDML development is deferred pending the verification of the cause/pollutant causing the impairment. Currently the cause/pollutant is listed as unknown, but related to biological impacts. The most recent sampling suggests the listing should be re-evaluated during the next listing cycle. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the freshwater portion of the stream and tribs.
Pardees, Orowoc Lakes (1701-0341)  

**Waterbody Location Information**  
Revised: 05/18/2016

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<thead>
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<th>Hydro Unit Code:</th>
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<tr>
<td>Great South Bay-Fire Island Inlet (0203020204)</td>
<td>Atlantic-Long Island Sound</td>
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<table>
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<tr>
<th>Water Type/Size:</th>
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<table>
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<tr>
<th>Description:</th>
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<tbody>
<tr>
<td>total area of both lake</td>
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**Water Quality Problem/Issue Information**  
(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
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<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
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<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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</thead>
<tbody>
<tr>
<td>Known:</td>
</tr>
<tr>
<td>Suspected:</td>
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<tr>
<td>Unconfirmed:</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<tbody>
<tr>
<td>Known:</td>
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<td>Unconfirmed:</td>
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**Management Information**

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<th>Lead Agency/Office:</th>
<th>IR/305(b) Code:</th>
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<tbody>
<tr>
<td>Unassessed</td>
<td>DOW/BWAM</td>
<td>Water with Insufficient Data (IR Category 3)</td>
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</tbody>
</table>

**Further Details**

**Overview**
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

**Use Assessment**
This waterbody segment 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. The waterbody is also designated as a cold water (trout) fishery.

**Water Quality Information**
There is currently no water quality information available upon which to base an assessment.

**Source Assessment**
Specific sources of pollutants to the waterbody have not been identified.

**Management Action**
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the total area of both lakes.
Awixa Creek, Upper, and tribs (1701-0093)  Impaired

Waterbody Location Information

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<tr>
<th>Water Index No:</th>
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</thead>
<tbody>
<tr>
<td>Hydro Unit Code:</td>
<td>Great South Bay-Fire Island Inlet (0203020204)</td>
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<tr>
<td>Water Type/Size:</td>
<td>River/Stream 0.5 Miles</td>
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<tr>
<td>Description:</td>
<td>stream and tribs above Montauk Highway (freshwater)</td>
</tr>
</tbody>
</table>

| Water Class: | C |
| Drainage Basin: | Atlantic-Long Island Sound |
| Reg/County: | 1/Suffolk (52) |

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Known</td>
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<td>Aquatic Life</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Fair
Aesthetics: Fair

Type of Pollutant(s)
- Known: UNKNOWN POLLUTANTS (biological impacts)
- Suspected: Nutrients (phosphorus), Low D.O./Oxygen Demand
- Unconfirmed: Pathogens

Source(s) of Pollutant(s)
- Known: URBAN/STORM RUNOFF
- Suspected: Onsite/Septic Systems
- Unconfirmed: - - -

Management Information

Management Status: Verification of Problem Severity Needed
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Upper Awixa Creek is assessed as an impaired waterbody due to recreational uses and aquatic life that is known to be impaired. No specific pollutant or sources have been identified, but sampling results indicate organic impacts from municipal or other sources are present. Surrounding land use also suggest urban stormwater runoff and onsite/septic impacts.

Use Assessment
Upper Awixa Creek 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.

Aquatic life is evaluated as impaired based on biological sampling that shows significant impacts. This sampling can also be used to infer that there are also significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Awixa Creek in Bay Shore (at Union Blvd) was conducted as part of the RIBS biological screening effort in 2003. Sampling results reflect moderately impacted (poor) water quality, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. The nutrient biotic index indicates 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)

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, include onsite wastewater treatment discharges in this high-density residential area.

Management Actions
No specific management actions have been identified for the waterbody. However the creek is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below).

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Awixa Creek is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3b of the List as a waterbody for which TDML development is deferred pending the verification of the cause/pollutant causing the impairment. Currently the cause/pollutant is listed as unknown, but related to biological impacts. (DEC/DOW, BWAM, January 2016)

Segment Description:
This segment includes the entire stream above tidal waters (Montauk Highway) and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are als Class C.
Penataquit Creek, Upper, and tribs (1701-0092)  

Waterbody Location Information

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<th>Water Index No:</th>
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<th>Water Class:</th>
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<tr>
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<td>Drainage Basin:</td>
<td>Atlantic-Long Island Sound</td>
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<td>Water Type/Size:</td>
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<td>Description:</td>
<td>stream and tribs above Montauk Highway (freshwater)</td>
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Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
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<tr>
<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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<td>Suspected</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

<table>
<thead>
<tr>
<th>Habitat/Hydrology</th>
<th>Fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
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</table>

Type of Pollutant(s)

- Known: UNKNOWN POLLUTANTS (biological impacts)
- Suspected: Nutrients (phosphorus), Low D.O./Oxygen Demand
- Unconfirmed: Pathogens

Source(s) of Pollutant(s)

- Known: URBAN/STORM RUNOFF
- Suspected: Onsite/Septic Systems
- Unconfirmed: - - -

Management Information

Management Status: Verification of Problem Severity Needed
Lead Agency/Office: DOW/Reg1
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Upper Penataquit Creek is assessed as an impaired waterbody due to recreational uses and aquatic life that is thought to be impaired, although more recent sampling suggests the impacts to uses are less significant. No specific pollutant or sources have been identified, but sampling results indicate organic impacts from municipal or other sources are present. Surrounding land use also suggest urban stormwater runoff and onsite/septic impacts.

Use Assessment
Upper Penataquit Creek 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.

Aquatic life is currently evaluated as impaired based on biological sampling that shows significant impacts. This sampling can also be used to infer that there are also significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However, due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Penataquit Creek in Bay Shore (at Mill Street) was conducted as part of the RIBS biological screening effort in 2008. Sampling results at that time indicated slightly impacted conditions. However, previous assessments of Penataquit Creek in Bay Shore (at Redington Road) in 2003 revealed moderately impacted water quality conditions, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. The fauna was heavily dominated by tolerant sowbugs and black flies. The 2003 sampling was conducted below an impoundment, so it is likely that sampling habitat had some influence on the assessment. The segment is currently considered to be impaired, but additional sampling to verify conditions is recommended. (DEC/DOW, BWAM/SBU, December 2015)

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, including onsite wastewater treatment discharges in this high-density residential area.

Management Actions
No specific management actions have been identified for the waterbody. However, the creek is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below). Based on the conflicting biological assessment results, additional sampling to verify the level of impact in this waterbody segment is recommended.

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development—with active input from local stakeholders and public—is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewerage of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewerage is not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Penataquit Creek is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3b of the List as a waterbody for which TDML development is deferred pending the verification of the cause/pollutant causing the impairment. Currently the cause/pollutant is listed as unknown, but related to biological impacts. The most recent sampling and the possibility of habitat influences suggest the listing should be re-evaluated during the next listing cycle. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the entire stream and tributaries above tidal waters (Montauk Highway) and all tributaries. The waters of the stream are Class C. Tributaries to this reach/segment are also Class C.
**Cascade Lake (1701-0342)**

**Unassessed**

### Waterbody Location Information

- **Water Index No:** (MW7.8) AO-GSB-201-P924
- **Hydro Unit Code:** Great South Bay-Fire Island Inlet (0203020204)
- **Water Type/Size:** Lake/Reservoir 8.2 Acres
- **Description:** entire lake
- **Water Class:** C
- **Drainage Basin:** Atlantic-Long Island Sound
- **Reg/County:** 1/Suffolk (52)

### Revised: 05/18/2016

### Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
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<td>-</td>
</tr>
<tr>
<td>Recreation</td>
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<td>-</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

- Habitat/Hydrology: Unassessed
- Aesthetics: Unassessed

**Type of Pollutant(s)**

- **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**

Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

**Use Assessment**

This waterbody segment 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.

**Water Quality Information**

There is currently no water quality information available upon which to base an assessment.

**Source Assessment**

Specific sources of pollutants to the waterbody have not been identified.

**Management Action**
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the total area of the lake.
Tidal Tribs to Great South Bay, West (1701-0372)

Waterbody Location Information
Revised: 05/18/2016

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<tr>
<th>Water Index No:</th>
<th>(MW7.8) AO-GSB-204 thru 216</th>
<th>Water Class:</th>
<th>SC</th>
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<tr>
<td>Hydro Unit Code:</td>
<td>Great South Bay-Fire Island Inlet (0203020204)</td>
<td>Drainage Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Water Type/Size:</td>
<td>Estuary Waters 667.4 Acres</td>
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<tr>
<td>Description:</td>
<td>total area of selected tidal tribs to bay</td>
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Water Quality Problem/Issue Information
(CAPS indicate MAJOR Pollutants/Sources)

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Shellfishing</td>
<td>N/A</td>
<td>-</td>
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<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated
| Habitat/Hydrology      | Unknown |
| Aesthetics             | Unknown |

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

| Known:                 | Pathogens |
| Suspected:             | Nutrients (nitrogen) |
| Unconfirmed:           | - - - |

Source(s) of Pollutant(s)

| Known:               | Urban/Storm Runoff |
| Suspected:           | Onsite/Septic Systems |
| Unconfirmed:         | - - - |

Management Information

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

Further Details

Overview
The Tidal Tribs to West Great South 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. Nutrient loads and resulting algal growth (brown tide) may also impact uses. Residential onsite/septic systems serving this high-density area are likely sources of pollutants.

Use Assessment
The Tidal Tribs to West Great South 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. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)
Shellfishing harvesting for consumption purposes in these tribes is restricted due to the year-round and seasonal designations of these waters (a portion within Shellfish Growing Area #4) 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)

Aquatic life in the waterbody is considered to be stressed due to periodic low dissolved oxygen, the result of elevated nitrogen loadings. Nitrogen source including residential wastewater, urban/storm runoff and atmospheric deposition promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen in the bottom waters of the Bay. The resulting low dissolved oxygen conditions impact the fishery and other aquatic life. (DEC/DOW and FWMR, Region 1, August 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Management Action
The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BWAM, November 2015)

This waterbody is also 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 2001 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 is in place for South Shore Estuary waters to address impacts from boat pollution. (DEC/DOW, Region 1, March 2010)
Section 303(d) Listing
The Tidal Tribs to West Great South Bay segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, August, 2014)

Segment Description
This segment includes Class SC portions of unnamed trib -204a, Willets Creek (205), Skookwams Creek (206), Sampawams Creek (207), Carlls River (208), West Babylon Creek (209), Santapogue Creek (210), Neguntatogue Creek (211), trib -212, Great Neck Creek (213), unnamed trib -213a, -213b, Howell Creek (214), trib -214a, Woods/Ketchoms Creek (215) and Amityville Creek (216).
Willets Creek, Upper, and tribs (1701-0091)  Unassessed

Water Index No: (MW7.8) AO-GSB-205  
Hydro Unit Code: Great South Bay-Fire Island Inlet (0203020204)  
Water Type/Size: River/Stream 1.9 Miles  
Description: stream and tribs above Montauk Highway (freshwater)

Water Class: C  
Drainage Basin: Atlantic-Long Island Sound  
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

Uses Evaluated  Severity  Confidence
Water Supply  Unassessed  -
Public Bathing  Unassessed  -
Recreation  Unassessed  -
Aquatic Life  Unassessed  -
Fish Consumption  Unassessed  -

Conditions Evaluated
Habitat/Hydrology  Unassessed
Aesthetics  Unassessed

Type of Pollutant(s)
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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody. However some expected impacts to Willetts Creek are discussed in the assessment of Lake Capri (1701-0175).

Use Assessment
This waterbody segment 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.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.
Management Action
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the entire stream and tribs above tidal waters (Montauk Highway) and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C. Lake Capri (P934) is assessed separately.
Lake Capri (1701-0175)  Impaired

Waterbody Location Information

| Water Index No: | (MW7.8) AO-GSB-205-P934 |
| Hydro Unit Code: | Great South Bay-Fire Island Inlet (0203020204) |
| Water Type/Size: | Lake/Reservoir 7.8 Acres |
| Description: | entire lake |
| Water Class: | C |
| Drainage Basin: | Atlantic-Long Island Sound |
| Reg/County: | 1/Suffolk (52) |

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Impaired</td>
<td>Known</td>
</tr>
</tbody>
</table>

Type of Pollutant(s)

- Known: METALS (cadmium), PESTICIDES (chlordane)
- Suspected: - - -
- Unconfirmed: - - -

Source(s) of Pollutant(s)

- Known: - - -
- Suspected: TOXIC/CONTAMINATED SEDIMENT,
- Unconfirmed: - - -

Management Information

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

Further Details

Overview
Lake Capri is assessed as an impaired waterbody due to fish consumption that is known to be impaired by heavy metals and pesticides from contaminated sediment and legacy industrial discharges. Based on this impairment, recreational uses of the waterbody are also considered to be stressed. Currently there is inadequate data/information to evaluate aquatic life in the waterbody.

Use Assessment
Lake Capri 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.

Fish consumption in Lake Capri is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of American Eel and carp because of elevated cadmium and chlordane levels. The source of this contamination is considered to be contaminated sediment, the result of past industrial discharges and past residential pesticide use. The advisory for this waterbody was first issued prior to 1998-99. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)
Based on the fish consumption advisory, recreational uses of the waterbody are also considered to be stressed. Currently there is inadequate data/information to evaluate aquatic life in the waterbody.

Water Quality Information
Considerable sediment monitoring data for this waterbody has been collected as part of a hazardous waste site investigation and remediation effort. Sampling in 2013 and 2014 after the lake remediation (dredging) in 1999, found some remaining elevated cadmium concentrations in the upstream Willetts Creek and its floodplain. It is believed that the newly identified contamination is attributable to high water events (superstorm Sandy) and the subsequent erosion and redistribution of sediments. (DEC/DER, Dzus Fastener Site, March 2016)

Management Actions
A Superfund inactive hazardous waste site (Dzus Fasteners, site no. 1–52–033) was identified as a contributing source of cadmium to the lake. In December 1999, work to remove the most highly contaminated sediments (by excavation in near shore areas and by hydraulic dredging in deeper waters) was completed. Remedial work also included covering an identified zone of sediment contamination with rip-rap to isolate it from the environment, rotenone eradication of the contaminated fish and restocking, and source control at the Dzus facility. As a result of the extensive dredging, the risk of exposure to site-related contaminants is considered to have been reduced. However DEC is evaluating alternatives to address the contamination found in the off-site floodplain and the creek that is thought to be attributable to high water events (superstorm Sandy) and the subsequent erosion and redistribution of sediments. Although it appears that the contamination has remained within the banks of the creek and wetland, additional investigation will be necessary to confirm this. (DEC/DER, Dzus Fastener Site, March 2016)

Section 303(d) Listing
Lake Capri is included on the current (2016x) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as an impaired waterbody requiring a TMDL to address cadmium and chlordane contamination. This waterbody was first listed on the 199 List. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the lake.
Sampawams Creek, Upper, and tribs (1701-0090)  Impaired

Waterbody Location Information

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<tr>
<td>Water Type/Size:</td>
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<tr>
<td>Description:</td>
<td>stream and tribs above Montauk Highway (freshwater)</td>
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<td>Water Class:</td>
<td>C(T)</td>
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<td>Drainage Basin:</td>
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<td>Reg/County:</td>
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Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<tr>
<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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Conditions Evaluated

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<th>Habitat/Hydrology</th>
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<tr>
<td>Aesthetics</td>
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Type of Pollutant(s)

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<th>Known:</th>
<th>UNKNOWN POLLUTANTS (biological impacts)</th>
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<tr>
<td>Suspected:</td>
<td>Nutrients (phosphorus), Low D.O./Oxygen Demand</td>
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<tr>
<td>Unconfirmed:</td>
<td>Pathogens</td>
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Source(s) of Pollutant(s)

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<th>Known:</th>
<th>URBAN/STORM RUNOFF</th>
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<tr>
<td>Suspected:</td>
<td>Onsite/Septic Systems</td>
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<td>Unconfirmed:</td>
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Management Information

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<th>Management Status</th>
<th>Verification of Problem Severity Needed</th>
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<tr>
<td>Lead Agency/Office</td>
<td>DOW/Reg1</td>
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<tr>
<td>IR/305(b) Code</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
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</tbody>
</table>

Further Details

Overview

Upper Sampawams Creek is assessed as an impaired waterbody due to recreational uses and aquatic life that is known to be impaired. No specific pollutant or sources have been identified, but sampling results indicate organic impacts from municipal or other sources are present. Surrounding land use also suggest urban stormwater runoff and onsite/septic impacts.

Use Assessment

Upper Sampawams Creek 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. The waterbody is also designated as a cold water (trout) fishery.

Aquatic life is evaluated as impaired based on biological sampling that shows significant impacts. This sampling can also be used to infer that there are also significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Sampawams Creek in West Islip (at Union Blvd) was conducted as part of the RIBS biological screening effort in 2013. Sampling results reflect moderately impacted (poor) water quality, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. The nutrient biotic index indicates 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 poor and aquatic life is not supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, December 2015)

These sampling results are consistent with results collected at this site in 2008 and 2003. Sampling at those times also revealed moderately impacted conditions. Sampling results in 1998 indicated slightly impacted water quality conditions, but close to the range of moderate impact. The stream was sampled in 1994 and was determined to be moderately impacted, however results were similar enough that no water quality change is indicated. (DEC/DOW, BWAR/SBU, December 2015)

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

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, include onsite wastewater treatment discharges in this high-density residential area.

Management Actions
No specific management actions have been identified for the waterbody. However the creek is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below).

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Sampawams Creek is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 3b of the List as a waterbody for which TDML development is deferred pending the verification of the cause/pollutant causing the impairment. Currently the cause/pollutant is listed as unknown, but related to biological impacts. (DEC/DOW, BWAM, January 2016)
Segment Description:
This segment includes the freshwater portion of the stream and tribs.
Guggenheim Lakes (1701-0343)  Unassessed

Waterbody Location Information
Revised: 05/18/2016

<table>
<thead>
<tr>
<th>Water Index No: (MW7.8) AO-GSB-207-P938,P939</th>
<th>Water Class: C</th>
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<tr>
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<td>Drainage Basin: Atlantic-Long Island Sound</td>
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<tr>
<td>Water Type/Size: Lake/Reservoir 16.1 Acres</td>
<td>Reg/County: 1/Suffolk (52)</td>
</tr>
<tr>
<td>Description: total area of both lakes</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
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<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
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<tbody>
<tr>
<td>Habitat/Hydrology</td>
<td>Unassessed</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Unassessed</td>
</tr>
</tbody>
</table>

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

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

Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
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</thead>
<tbody>
<tr>
<td>Lead Agency/Office:</td>
<td>DOW/BWAM</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Water with Insufficient Data (IR Category 3)</td>
</tr>
</tbody>
</table>

Further Details

Overview
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment 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.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Action
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the total area of the lake.
Upper Carlls River is assessed as being threatened due to aquatic life that is thought to be threatened by unspecified pollutants. Biological sampling results show slightly impacted conditions that approach the non-impacted range. Impoundment effects may also influence conditions in the stream.

Use Assessment
Carlls River is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Aquatic life is considered to be supported with minimal impacts. Biological sampling of the stream show conditions to be in the slightly-to-non-impacted range. This sampling can also be used to infer that there are no significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC, DOW, BWAM, July 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice...
for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Biological (macroinvertebrate) assessments of Carlls River in Babylon (at Park Ave) was conducted as part of the RIBS sampling effort in 2014, 2013, 2009, 2008 and 2003. Sampling results reflect good water quality. Conditions were found to be either nonimpacted or in the slightly impacted range but approaching non-impacted. The macroinvertebrate community in these samples may show some beginning signs of alteration, some expected sensitive species may not present and overall macroinvertebrate species richness can be somewhat lower than expected, but overall there is still balanced distribution of all expected taxa. Aquatic life is fully supported and there are no other apparent water quality impacts. (DEC/DOW, BWAM/SBU, January 2015)

These results are also similar to sampling conducted on the stream at Route 27 and at Park Avenue in 1998. Sampling results indicated both sites to be slightly impacted, but near the range of non–impacted. Mayflies and caddisflies were numerous at both sites. Similar conditions were documented in 1994 sampling. Large rainbow trout were present at the Park Avenue site. The river is included in the Fisheries cold water management program. (DEC/DOW, BWAR/SBU, January 2000)

Source Assessment
Specific sources of pollutants to the waterbody have not been identified. (DEC/DOW, BWAM/SBU, January 2015)

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
Upper Carlls River is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
The stream is Class C from Montauk Highway to Railroad Avenue, and Class C(T) above Railroad Avenue. Tribs are Class C and C(T).
Argyle Lake (Memorial Pond) (1701-0344)  
No Known Impacts

Waterbody Location Information

Water Index No: (MW7.8) AO-GSB-208-P943
Hydro Unit Code: Great South Bay-Fire Island Inlet (0203020204)
Water Type/Size: Lake/Reservoir  25.3 Acres
Description: entire pond

Water Class: C
Drainage Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Fair
Aesthetics: Unknown

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Management Information

Management Status: Verification of Problem Severity Needed
Lead Agency/Office: ext/SSER
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Argyle Lake (Memorial Pond) is assessed as having no known impacts; all evaluated uses are considered to be fully supported. Assessment is based on limited but positive water quality data.

Use Assessment
Argyle Lake 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.

There is no evidence of recreation use impacts in the waterbody, consistent with relatively low lake productivity and acceptable water clarity. Invasive species (fanwort) has been noted but does not appear to impact uses.

Aquatic life is considered to be fully supported based on DFWMR assessments that indicate a healthy fishery of brown bullhead, sunfish, largemouth bass, yellow perch and Carp. The waterbody is designated as a warmwater fishery, however trout the lake is routinely stocked with trout. (DEC/DFWMR, January 2016)
There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Limited water quality sampling of Argyle Lake has been conducted through the NYSDEC Lake Classification and Inventory (LCI) program in 2013. Results of this sampling indicate the lake is best characterized as unproductive. Chlorophyll/algal levels are well below criteria corresponding to impacted recreational uses, while phosphorus concentrations typically approach impacted criteria. Lake clarity measurements indicate water transparency that meets the recommended minimum criteria for swimming beaches (measurements are limited by the lake depth). Readings of pH fall within the range established in state water quality standards for protection of aquatic life. (DEC/DOW, BWAM/LMAS, January 2015)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Actions
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
Argyle Lake (Memorial Pond) is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the lake.
Southards Pond (1701-0345)  Threatened

Waterbody Location Information

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<tr>
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<tr>
<td>Water Type/Size:</td>
<td>Lake/Reservoir  25.9 Acres</td>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
</tr>
<tr>
<td>Description:</td>
<td>entire pond</td>
<td></td>
<td></td>
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</table>

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Unknown

Type of Pollutant(s)

- Known: Aquatic Invasive Species (fanwort)
- Suspected: - - -
- Unconfirmed: - - -

Source(s) of Pollutant(s)

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

Management Information

- Management Status: Verification of Problem Severity Needed
- Lead Agency/Office: ext/PRHP
- IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview

Southards Pond is assessed as threatened due to recreational use that is considered to be threatened by aquatic invasive plant species. Although uses are currently fully supported, the invasive species raise concerns and conditions should continue to be monitored.

Use Assessment

Southards Pond is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not for water supply or public bathing use. The waterbody is also designated as a cold water (trout) fishery.

There is no evidence of recreation use impacts in waterbody, although sampling has been limited to plant surveys and no extensive water quality sampling has been conducted. The occurrence of aquatic invasive species suggest some threat to recreational uses.

Aquatic life is considered to be fully supported. The pond provides fishing opportunities typical of warmwater Long Island ponds, including population of chain pickerel, largemouth bass, bluegill, pumpkinseed sunfish, yellow perch,
brown bullhead, and carp. In addition, the pond is stocked with brown and rainbow trout. (DEC/DOW, BWAM/LMAS, March 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Southards Pond was surveyed by NYSDEC Division of Water and Nature Conservancy of Long Island staff in 2006 as part of an aquatic plant survey of Long Island lakes. This survey work found fanwort (Cabomba caroliniana), an invasive exotic plant species. Detailed survey work has not been conducted. No water quality evaluations have been conducted at the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
There are no apparent sources of pollutants to the waterbody. Aquatic invasive species are the lone concern in the lake. The pond is surrounded by undeveloped parkland.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing:
Southards Pond is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the entire pond.
Elda Lake (1701-0346)  Threatened

Waterbody Location Information

| Water Index No: | (MW7.8) AO-GSB-208-P947 |
| Water Class: | C |
| Hydro Unit Code: | Great South Bay-Fire Island Inlet (0203020204) |
| Drainage Basin: | Atlantic-Long Island Sound |
| Water Type/Size: | Lake/Reservoir 5 Acres |
| Reg/County: | 1/Suffolk (52) |
| Description: | entire lake |

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<tr>
<td>Public Bathing</td>
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<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Fair |
| Aesthetics | Unknown |

Type of Pollutant(s)

| Known: | Aquatic Invasive Species (curly-leaf pondweed) |
| Suspected: | - - - |
| Unconfirmed: | - - - |

Source(s) of Pollutant(s)

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

Management Information

| Management Status: | Verification of Problem Severity Needed |
| Lead Agency/Office: | ext/PRHP |
| IR/305(b) Code: | Water Attaining All Standards (IR Category 1) |

Further Details

Overview
Elda Lake is assessed as threatened due to recreational use that is considered to be threatened by aquatic invasive plant species. Although uses are currently fully supported, the invasive species raise concerns and conditions should continue to be monitored.

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

There is no evidence of recreation use impacts in waterbody, although sampling has been limited to plant surveys and no extensive water quality sampling has been conducted. The occurrence of aquatic invasive species suggest some threat to recreational uses.

Aquatic life is considered to be fully supported. The pond provides fishing opportunities typical of warmwater Long Island ponds. (DEC/DOW, BWAM/LMAS, March 2015)
There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Elda Lake was surveyed by NYSDEC Division of Water and Nature Conservancy of Long Island staff in 2008 as part of an aquatic plant survey of Long Island lakes. This survey work found curly-leafed pondweed (Potamogeton crispus), an invasive exotic plant species. Detailed survey work has not been conducted, although lake residents report extensive surface growth of the plant. No water quality evaluations have been conducted at the lake, and no additional aquatic plant surveys have been conducted since 2008. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
There are no apparent sources of pollutants to the waterbody. Aquatic invasive species are the lone concern in the lake. The pond is surrounded by undeveloped parkland.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody. Grass carp are stocked as a weed control measure.

Section 303(d) Listing:
Elda Lake is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the entire lake.
Belmont Lake (1701-0021)  Minor Impacts

Waterbody Location Information

Water Index No: (MW7.8) AO-GSB-208-P949
Hydro Unit Code: Great South Bay-Fire Island Inlet (0203020204)
Water Type/Size: Lake/Reservoir 28.4 Acres
Description: entire lake

Water Class: C
Drainage Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<tr>
<td>Public Bathing</td>
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<td>-</td>
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<td>Recreation</td>
<td>Stressed</td>
<td>Known</td>
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<td>Aquatic Life</td>
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<td>Suspected</td>
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<td>Fish Consumption</td>
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Conditions Evaluated

<table>
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<tr>
<th>Habitat/Hydrology</th>
<th>Fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Type of Pollutant(s)

Known: Aquatic Invasive Species (curly-leaf pondweed)
Suspected: - - -
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Habitat Alteration
Suspected: Urban/Storm Runoff
Unconfirmed: - - -

Management Information

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

Further Details

Overview
Belmont Lake is assessed as having minor impacts due to recreational use that is considered to be stressed by aquatic invasive plant species. Invasive exotic plant species (fanwort) growth in the lake is extensive. Other water quality indicators reflect conditions that are generally supportive of uses.

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

Recreational uses in Belmont Lake are thought to experience minor impacts due to invasive aquatic plant growth. Invasive exotic plant species (fanwort) growth in the lake is extensive. In order to limit the growth of aquatic vegetation, Belmont Lake State Park stocked grass carp into the lake in 1997.

Aquatic life is considered to be fully supported. The pond supports a good naturally reproducing warmwater fish
community, consisting of largemouth bass, chain pickerel, yellow perch, bluegill, pumpkinseed and brown bullhead. While Belmont Lake cannot sustain trout through the heat of summer – nor is it classified as a trout supporting waterbody – rainbow, brown, and brook trout are stocked in the fall and spring to provide a seasonal fishing opportunity. (DEC/DOW, BWAM/LMAS, March 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Belmont Lake 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 2006–2009. This survey work found several pondweed and bladderwort species, and fanwort (Cabomba caroliniana), an invasive exotic plant species. The fanwort growth in the lake is extensive. The limited water quality data showed some variable but moderate phosphorus readings (typical of mesotrophic, or moderately productive, lakes), moderate to elevated nitrate levels, slightly acidic pH, and moderately hardwater. Most of these readings were typical of shallow Long Island lakes. Many of the algae collected are associated with taste and odor problems, although no cyanobacteria were identified. (DEC/DOW, BWAM/LMAS and NYSOPRHP, March 2011)

Source Assessment
The primary concern in the lake is aquatic invasive species. Urban stormwater runoff and other nonpoint sources may contribute other pollutants to the lake.

Management Action
Lake dredging was conducted in 1986. Fish Wildlife and Marine Resource staff conducted post-dredging monitoring in 1987 and found the lake has once again developed an outstanding largemouth bass, yellow perch and bluegill fishery. Concerns remain regarding excessive aquatic plant growth and control techniques are being considered. In order to limit the growth of aquatic vegetation, Belmont Lake State Park stocked grass carp into the lake in 1997. (DEC/FWMR, Region 1, March 2016)

A previously issued fish consumption advisory for PCBs and Chlordane was lifted in 2005. This NYS DOH health advisory had recommended not to eat more than one meal per month of carp because of elevated chlordane and PCBs. (2005–06 NYS DOH Health Advisories).

Section 303(d) Listing
Belmont Lake is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the entire lake.
Santapogue Creek, Upper, and tribs (1701-0016)  

**Waterbody Location Information**  
Revised: 05/18/2016

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<td>C(T)</td>
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<tr>
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<td>Great South Bay-Fire Island Inlet (0203020204)</td>
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<tr>
<td>Drainage Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Water Type/Size:</td>
<td>River/Stream 2 Miles</td>
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<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
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<tr>
<td>Description:</td>
<td>stream and tribs above Montauk Highway (freshwater)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Unassessed</td>
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<tr>
<td>Recreation</td>
<td>Unassessed</td>
<td>-</td>
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<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

**Type of Pollutant(s)**

- 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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Previous assessment noted low summer dissolved oxygen, suspected nutrient load and other pollutants from stormwater and other urban nonpoint sources. These conditions along with low fish diversity and abundance were reported by Regional Fisheries staff in a 1998 assessment effort. The stream previously supported trout, but no longer supports a cold water fishery. The west branch of the creek is now largely a storm drain. More recent monitoring to verify current
conditions is recommended.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified, though urban stormwater and other nonpoint sources are suspected of having impact on the stream.

Management Action
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2016)

Segment Description
This segment includes the entire stream and tribs above tidal waters (Montauk Highway) and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.
**Neguntatogue Creek, Upper, and tribs (1701-0088) Needs Verification**

**Waterbody Location Information**

- **Water Index No:** (MW7.8) AO-GSB-211
- **Hydro Unit Code:** Great South Bay-Fire Island Inlet (0203020204)
- **Water Type/Size:** River/Stream 0.3 Miles
- **Description:** stream and tribs above Montauk Highway (freshwater)
- **Water Class:** C
- **Drainage Basin:** Atlantic-Long Island Sound
- **Reg/County:** 1/Suffolk (52)
- **Water Index No:** (MW7.8) AO-GSB-211
- **Hydro Unit Code:** Great South Bay-Fire Island Inlet (0203020204)
- **Water Type/Size:** River/Stream 0.3 Miles
- **Description:** stream and tribs above Montauk Highway (freshwater)
- **Water Class:** C
- **Drainage Basin:** Atlantic-Long Island Sound
- **Reg/County:** 1/Suffolk (52)

**Water Quality Problem/Issue Information**

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
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<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

- Habitat/Hydrology: Fair
- Aesthetics: Fair

**Type of Pollutant(s)**

- **Known:** Unknown Pollutants (biological impacts)
- **Suspected:** Nutrients (phosphorus), Low D.O./Oxygen Demand
- **Unconfirmed:** Pathogens

**Source(s) of Pollutant(s)**

- **Known:** Urban/Storm Runoff
- **Suspected:** Onsite/Septic Systems
- **Unconfirmed:** - - -

**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 Neguntatogue Creek is assessed as needing verification of impacts due to recreational uses and aquatic life that may be stressed, although more recent sampling is necessary to confirm water quality. Urban stormwater runoff and other urban nonpoint sources and onsite/septic impacts in this high-density area are likely contributors to the impacts. However, this assessment is based on older data and sampling to verify conditions is recommended.

**Use Assessment**

Upper Neguntatogue Creek 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.

Aquatic life is currently evaluated as stressed based on biological sampling that shows slight impacts. This sampling can also be used to infer that there are also some impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses. (DEC, DOW, BWAM, July 2014)
There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Neguntatogue Creek in Lindenhurst (at Herbert Street) was conducted as part of the RIBS biological screening effort in 2003. Sampling results at that time reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. This sampling is older, and more recent sampling is needed to verify current conditions. (DEC/DOW, BWAM/SBU, December 2015)

Source Assessment
Based on the biologic community composition, surrounding land use and other knowledge of the waterbody, the most likely sources of pollutants/impacts to the waterbody are urban stormwater runoff and other nonpoint sources, including onsite wastewater treatment discharges in this high-density residential area.

Management Actions
No specific management actions have been identified for the waterbody. Additional sampling to verify the level of impact in this waterbody segment is recommended.

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable. (DEC/DOW, BRWM, November 2015)

This waterbody is also 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 2001 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
Upper Neguntatogue Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts/impairments that would justify the listing of this waterbody, but additional sampling is recommended. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the freshwater portion of the stream and tribs.
## Oyster Bay/Huntington Bay Watershed

### Water Index Number

- **MW5.1a** LIS (portion 3c)
- **MW5.1b** LIS-42,43
- **MW5.1c** LIS-OBH
- **MW5.1c** LIS-OBH-47-P156
- **MW5.1c** LIS-OBH-MNC
- **MW5.1c** LIS-OBH-MNC-44 thru 48
- **MW5.1c** LIS-OBH-MNC-45-P150a
- **MW5.1c** LIS-OBH-MNC-45-P152, P153
- **MW5.1d** LIS-CSH
- **MW5.1d** LIS-CSH-49 thru 52
- **MW5.2a** LIS-HB
- **MW5.2a** LIS-HB-LH
- **MW5.2a** LIS-HB-NB
- **MW5.2a** LIS-HB-NB-CH
- **MW5.2a** LIS-HB-NB-CH-P240
- **MW5.2a** LIS-HB-NB-DIH
- **MW5.2a** LIS-HB-NB-NH
- **MW5.2b** LIS-58-P269

### Waterbody Segment

- **MW5.1a** LIS (portion 3c) LIS-OBH
- **MW5.1c** LIS-OBH-MNC-44 thru 48
- **MW5.1c** LIS-OBH-MNC-45-P150a
- **MW5.1c** LIS-OBH-MNC-45-P152, P153
- **MW5.1d** LIS-CSH
- **MW5.2a** LIS-HB
- **MW5.2a** LIS-HB-LH
- **MW5.2a** LIS-HB-NB
- **MW5.2a** LIS-HB-NB-CH
- **MW5.2a** LIS-HB-NB-CH-P240
- **MW5.2a** LIS-HB-NB-DIH
- **MW5.2a** LIS-HB-NB-NH
- **MW5.2b** LIS-58-P269

### Category

- **Impaired**
- **Minor Impacts**
- **Impaired**
- **Minor Impacts**
- **Impaired**
- **No Known Impacts**
- **Impaired**
- **Unassessed**
- **Impaired**
- **Minor Impacts**
- **Minor Impacts**
- **Unassessed**
- **Impaired**
- **Impaired**
- **Minor Impacts**
- **Unassessed**
- **Impaired**
- **No Known Impacts**

---

**Long Island Sound, Nassau/Suffolk (1702-0270)**

**Minor Tribs to Long Island Sound (1702-0150)**

**Oyster Bay Harbor (1702-0016)**

**Mill Pond (1702-0155)**

**Mill Neck Creek and tidal trib (1702-0151)**

**Tribs (fresh) to Oyster Bay/Mill Neck Cr (1702-0153)**

**Beaver Lake (1702-0152)**

**Lower/Upper Francis Ponds (1702-0154)**

**Cold Spring Harbor, and tidal trib (1702-0018)**

**Tribs (fresh) to Cold Spring Harbor (1702-0156)**

**Huntington Bay (1702-0014)**

**Tribs (fresh) to Huntington Bay (1702-0231)**

**Huntington Harbor (1702-0228)**

**Lloyd Harbor (1702-0227)**

**Northport Bay (1702-0256)**

**Centerport Harbor (1702-0229)**

**Mill Pond (1702-0261)**

**Duck Island Harbor (1702-0262)**

**Northport Harbor (1702-0230)**

**Eaton's Neck Pond (1702-0271)**
Overview
This portion of Long Island Sound is assessed as impaired due to aquatic life that is known to be impaired by nutrients and resulting low dissolved oxygen. Shellfishing and public bathing and recreational uses are also thought to be stressed by pathogens. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
This portion of Long Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be supported, but stressed in these waters. Much of this waterbody (included within Shellfish Growing Area #34) has been certified as safe for the taking of shellfish for use as food.
small area of waters on the western edge of this segment is designated as uncertified. Because this area represents less than 5% of the total area, the waterbody is considered to be supporting of shellfishing use. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for detailed descriptions of current designations, go to [www.dec.ny.gov/regs/4014.html](http://www.dec.ny.gov/regs/4014.html). (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is considered to experience minor impacts based on monitoring and occasional beach closures at beaches in the segment. Beach monitoring revealed elevated bacteriological levels that occurred in generally less than ten percent of the samples collected at these beaches; these results resulted in occasional but infrequent (less than 10 days) beach closures at some beaches in most years. Occasional beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Prybil Beach, Lattington Beach, Piping Rock Beach, Stehli Beach, Ransom Beach, Soundside Beach, Centre Island Sound Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

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

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with western Long Island Sound and Connecticut waters are sources of the nutrients. Urban and storm runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This portion of Long Island Sound is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Nitrogen TMDL. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes all the waters of Long Island Sound within eastern Nassau and western Suffolk Counties, east of a line due north of Matinecock Point and west of a line due north of Eatons Neck Point, and excluding Cold Spring Harbor, Oyster Bay Harbor and Huntington Bay which are listed separately.
Minor Tribs to Long Island Sound (1702-0150)  
Minor Impacts

Waterbody Location Information

Water Index No: (MW4.3b) LIS-42,43  
Unit Code: 0203020102  
Class: SC  
Water Type/Size: Estuary Waters 19.2 Acres  
Reg/County: 1/Nassau (30)

Water Quality Problem/Issue Information

Uses Evaluated | Severity | Confidence  
--- | --- | ---  
Shellfishing | N/A | -  
Public Bathing | N/A | -  
Recreation | Stressed | Suspected  
Aquatic Life | Fully Supported | Unconfirmed  
Fish Consumption | Fully Supported | Unconfirmed

Conditions Evaluated

Habitat/Hydrology | Unknown  
Aesthetics | Unknown

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF  
Suspected: On-Site/Septic Syst, Other Source (boat pollution)  
Unconfirmed: - - -

Management Information

Management Status: Verification of Sources Needed  
Lead Agency/Office: DOW/Reg1  
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview

This Long Island Tribs waterbody is assessed as having minor impacts due to recreational uses that are thought to be stressed by pathogens. Some of these waters are designated as uncertified for shellfishing due to pathogens, although this waterbody is not designated for support of shellfishing use. The shellfishing restrictions suggest that recreational uses could be impacted but the pathogen criteria for shellfishing use are more stringent than for recreation and additional monitoring to evaluate recreational use support is recommended.

Use Assessment

This Long Island Tribs waterbody is a Class SC waterbody, suitable for general recreation use, and support of aquatic life, but not for shellfishing or for public bathing.
Recreational use including public bathing is thought to be stressed based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for recreation and additional bacteriological sampling is needed to more fully evaluate recreational use. Restrictions on shellfishing represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

A portion of this waterbody, Frost Creek (-42), (included within Shellfish Growing Area #35) has been designated as uncertified for the taking of shellfish for use as food. Although these portions of this waterbody are monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban and storm runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with western Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

Management Action
No specific management actions have been identified for the waterbody.

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This Long Island Tribs waterbody is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL
Waters. There appear to be no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes Frost Creek (-42) and East Over Creek (-43). These tribds are designated class SC.
Oyster Bay Harbor (1702-0016)  Impaired

Waterbody Location Information  Revised: 02/19/2016

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<td>Class: SA</td>
<td>Long Island Sound</td>
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<tr>
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</table>

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfishing</td>
<td>Impaired</td>
<td>Known</td>
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<tr>
<td>Public Bathing</td>
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</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated
- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

Type of Pollutant(s)
- Known: PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand
- Suspected: Priority Organics (PCBs)
- Unconfirmed: - - -

Source(s) of Pollutant(s)
- Known: MUNICIPAL DISCHARGES (Oyster Bay SD), URBAN/STORM RUNOFF
- Suspected: Other Source (migratory species), ONSITE/SEPTIC SYSTEMS
- Unconfirmed: - - -

Management Information

- Management Status: Strategy Implementation Scheduled or Underway
- Lead Agency/Office: DEC/Reg1
- IR/305(b) Code: Impaired Water, TMDL Completed (IR Category 4a)

Further Details

Overview
Oyster Bay Harbor is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Oyster Bay Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #47) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. About 18% of the Bay is closed year-round and an additional 20% is subject to seasonal or holiday closures. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be stressed based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches that have been affected include Theodore Roosevelt Beach, West Harbor Beach and Center Island Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff, municipal wastewater discharges and residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Friends of the Bay is a non–profit environmental organization formed in 1987 to preserve, protect and restore the ecological integrity and productivity of the Oyster Bay/Cold Spring Harbor Estuary and the surrounding watershed. The organization’s efforts include water quality protection, watershed wetlands conservation, land use planning, research, education, community action and advocacy. (Friends of the Bay, 2010)

A vessel waste No Discharge Zone was established for the waters of the Oyster Bay/Cold Spring Harbor Complex in 2008.

Section 303(d) Listing
Oyster Bay Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Oyster Bay/Mill Neck Creek TMDL for pathogens in 2003. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes tidal waters west of line from Plum Point to Cove Point and east of Bayville Bridge, which excludes Mill Neck Creek which is listed separately.
Mill Pond (1702-0155)  Minor Impacts

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW4.4a) LIS-OBH-47-P156</th>
<th>Drain Basin:</th>
<th>Atlantic-Long Island Sound</th>
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<tr>
<td>Unit Code:</td>
<td>0203020102</td>
<td>Class:</td>
<td>C(T)</td>
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<td>Water Type/Size:</td>
<td>Lake/Reservoir 7.3 Acres</td>
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<td>Description:</td>
<td>entire lake</td>
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Revised: 4/8/2011

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
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<tr>
<td>Public Bathing</td>
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</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Fair
Aesthetics: Fair

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Mill Pond is assessed as having minor impacts due to recreational uses that thought to be stressed by nutrients and silt/sedimentation from urban/storm runoff and other nonpoint sources.

Use Assessment
Mill 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. The waterbody is also designated as a cold water (trout) fishery.

Recreational uses and public bathing are considered to be supported but stressed due to elevated nutrients (phosphorus), excessive algae, poor water clarity. The pond has been used as a stormwater retention basin and now suffers from
siltation.

This waterbody is reported to support a suitable cold water fishery, although no specific fishery or biological reports are included in this assessment. Trout (brown and rainbow) are stocked in the spring and the fall, and the lake also supports a healthy population of small sized largemouth bass in the lake. A few carp are present, and bullhead grow to about 15 inches. A fisheries survey was conducted in 1993. (DEC/DOW, BWAM/LMAS and DEC/FWMR, Region 1 Fisheries, March 2011)

Water Quality Information
Water quality sampling of Mill Pond was conducted through the NYSDEC Lake Classification and Inventory (LCI) Program in 2004. Results of this sampling indicate the lake is best characterized as eutrophic, or highly productive. However chlorophyll/algal levels occasionally exceed criteria corresponding to impacted recreational uses, while phosphorus concentrations are typically quite high. Lake clarity measurements indicate water transparency does not typically meet the recommended minimum criteria for swimming beaches. These data indicate that the lake may be susceptible to algal blooms, although both water clarity and algae levels may be limited by turbidity from suspended sediment, as commonly occurs in shallow ponds. The depth profile is typical of shallow lakes, with fully oxygenated conditions to the lake bottom (depth < 2 meters). The lake has hard water and alkaline conditions. Readings of pH typically fall within the range established in state water quality standards for protection of aquatic life. (DEC/DOW, BWAM/LMAS, May 2011)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, urban/storm runoff and other nonpoint sources are the most likely sources of impacts to the waterbody. The pond is located on a United States Fish and Wildlife Preserve, and is one of the few public freshwater fishing spots on the north shore of Nassau County.

Management Actions
No specific management actions have been identified for the waterbody. The pond is located on a United States Fish and Wildlife Preserve. Trout are stocked in the lake during the spring and fall. (DEC/DOW, BWAM/LMAS and DEC/FWMR, Region 1 Fisheries, March 2011)

Section 303(d) Listing
Mill Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond.
Overview
Mill Neck Creek is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by shellfishing restrictions and periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Mill Neck Creek is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support
of aquatic life.

Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #47) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. About 93% of the creek is closed year-round, while the other 7% is subject to a seasonal closure. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be stressed based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches in this waterbody include West Harbor Beach and Center Island Beach, with lie just outside this segment in Oyster Bay Harbor. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff, municipal wastewater discharges and residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring.  (DEC/DOW, BWQM/WQMS, July 2015)

Friends of the Bay is a non–profit environmental organization formed in 1987 to preserve, protect and restore the ecological integrity and productivity of the Oyster Bay/Cold Spring Harbor Estuary and the surrounding watershed. The organizations efforts include water quality protection, watershed wetlands conservation, land use planning, research, education, community action and advocacy.  (Friends of the Bay, 2010)

The Birches treatment facility, a small county owned wastewater treatment facility that had discharged to the creek, received Clean Water/Clean Air Bond Act grant to install a collection system/pump station to convey it's wastewater flow to the Glen Cove Wastewater Treatment. As a result the facility no longer discharges wastewater into Mill Neck Creek.  (DEC/DOW, Region 1, February 2016).

A vessel waste No Discharge Zone was established for the waters of the Oyster Bay/Cold Spring Harbor Complex in 2008.

Section 303(d) Listing
Mill Neck Creek is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Oyster Bay/Mill Neck Creek TMDL for pathogens in 2003. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes tidal waters west of the Bayville Bridge, including Oak Neck Creek.
Tribs (fresh) to Oyster Bay/Mill Neck Cr (1702-0153)  No Known Impacts

Waterbody Location Information

Water Index No: (MW4.4a) LIS-OBH-MNC-44 thru 48  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020102  Class: C  Long Island Sound
Water Type/Size: River/Stream  1.6 Miles  Reg/County: 1/Nassau (30)
Description: total length of selected (freshwater) tribs

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Unknown
Aesthetics: Unknown

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Management Information

Management Status: Reassessment Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
The Oyster Bay/Mill Neck Creek Tribs segment is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment 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.

Aquatic life is considered to be fully supported based on biological sampling that shows non-impacted conditions. This sampling can also be used to infer that there are no significant impacts to recreational (fishing) uses, although more
specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Beaver Brook in Mill Neck (at Frost Mill Road) was conducted as part of the RIBS monitoring effort in 2013 and 2014. The most recent of these sampling results indicated non-impacted conditions and very good water quality. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. The 2013 sampling results, as well as 2008, 2009 results, also reflected good water quality but with conditions in the upper slightly impacted range, approaching non-impacted conditions. Additional sampling to confirm conditions is recommended, but nonetheless the aquatic life community is considered to be fully supported. (DEC/DOW, BWAM/SBU, January 2015)

Previous sampling at this site in 2003 revealed moderately impacted conditions, but this samples was considered to be influenced by poor sampling habitat. Sampling at the site in 1998 found non-impacted water quality conditions. The stream bottom was composed entirely of sand silt, with tree roots and macrophytes providing habitat for invertebrates. Several brown trout were also seen at this site.

A biological assessment of Oyster Bay Creek in Oyster Bay was also conducted in 1998. Sampling results at this site indicated moderately impacted water quality, with the fauna was heavily dominated by worms. However, the stream bottom was composed primarily of sand and gravel, and this likely contributed to the limited fauna. Trout were present at this site, and may actually provide a better indicator of water quality. (DEC/DOW, BWAR/SBU, January 2000)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
No specific management actions have been identified or are deemed necessary for the waterbody. Additional sampling to more specifically verify the level of impact in this waterbody segment is recommended, but is not a priority.

Section 303(d) Listing
The Oyster Bay/Mill Neck Creek Tribs segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of all freshwater tribs to Oyster Bay Harbor and Mill Neck Creek, including Beaver Brook (-45), Spring Lake Outlet (-46), Mill River (-47), Tiffany Creek (-48). These tribs are designated class C.
Beaver Lake (1702-0152)  Impaired

Waterbody Location Information
Revised: 02/19/2016

<table>
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<tr>
<th>Water Index No:</th>
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<tbody>
<tr>
<td>Unit Code:</td>
<td>0203020102</td>
<td>Class: C</td>
<td>Long Island Sound</td>
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<tr>
<td>Water Type/Size:</td>
<td>Lake/Reservoir 63.6 Acres</td>
<td>Reg/County:</td>
<td>1/Nassau (30)</td>
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<td>Description:</td>
<td>entire lake</td>
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</tr>
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</table>

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
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<td>Public Bathing</td>
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<td>-</td>
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<tr>
<td>Recreation</td>
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<td>Known</td>
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<tr>
<td>Aquatic Life</td>
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<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
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</tbody>
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Conditions Evaluated
Habitat/Hydrology Unknown
Aesthetics Fair

Type of Pollutant(s)
Known: NUTRIENTS (phosphorus), ALGAL/PLANT GROWTH (native)
Suspected: Low D.O./Oxygen Demand
Unconfirmed: Pathogens

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF
Suspected: On-Site/Septic Syst, Other Source (waterfowl)
Unconfirmed: - - -

Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Verification of Sources Needed</th>
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<tr>
<td>Lead Agency/Office:</td>
<td>DOW/Reg1</td>
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<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
</tr>
</tbody>
</table>

Further Details

Overview
Beaver Lake is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrients and the resulting algal/weed growth and possible low dissolved oxygen. No specific sources have been identified, but urban stormwater runoff and other nonpoint sources are the primary contributing source of pollutants.

Use Assessment
Beaver Lake 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 uses considered to be impaired due elevated nutrients (phosphorus), excessive algae and plant growth.
Additional bacteriological sampling is needed to more fully evaluate the impact of pathogen levels on recreational use. (DEC/DOW, BWAM/LMAS, July 2013)

Aquatic life may be stressed based on suspected low dissolved oxygen related to the eutrophic condition of the lake. Additional fishery assessment is needed to more fully evaluate aquatic life and fishing use. (DEC/DOW, BWAM, January 2016)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
Water quality sampling of Beaver Lake has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program in 2014. Results of this sampling indicate the lake is best characterized as eutrophic, or highly productive. Chlorophyll/algal levels are well above criteria corresponding to impaired recreational uses, while phosphorus concentrations are typically very high. Lake clarity observations indicate water transparency is typically poor. Readings of pH occasionally exceed the range established in state water quality standards for protection of aquatic life though impacts to the fishery are not known. The elevated pH could be a response to algae levels. This evaluation is consistent with results from previous sampling at the site conducted in 2009. (DEC/DOW, BWAM/LMAS, May 2006)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, urban/storm runoff and other nonpoint sources are the most likely sources of impacts to the waterbody. Significant population of waterfowl and shoreline residential development are also possible sources.

Management Action
Beaver Lake is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below). No other specific management actions have been identified for the waterbody.

Section 303(d) Listing:
Beaver 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 an impaired waterbody requiring development of a TMDL for phosphorus and resulting low dissolved oxygen. This waterbody was first listed on the 2012 List. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond. The waterbody is Class C.
# Lower/Upper Francis Ponds (1702-0154)

**Unassessed**

## Waterbody Location Information

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<thead>
<tr>
<th>Water Index No:</th>
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<tr>
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<td>Class:</td>
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<td>Water Type/Size:</td>
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**Description:**

Total area of both lakes

## Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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</tr>
<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
<td>Unassessed</td>
<td>-</td>
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<tr>
<td>Aquatic Life</td>
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<td>Fish Consumption</td>
<td>Unassessed</td>
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</table>

<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
</tbody>
</table>

## Type of Pollutant(s)

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

## Source(s) of Pollutant(s)

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

## Management Information

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<td>DOW/BWAM</td>
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<tr>
<td>IR/305(b) Code:</td>
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</table>

## Further Details

**Overview**

Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

**Use Assessment**

This waterbody segment 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.

**Water Quality Information**
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Lower/Upper Francis Lakes is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of both Lower Francis (P152) and Upper Francis (P153) Lakes. Both lakes are designated Class C.
Cold Spring Harbor, and tidal tribs (1702-0018)  

Impaired

Waterbody Location Information

<table>
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<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Class:</td>
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<tr>
<td>Reg/County:</td>
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<tr>
<td>Water Quality Problem/Issue Information</td>
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<thead>
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<th>Severity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Shellfishing</td>
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<tr>
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<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Known</td>
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<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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</table>

<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
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<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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</thead>
<tbody>
<tr>
<td>Known: PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand</td>
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<tr>
<td>Suspected: Priority Organics (PCBs)</td>
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<tr>
<td>Unconfirmed: - - -</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<tbody>
<tr>
<td>Known: URBAN/STORM RUNOFF, Municipal Discharges</td>
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<tr>
<td>Suspected: Other Source (migratory species), ONSITE/SEPTIC SYSTEMS</td>
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<tr>
<td>Unconfirmed: - - -</td>
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Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Strategy Implementation Scheduled or Underway</th>
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<tr>
<td>Lead Agency/Office:</td>
<td>DEC/Reg1</td>
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<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water, TMDL Completed (IR Category 4a)</td>
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</table>

Further Details

Overview
Cold Spring Harbor is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Cold Spring Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Portions of this waterbody (included within Shellfish Growing Area #48) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. The southern head of the harbor is closed year-round (this area was recently expanded in 2015), while a small portion around the mouth of Eel Creek on the western shore is only seasonal certified. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/reg/4014.html. (DEC/DFWMR, Region 1, December 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be impaired based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this waterbody include Menschutt Beach, Eagle Dock Community Beach, Cold Spring Harbor Beach Club, Laurel Hollow Village Beach, Lloyd Harbor Village Park, Lloyd Neck Bath Club and West Neck Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Friends of the Bay is a non–profit environmental organization formed in 1987 to preserve, protect and restore the ecological integrity and productivity of the Oyster Bay/Cold Spring Harbor Estuary and the surrounding watershed. The organizations efforts include water quality protection, watershed wetlands conservation, land use planning, research, education, community action and advocacy. (Friends of the Bay, 2010)

A vessel waste No Discharge Zone was established for the waters of the Oyster Bay/Cold Spring Harbor Complex in 2008.

Section 303(d) Listing
Cold Spring Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Sound Pathogens (Shellfishing) TMDL in 2007. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes tidal waters south of a line from Cove Point to Whitewood Point.
Tribs (fresh) to Cold Spring Harbor (1702-0156)  

Minor Impacts

Waterbody Location Information

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<tr>
<th>Water Index No:</th>
<th>(MW4.4b) LIS-CSH-49 thru 50</th>
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<td>Class: C</td>
<td>Long Island Sound</td>
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<tr>
<td>Water Type/Size:</td>
<td>River/Stream 2.2 Miles</td>
<td>Reg/County:</td>
<td>1/Nassau (30)</td>
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<tr>
<td>Description:</td>
<td>total length of selected (freshwater) tribs</td>
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Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology             | Fair |
| Aesthetics                    | Unknown |

Type of Pollutant(s)

| Known:                        | - - - |
| Suspected:                    | UNKNOWN POLLUTANTS (biological impacts) |
| Unconfirmed:                  | Nutrients (phosphorus) |

Source(s) of Pollutant(s)

| Known:                        | - - - |
| Suspected:                    | UNKNOWN SOURCE, Urban/Storm Runoff |
| Unconfirmed:                  | Onsite/Septic Systems |

Management Information

Management Status: Verification of Pollutants/Causes Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Cold Spring Harbor Tribs is assessed as having minor impacts due to aquatic life that is known to be stressed. No specific pollutant or sources have been identified, but land use suggests urban/storm runoff and other nonpoint sources contribute to the impacts.

Use Assessment
Cold Spring Harbor Tribs 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.

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. This
sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate other recreational uses.] (DEC/ DOW, BWAM, July 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of unnamed trib (-50) to Cold Spring Harbor in Cold Spring Harbor (at Harbor Road) was conducted as part of the RIBS biological screening effort in 2013. Sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. (DEC/DOW, BWAM/SBU, January 2015)

Source Assessment
Specific sources of pollutants to the waterbody have not been identified. Identification of sources based on biological community composition was inconclusive. But based on surrounding land use and other knowledge of the waterbody, urban stormwater runoff and other nonpoint source are the most likely sources of impacts to the waterbody. Residential onsite/septic systems may also be a contributing source.

Management Actions
No specific management actions have been identified or are deemed necessary for the waterbody. Additional sampling to verify specific pollutants and sources of impact to this waterbody segment is needed.

Section 303(d) Listing
Cold Spring Harbor Tribs is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts/impairments that would justify the listing of this waterbody at this time. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of all freshwater tribs to Cold Spring Harbor. The waters of these tribs are Class C, C(T). Tribs to this reach/segment, including unnamed tribs (-48- 49, -50).
Huntington Bay (1702-0014)  Minor Impacts

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
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<tbody>
<tr>
<td>Unit Code:</td>
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<tr>
<td>Class:</td>
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<tr>
<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
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<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
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<td>Water Type/Size:</td>
<td>Estuary Waters 1398 Acres</td>
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<td>Description:</td>
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Water Quality Problem/Issue Information

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
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<td>Known</td>
</tr>
<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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Conditions Evaluated

<table>
<thead>
<tr>
<th>Habitat/Hydrology</th>
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<td>Aesthetics</td>
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Type of Pollutant(s)

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<tr>
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<th>NUTRIENTS (Nitrogen), LOW D.O./OXYGEN DEMAND</th>
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<tr>
<td>Suspected:</td>
<td>PRIORITY ORGANICS (PCBs)</td>
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Source(s) of Pollutant(s)

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<tbody>
<tr>
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Management Information

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Further Details

Overview
Huntington Bay is assessed as having minor impacts due to aquatic life that is thought to be stressed by nutrients and resulting low dissolved oxygen, and PCBs. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. All other evaluated uses are considered to be fully supported.

Use Assessment
Huntington Bay is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be fully supported in these waters. Virtually all of this waterbody (included within Shellfish Growing Area #40) has been certified as safe for the taking of shellfish for use as food. The only restrictions in this segment are for a small area around the mouth of Huntington Harbor. Because this area represents less than 5% of the total area, the waterbody is considered to be fully supporting of shellfishing use. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered supported based on monitoring at beaches in the waterbody. Beach monitoring revealed no elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include Baycrest Association Beach, Nathan Hale Beach Club and Head of the Bay Club Beach. Additionally bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create an oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Huntington Bay is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes bay waters east of line south from East Beach and west of line south from West Beach. Huntington Harbor, Northport Bay, Northport Harbor, Centerport Harbor (includes Mill Pond), Duck Island Harbor, and Lloyd Harbor are listed separately.
Tribs (fresh) to Huntington Bay (1702-0231)  

Waterbody Location Information  

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<thead>
<tr>
<th>Water Index No:</th>
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<th>Atlantic-Long Island Sound</th>
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<td>C</td>
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<td>Reg/County:</td>
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<td>Description:</td>
<td>total length of selected (fresh) tribs to bay</td>
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Water Quality Problem/Issue Information  

(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<tr>
<td>Aquatic Life</td>
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<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
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<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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</thead>
<tbody>
<tr>
<td>Known: - - -</td>
</tr>
<tr>
<td>Suspected: - - -</td>
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<tr>
<td>Unconfirmed: - - -</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
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<tr>
<td>Known: - - -</td>
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<td>Suspected: - - -</td>
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<td>Unconfirmed: - - -</td>
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Management Information  

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<td>DOW/BWAM</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Water with Insufficient Data (IR Category 3)</td>
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Further Details  

Overview  
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment  
This waterbody segment 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.

Water Quality Information  
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This trib segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total length of all freshwater tribs to Huntington Bay.
Huntington Harbor (1702-0228)  

Impaired

Waterbody Location Information  
Revised: 02/19/2016

<table>
<thead>
<tr>
<th>Water Index No:</th>
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<tr>
<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Class:</td>
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<tr>
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<td>1/Suffolk (52)</td>
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<tr>
<td>Water Type/Size:</td>
<td>Estuary Waters 346.5 Acres</td>
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<td>Description:</td>
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Water Quality Problem/Issue Information  
(CAPS indicate MAJOR Pollutants/Sources)

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfishing</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated
| Habitat/Hydrology | Unknown |
| Aesthetics        | Unknown |

Type of Pollutant(s)
- Known: PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand
- Suspected: Priority Organics (PCBs)
- Unconfirmed: - - -

Source(s) of Pollutant(s)
- Known: URBAN/STORM RUNOFF, Municipal Discharges
- Suspected: Other Source (migratory species), ONSITE/SEPTIC SYSTEMS
- Unconfirmed: - - -

Management Information

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<tr>
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<tr>
<td>Lead Agency/Office:</td>
<td>DEC/Reg1</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water, TMDL Completed (IR Category 4a)</td>
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</table>

Further Details

Overview
Huntington Harbor is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Huntington Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #46) has been designated 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, December 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be impaired based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this waterbody include Gold Star Battalion Beach and Wincoma Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Huntington Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Sound Pathogens (Shellfishing) TMDL in 2007. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes the entire harbor south of a line from Wendower Road to Elbertsons Point.
Lloyd Harbor (1702-0227) Impaired

Waterbody Location Information

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<tr>
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<tbody>
<tr>
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<tr>
<td>Drain Basin:</td>
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<td>Water Type/Size:</td>
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<td>Description:</td>
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Water Index No: (MW5.2a) LIS-HB-LH
Unit Code: 0203020102
Class: SA
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
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<tr>
<th>Uses Evaluated</th>
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<th>Confidence</th>
</tr>
</thead>
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<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Stressed</td>
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</tr>
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<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology Unknown
Aesthetics Unknown

Type of Pollutant(s)

Known: PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand
Suspsected: Priority Organics (PCBs)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF, Municipal Discharges
Suspsected: Other Source (migratory species), ONSITE/SEPTIC SYSTEMS
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DEC/Reg1
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview
Lloyd Harbor is assessed as impaired due to shellfishing that is known to be impaired by pathogens. Aquatic life is also known to be stressed by nutrients and resulting low dissolved oxygen. Public bathing and recreational uses may be stressed by pathogens, though evaluation of these uses need to be verified. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Huntington Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #45) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. The western (head) half of the harbor is only seasonally certified and a small portion of the harbor waters near the mouth of Huntington Harbor is uncertified. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, December 2015)

Aquatic life in the waterbody is also considered to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is thought to be stressed based on shellfishing certification monitoring. Bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. There are no regularly monitored beaches in this waterbody, although Wincoma Beach lies just outside the mouth of the Harbor. Restrictions on shellfishing represent an impact to recreational use. (DEC/DFWMR, July 2014)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring.  (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Lloyd Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. However this updated assessment suggests it is appropriate to include this waterbody on the next List. It is recommended that this waterbody be added to Part 2c of the List as a shellfishing impaired waterbody requiring development of a TMDL for pathogens.  (DEC/DOW, BWAM/WQAS, January 2015)  (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes the entire harbor west of a line extending south from East Beach.
Northport Bay (1702-0256) Minor Impacts

Waterbody Location Information

Water Index No: (MW5.2a) LIS-HB-NB
Unit Code: 0203020102 Class: SA
Water Type/Size: Estuary Waters 1891.3 Acres
Description: entire bay, as described below

Drain Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

Uses Evaluated
Shellfishing Severity Stressed Confidence Known
Public Bathing Fully Supported Known
Recreation Fully Supported Known
Aquatic Life Stressed Known
Fish Consumption Stressed Suspected

Conditions Evaluated
Habitat/Hydrology Unknown
Aesthetics Unknown

Type of Pollutant(s)
Known: PATHOGENS, NUTRIENTS (nitrogen), LOW D.O./OXYGEN DEMAND
Suspected: PRIORITY ORGANICS (PCBs)
Unconfirmed: - - -

Source(s) of Pollutant(s)
Known: URBAN/STORM RUNOFF, Municipal Discharges
Suspected: Other Source (migratory species), Onsite/Septic Systems
Unconfirmed: - - -

Management Information

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

Further Details

Overview
Northport Bay is assessed as having minor impacts due to shellfishing and aquatic life that are considered to be stressed by pathogens, nutrients resulting low dissolved oxygen, and PCBs. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. All other evaluated uses are considered to be fully supported.

Use Assessment
Northport Bay is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be stressed in these waters. Most of this waterbody (included within Shellfish Growing Area #40) has been certified as safe for the taking of shellfish for use as food. The areas affected by restrictions include the area at the entrance to Northport Harbor which is closed year-round, and the northern portion of Price Bend (seasonally closed). Because this area represents less than 10% of the total area, the waterbody is considered to be supporting of shellfishing use. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered supported based on monitoring at beaches in the waterbody. Beach monitoring revealed no elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include Bay Hills POA Beach, Crescent Beach, Steers Beach, Asharoken Beach and Prices Bend Beach. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Northport Bay is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes bay waters east of line south from West Beach, excluding Centerport, Northport and Duck Island Harbors which are listed separately.
Centerport Harbor (1702-0229)  

**Waterbody Location Information**  
Revised: 02/19/2016

- **Water Index No:** (MW5.2a) LIS-HB-NB-CH  
- **Unit Code:** 0203020102  
- **Water Type/Size:** Estuary Waters  
- **Description:** entire harbor  
- **Drain Basin:** Atlantic-Long Island Sound  
- **Class:** SA  
- **Reg/County:** 1/Suffolk (52)

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

**Uses Evaluated**
- Shellfishing: Impaired  
- Public Bathing: Impaired  
- Recreation: Impaired  
- Aquatic Life: Stressed  
- Fish Consumption: Stressed

**Conditions Evaluated**
- Habitat/Hydrology: Unknown  
- Aesthetics: Unknown

**Type of Pollutant(s)**
- Known: PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand  
- Suspected: Priority Organics (PCBs)  
- Unconfirmed: - - -

**Source(s) of Pollutant(s)**
- Known: URBAN/STORM RUNOFF, Municipal Discharges  
- Suspected: Other Source (migratory species), ONSITE/SEPTIC SYSTEMS  
- Unconfirmed: - - -

**Management Information**

- **Management Status:** Strategy Implementation Scheduled or Underway  
- **Lead Agency/Office:** DEC/Reg1  
- **IR/305(b) Code:** Impaired Water, TMDL Completed (IR Category 4a)

**Further Details**

**Overview**
Centerport Harbor is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

**Use Assessment**
Centerport Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #43) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. About 36% of the harbor is closed to shellfishing year-round, while an additional 22% is subject to seasonal closures. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, December 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be impaired based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this waterbody include Centerport Beach, Knollwood Beach, Huntington Beach Community Association Beach, Camp Alveria (closed for season in 2011-2012) and Fleets Cove Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Centerport Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Sound Pathogens (Shellfishing) TMDL in 2007. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes the entire harbor south of a line from Little Neck Point to the northernmost point on the western shoreline.
Mill Pond (1702-0261)  Unassessed

Waterbody Location Information  Revised: 02/19/2016

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW5.2a) LIS-HB-NB-CH-P240</th>
<th>Drain Basin:</th>
<th>Atlantic-Long Island Sound</th>
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</thead>
<tbody>
<tr>
<td>Unit Code:</td>
<td>0203020102</td>
<td>Class: C</td>
<td>Long Island Sound</td>
</tr>
<tr>
<td>Water Type/Size:</td>
<td>Lake/Reservoir 34 Acres</td>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
</tr>
<tr>
<td>Description:</td>
<td>entire pond</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Quality Problem/Issue Information

**Uses Evaluated**

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conditions Evaluated**

- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

**Type of Pollutant(s)**

- 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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment 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.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Mill Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire pond.
Duck Island Harbor (1702-0262)  Minor Impacts

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No:</th>
<th>(MW5.2a) LIS-HB-NB-DIH</th>
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<tr>
<td>Unit Code:</td>
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<tr>
<td>Water Type/Size:</td>
<td>Estuary Waters 272.8 Acres</td>
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<tr>
<td>Description:</td>
<td>entire harbor</td>
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<tr>
<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Class:</td>
<td>SA Long Island Sound</td>
</tr>
<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
</tr>
</tbody>
</table>

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfishing</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated

<table>
<thead>
<tr>
<th>Habitat/Hydrology</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Type of Pollutant(s)

<table>
<thead>
<tr>
<th>Known:</th>
<th>NUTRIENTS (Nitrogen), LOW D.O./OXYGEN DEMAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected:</td>
<td>PRIORITY ORGANICS (PCBs)</td>
</tr>
<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
</tr>
</tbody>
</table>

Source(s) of Pollutant(s)

<table>
<thead>
<tr>
<th>Known:</th>
<th>URBAN/STORM RUNOFF, Municipal Discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected:</td>
<td>Other Source (migratory species), Onsite/Septic Systems</td>
</tr>
<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
</tr>
</tbody>
</table>

Management Information

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

Further Details

Overview
Duck Island Harbor is assessed as having minor impacts due to aquatic life that is thought to be stressed by nutrients and resulting low dissolved oxygen, and PCBs. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. All other evaluated uses are considered to be fully supported.

Use Assessment
Duck Island Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included within Shellfish Growing Area #44) has been certified as safe for the taking of shellfish for use as food. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered fully supported based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

Management Action
Both New York State and Connecticut have identified Long Island Sound as water quality limiting due to low dissolved oxygen/hypoxia caused by nitrogen loadings. A Total Maximum Daily Load (TMDL) plan to address the problem was developed and approved in 2001. This plan outlines a phased approach to nitrogen reduction. Following and initial freeze on nitrogen loadings and the realization that further efforts were needed, New York and Connecticut agreed in 1998 to significant nitrogen reduction targets (58.5%) and a commitment to enforce the targets through the development of a TMDL. Significant upgrades to municipal wastewater treatment plants that discharge to Long Island Sound called for in the TMDL are currently underway; anticipated completion in 2017. Additional future actions to address the control of nitrogen (and carbon) from up–watershed of the immediate LISS area and atmospheric sources are currently under discussion. (DEC/DOW, BWAM/WQMS, August 2010)
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Duck Island Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the entire harbor north of a line from Winkle Point to Duck Island Bluff.
Northport Harbor (1702-0230)  Impaired

**Waterbody Location Information**  Revised: 02/19/2016

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<thead>
<tr>
<th>Water Index No:</th>
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<tr>
<td>Unit Code:</td>
<td>0203020102</td>
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<td>Water Type/Size:</td>
<td>Estuary Waters 445.2 Acres</td>
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<td>Description:</td>
<td>entire harbor</td>
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<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Class:</td>
<td>SA</td>
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<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
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</table>

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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</thead>
<tbody>
<tr>
<td>Shellfishing</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
<td>Unknown</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Unknown</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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</thead>
<tbody>
<tr>
<td>Known:</td>
<td>PATHOGENS, Nutrients (Nitrogen), Low D.O./Oxygen Demand</td>
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<tr>
<td>Suspected:</td>
<td>Priority Organics (PCBs)</td>
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<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Known:</td>
<td>URBAN/STORM RUNOFF, Municipal Discharges</td>
</tr>
<tr>
<td>Suspected:</td>
<td>Other Source (migratory species), ONSITE/SEPTIC SYSTEMS</td>
</tr>
<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
</tr>
</tbody>
</table>

**Management Information**

| Management Status:       | Strategy Implementation Scheduled or Underway |
| Lead Agency/Office:      | DEC/Reg1                                        |
| IR/305(b) Code:          | Impaired Water, TMDL Completed (IR Category 4a) |

**Further Details**

Overview
Northport Harbor is assessed as impaired due to shellfishing, public bathing and recreational uses that are known to be impaired by pathogens, and aquatic life that is known to be stressed by nutrients and resulting low dissolved oxygen. Shellfishing, public bathing and recreational uses are restricted by periodic beach advisories/closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Northport Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Virtual all of this waterbody (included within Shellfish Growing Area #42) has been designated 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, December 2015)

Aquatic life in the waterbody is also thought to be stressed by occasional low dissolved oxygen, the result of elevated nitrogen loadings. The Long Island Sound Study (see below) found that nitrogen from area WWTPs and to a lesser extent CSOs promote algal growth, die-off, settlement to the sediment, and create and oxygen demand which results in low dissolved oxygen and hypoxia in the bottom waters of the Sound. The tidal exchange of waters with the Sound suggests related impacts in the waters of the Bay. (DEC/DOW and FWMR, Region 1, August 2010)

Recreational use including public bathing is considered to be impaired based on monitoring and advisories/closures of beaches in the Harbor. Beach monitoring revealed elevated bacteriological levels that occur in more than ten percent of the samples collected at these beaches, and result in beach advisories/closures for more than 10 days in some years. Other beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this waterbody include Centerport Yacht Club Beech and Vanderbilt Beach (closed in 2012-13). (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute. Municipal sources, urban storm runoff, onsite septic systems and other nonpoint sources including atmospheric deposition, and tidal exchange with Long Island Sound and Connecticut waters are sources of the nutrients. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Northport Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although the Harbor is assessed as impaired due to pathogens, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Sound Pathogens (Shellfishing) TMDL in 2007. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes the entire harbor south of a line from Bluff Point to Little Neck Point.
Eatons Neck Pond (1701-0271)  No Known Impacts

Waterbody Location Information

Water Index No: (MW5.2b) LIS- 58-P269
Unit Code: 0203020202  Class: SA
Water Type/Size: Estuary Waters  85.1 Acres
Description: total area of pond and tidal tribs

Drain Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

Uses Evaluated
Shellfishing  Fully Supported  Known
Public Bathing  Fully Supported  Suspected
Recreation  Fully Supported  Suspected
Aquatic Life  Fully Supported  Suspected
Fish Consumption  Fully Supported  Unconfirmed

Conditions Evaluated
Habitat/Hydrology  Good
Aesthetics  Good

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

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

Management Information

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

Further Details

Overview
Eatons Neck Pond is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

Use Assessment
Eatons Neck Pond is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included within Shellfish Growing Area #34) has been certified as safe for the taking of shellfish for use as food. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State
and National Shellfish Sanitation Program monitoring criteria. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is considered fully supported based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is reported to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Eatons Neck Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWQM/WQMS, January 2015)

Segment Description
This segment includes Eatons Neck Pond (-P269) and its outlet to Long Island Sound (-58). Eatons Neck Pond is designated Class SA.
<table>
<thead>
<tr>
<th>Water Index Number</th>
<th>Waterbody Segment</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MW5.3) LIS (portion 4)</td>
<td>Long Island Sound, Suffolk County, West (1702-0098)</td>
<td>Impaired</td>
</tr>
<tr>
<td>(MW5.3) LIS (portion 4a)/SB</td>
<td>Smithtown Bay (1702-0023)</td>
<td>Impaired</td>
</tr>
<tr>
<td>(MW5.3) LIS- 59 thru 61</td>
<td>Tidal Tribs to Long Island Sound (1702-0232)</td>
<td>Impaired</td>
</tr>
<tr>
<td>(MW5.3) LIS- 59 thru 61</td>
<td>Tribs (freshwater) to Long Island Sound (1702-0234)</td>
<td>Impaired</td>
</tr>
<tr>
<td>(MW5.3) LIS- 60-P271a</td>
<td>Fresh Pond (1702-0233)</td>
<td>Impaired</td>
</tr>
<tr>
<td>(MW5.3) LIS- 62</td>
<td>Nissequogue River, Lower (1702-0025)</td>
<td>No Known Impacts</td>
</tr>
<tr>
<td>(MW5.3) LIS- 62</td>
<td>Nissequogue River, Upper, and tribs (1702-0235)</td>
<td>No Known Impacts</td>
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<td>(MW5.3) LIS- 62-4-P289</td>
<td>Willow Pond (1702-0237)</td>
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<td>(MW5.3) LIS- 62-P288</td>
<td>Philips Mill Pond (1702-0236)</td>
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<tr>
<td>(MW5.3) LIS- 62-P292</td>
<td>New Mill Pond (1702-0238)</td>
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<td>(MW5.3) LIS- 62-P296</td>
<td>Millers Pond (1702-0013)</td>
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<td>(MW5.3) LIS-SB-SBH</td>
<td>Stony Brook Harbor/West Meadow Creek (1702-0047)</td>
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<td>Mill Pond (1702-0239)</td>
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<td>Flax Pond (1702-0240)</td>
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<td>(MW5.4c) LIS-PJH (portion 1)</td>
<td>Port Jefferson Harbor, North, and tribs (1702-0015)</td>
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<td>Port Jefferson Harbor, South, and tribs (1702-0241)</td>
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<td>Conscience Bay and tidal tribs (1702-0091)</td>
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<td>(MW5.4c) LIS-PJH-SH</td>
<td>Setauket Harbor (1702-0242)</td>
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<td>(MW5.4d) LIS- MSH</td>
<td>Mt Sinai Harbor and tidal tribs (1702-0019)</td>
<td>Impaired</td>
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Overview
This portion of Long Island Sound is assessed as impaired due to aquatic life that is known to be impaired by nutrients and resulting low dissolved oxygen. Public bathing and recreational uses are also thought to be stressed by pathogens resulting in periodic beach closures. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
This portion of Long Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody (included...
within Shellfish Growing Area #34) has been certified as safe for the taking of shellfish for use as food. These shellfishing
designations are based on results of water quality monitoring and evaluation of data against New York State and National
Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered to experience minor impacts based on monitoring and occasional
beach closures at beaches in the segment. Beach monitoring revealed elevated bacteriological levels that occurred in
generally less than ten percent of the samples collected at these beaches; these results resulted in occasional but infrequent
(less than 10 days) beach closures at some beaches in some years. Occasional beach closures in the segment are largely
pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this
reach include Belle Terre Beach, Port Jefferson Beach East and West, Cedar Beach East and West, Miller Beach Surf
Club, Miller Place Park, Woodhull Landing and Scotts Beach. (NYSDOH BEACH Act monitoring results, 2013 and
DEC/DFWMR, July 2015)

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

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting
consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and
local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled
and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish
consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and
tidal exchange with western Long Island Sound and Connecticut waters are sources of the nutrients. Urban and storm
runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources
such as boat discharges, waterfowl may also contribute. Impacts to fish consumption are the result of elevated PCBs in
fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This portion of Long Island Sound is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Nitrogen TMDL. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes all the waters of Long Island Sound within Suffolk County, east of a line due north of Eatons Neck Point, north of a line from Eatons Neck Point to Crane Neck Point (below which is Smithtown Bay, which is listed separately), and west of a line due north of the western border of Sound Beach. The boundary of this segment has been modified (2016); previously, it had extended west to Old Field Point.
**Smithtown Bay (1702-0023)**

**Impaired**

### Waterbody Location Information

- **Water Index No:** (MW5.4a) LIS-SB
- **Unit Code:** 0203020103
- **Class:** SA
- **Drain Basin:** Atlantic-Long Island Sound
- **Water Type/Size:** Estuary Waters 22185.3 Acres
- **Reg/County:** 1/Suffolk (52)

### Water Quality Problem/Issue Information

- **Uses Evaluated**
  - Shellfishing: Threatened
  - Public Bathing: Stressed
  - Recreation: Stressed
  - Aquatic Life: Impaired
  - Fish Consumption: Stressed

- **Confidence**
  - Shellfishing: Suspected
  - Public Bathing: Suspected
  - Recreation: Suspected
  - Aquatic Life: Known
  - Fish Consumption: Suspected

- **Conditions Evaluated**
  - Habitat/Hydrology: Good
  - Aesthetics: Good

- **Type of Pollutant(s)**
  - **Known:** NUTRIENTS (nitrogen), LOW D.O./OXYGEN DEMAND, Pathogens
  - **Suspected:** Priority Organics (PCBs)
  - **Unconfirmed:** - - -

- **Source(s) of Pollutant(s)**
  - **Known:** MUNICIPAL DISCHARGES (Suffolk Co SD #6 STP)
  - **Suspected:** Other Non-Permitted Sanitary Disch, URBAN/STORM RUNOFF
  - **Unconfirmed:** - - -

### Management Information

- **Management Status:** Strategy Implementation Scheduled or Underway
- **Lead Agency/Office:** DEC/Reg1
- **IR/305(b) Code:** Impaired Water, TMDL Completed (IR Category 4a)

### Further Details

**Overview**

Smithtown Bay (a portion of Long Island Sound) is assessed as impaired due to aquatic life that is known to be impaired by nutrients and resulting low dissolved oxygen. Public bathing and recreational uses are also thought to be stressed – perhaps rising to the level of impairment – by pathogens resulting in periodic beach closures. Pathogens also threaten shellfishing use, though shellfishing is considered fully supported at this time. Fish consumption is also thought to be stressed by PCBs, however these fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

**Use Assessment**

This portion of Long Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general
recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. Virtually all of this waterbody (included within Shellfish Growing Area #39) has been certified as safe for the taking of shellfish for use as food. The largest uncertified area includes the area within a one-half mile radius of the Suffolk County SD #6 (Kings Park) STP outfall and an area between the outfall and at the shore at the mouth of the Nissequogue River. Other smaller areas with restrictions include the waters within a 1,000 foot radius of Stony Brook Harbor outlet that is only seasonally certified, and waters within a 500 foot radius around the mouth of Crab Meadow Creek which are uncertified year-round. Because these restrictions are either due to administrative closures set as precautionary measures due to the proximity of the wastewater treatment discharge, or because the restrictions cover such a small area relative to the size of the bay (less than 5% of the 22,300 acre SGA #39), shellfishing use is listed as threatened. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered to experience minor impacts – that might rise to the level of impairment – based on monitoring and occasional beach closures at beaches in the segment. Beach monitoring revealed elevated bacteriological levels that occurred in up to 15% of the samples collected at these beaches; these results resulted in occasional but infrequent (approaching 10 days) beach closures at some beaches in some years. Occasional beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. One beach is closed year-round (Brookhaven Beach). Beaches within this reach include Crab Meadow Beach, Callihans Beach, Short Beach, Nissequogue Point Beach, Long Beach, Schubert Beach, Brookhaven Beach, West Meadow Beach and Old Field Club Beach. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2015)

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

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Municipal wastewater discharges, urban storm runoff and other nonpoint sources including atmospheric deposition, and tidal exchange with western Long Island Sound and Connecticut waters are sources of the nutrients. Urban and storm
runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Smithtown Bay is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion and implementation of the Long Island Nitrogen TMDL. This updated assessment also suggests it may be appropriate to include this waterbody on the next List of pathogens due to the frequency of beach closures. (DEC/DOW, BWRM, January 2015)

Segment Description
This segment includes waters south of a line from Eatons Neck Point to Crane Neck Point.
Overview
This Long Island trib segment is assessed as a waterbody having minor impacts due to recreational uses that are thought to be stressed by pathogens. This assessment is based on pathogens levels identified through shellfishing program monitoring.

Use Assessment
Tidal Tribs to Long Island is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water – although sampling of the waterbody has been included in the shellfish monitoring program – or for public bathing.
Portions of this waterbody (included within Shellfish Growing Area #39) have been designated as uncertified for the taking of shellfish for use as food. Crab Meadow Creek (-59) and unnamed tidal inlets (P270, P270b) are designated as uncertified for the taking of shellfishing for use as food. Although these portions of this waterbody are monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)

Recreational use including public bathing may be stressed based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Crab Meadow beach on the Long Island shore near the mouth of Crab Meadow Creek has experienced some beach closures and advisories. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Onsite/septic systems have also been identified as a possible contributing source. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This Tidal Tribs to Long Island segment is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)
Segment Description
This segment includes the total area of the tidal portion of tribs to Long Island Sound from Eatons Neck to the Nissequogue River, including Crab Meadow Creek (-59), and Sunken Meadow Creek (-61). These tribs are designated class SC. Eaton Neck Pond (-58) is listed separately.
Tribs (freshwater) to Long Island Sound (1702-0234)  Unassessed

Waterbody Location Information

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<td>Class:</td>
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<td>Description:</td>
<td>total length of selected (freshwater) tribs</td>
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Water Quality Problem/Issue Information

Uses Evaluated
- Water Supply: N/A
- Public Bathing: N/A
- Recreation: Unassessed
- Aquatic Life: Unassessed
- Fish Consumption: Unassessed

Confidence
- Unknown

Conditions Evaluated
- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

Type of Pollutant(s)
- 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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment 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.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of the freshwater portions of tributaries to Long Island Sound between Eatons Neck Point and the Nissequogue River. These freshwater reaches, including Upper Crab Meadow Brook (-59) and Sunken Meadow Creek (-61), are primarily Class C.
Fresh Pond (1702-0233)

Unassessed

Waterbody Location Information

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Water Quality Problem/Issue Information

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Management Information

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

Further Details

Overview
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

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

Water Quality Information
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Fresh Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond.
Nissequogue River, Lower (1702-0025)  
No Known Impacts

Waterbody Location Information

| Water Index No: | (MW5.3) LIS- 62 |
| Water Type/Size: | Estuary Waters 529.2 Acres |
| Drain Basin: | Atlantic-Long Island Sound |
| Drain Basin: | Long Island Sound |
| Unit Code: | 0203020103 |
| Class: | SC Long Island Sound |
| Reg/County: | 1/Suffolk (52) |
| Description: | reach from mouth to Philips Mill Pond (tidal portion) |

Water Quality Problem/Issue Information

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<tr>
<th>Uses Evaluated</th>
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<td>Shellfishing</td>
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</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Unknown |
| Aesthetics        | Unknown |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

| Known:       | - - -       |
| Suspected:   | URBAN/STORM RUNOFF |
| Unconfirmed: | Onsite/Septic Systems |

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
This portion of Nissequogue River is assessed as having no known impacts; all evaluated uses are considered to be fully supported. Recreational uses are thought to be threatened by pathogens, a result of shellfishing restrictions for the waterbody. However this waterbody is not designated for support of shellfishing use and the pathogen criteria for shellfishing are more stringent than for recreational use. Therefore recreational use is evaluated as possibly threatened rather than as having any water quality or use impacts.

Use Assessment
Lower Nissequogue River is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water – although sampling of the waterbody has been included in the shellfish monitoring program.
Aquatic life is considered to be fully supported. The river is also among the most productive anadromous salmonid spawning areas in the state. Additionally biological sampling reveals non-impacted conditions in the upper reach of the creek, above this segment. This sampling can also be used to infer that there are no significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, December 2014)

All of this waterbody (included within Shellfish Growing Area #38) has been designated as uncertified for the taking of shellfish for use as food. Although these portions of this waterbody are monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

A biological assessment of Nissequogue River above this tidal reach in Smithtown (at Route 25 in Caleb State Park) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Slightly impacted conditions were found during sampling conducted at this site in 2003. Though this site is upstream of the segment, it is considered to be somewhat representative of water quality in the downstream reach. (DEC/DOW, BWAM/SBU, January 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from highly developed urban and residential areas. Onsite/septic systems have also been identified as a possible contributing source. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Lower Nissequogue River is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the freshwater portion of the Nissequogue River and all tributaries below Phillips Mill Pond. These waters are designated Class SC.
Nissequogue River, Upper, and tribs (1702-0235)  No Known Impacts

Waterbody Location Information

- **Water Index No:** (MW5.3) LIS- 62
- **Unit Code:** 0203020103
- **Drain Basin:** Atlantic-Long Island Sound
- **Water Type/Size:** River/Stream 15.5 Miles
- **Reg/County:** 1/Suffolk (52)
- **Class:** C  Long Island Sound
- **Unit Code:** 0203020103
- **Drain Basin:** Atlantic-Long Island Sound
- **Water Type/Size:** River/Stream 15.5 Miles
- **Reg/County:** 1/Suffolk (52)
- **Class:** C  Long Island Sound

Water Quality Problem/Issue Information

- **Uses Evaluated**
  - Water Supply: N/A -
  - Public Bathing: N/A -
  - Recreation: Fully Supported  Suspected
  - Aquatic Life: Fully Supported  Known
  - Fish Consumption: Fully Supported  Unconfirmed
- **Conditions Evaluated**
  - Habitat/Hydrology: Unknown
  - Aesthetics: Unknown
- **Type of Pollutant(s)**
  - Known: - - -
  - Suspected: - - -
  - Unconfirmed: - - -
- **Source(s) of Pollutant(s)**
  - Known: - - -
  - 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**
This portion of Nissequogue River is assessed as having no known impacts; all evaluated uses are considered to be fully supported.

**Use Assessment**
Upper Nissequogue River 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.

Aquatic life is considered to be fully supported based on biological sampling that shows non-impacted conditions. This sampling can also be used to infer that there are no impacts to recreational (fishing) uses, although more specific sampling
is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
A biological (macroinvertebrate) assessment of Nissequogue River in Smithtown (at Route 25 in Caleb State Park) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated non-impacted conditions and very good water quality. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Aquatic life community is fully supported. These results are consistent with a biological assessment at this site conducted in 1998 and 1999. Sampling was also conducted on the East Branch of the Nissequogue in 2008. However the results were strongly influenced by habitat factors and impoundment effects and were determined to be inconclusive. (DEC/DOW, BWAM/SBU, January 2015)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of the Nissequogue River in Smithtown (at New Mill Road) was conducted in 1999. Measurements of pH were somewhat low, but chemical monitoring revealed no other water quality issues. (DEC/DOW, BWAR/SWAS, January 2001)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Actions
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
Upper Nissequogue River is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of the freshwater portion of the Nissequogue River and all tributaries above Phillips Mill Pond. The portion of the stream above New Mill Pond is known as Northeast Branch. Lower Nissequogue River, as well as Philips Mill Pond (P288), Willow Pond (P289), New Mill Pond (P292), and Millers Pond (P296), are listed separately.
Willow Pond (1702-0237)  No Known Impacts

Waterbody Location Information

- **Water Index No:** (MW5.3) LIS- 62-4-P289
- **Unit Code:** 0203020103
- **Class:** C(T)
- **Drain Basin:** Atlantic-Long Island Sound
- **Water Type/Size:** Lake/Reservoir 8.3 Acres
- **Reg/County:** 1/Suffolk (52)
- **Description:** entire lake

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

- **Habitat/Hydrology:** Fair
- **Aesthetics:** Unknown

Type of Pollutant(s)

- **Known:** AQUATIC INVASIVE SPECIES, Algal/Plant Growth
- **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
Willow Pond is assessed as threatened due to recreational uses that are thought to be threatened by invasive plant growth. Although uses are currently fully supported, the presence of invasive plants raise concerns and condition should continue to be monitored.

Use Assessment
Willow Pond is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Recreational uses are considered to be fully supported but threatened due to presence of of invasive plant growth.
(Eurasian watermilfoil). Water quality appears to be supportive of uses, however sampling is limited and follow up monitoring is recommended. This waterbody is thought to support a suitable cold water fishery, although no specific fishery or biological reports are included in this assessment. (DEC/DOW, BWAM/LMAS, July 2016)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Water quality sampling of Willow Pond has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program in 2009 and NYS Office of Parks Recreation and Historic Preservation (NYSPRHP) from 2001 through 2009. Results of this sampling indicate the lake is best characterized as mesoeutrophic, or moderately productive. Limited chemical sampling indicated low phosphorus concentration. The pond was surveyed NYSPRHP as part of the ambient lake monitoring program in 2000, 2001, 2003, 2004, 2006 and 2009, including aquatic flora sampling. This survey work found a wide variety of native plants, as well as variable watermilfoil (Myriophyllum heterophyllum), an invasive exotic plant species. The limited water quality data showed phosphorus readings that are typical of mesoeutrophic to eutrophic lakes, and higher than in some of the other ponds in Caleb Smith State Park. The lake was reported as having clumps of algae and other characteristics of eutrophic lakes. Water clarity is usually greater than measurable in the pond, due to shallow water depth, and the lake otherwise has a circumneutral pH, moderately soft water, and elevated nitrate levels—the latter is typical of other nearby lakes. (DEC/DOW, BWAM/LMAS, March 2011)

There is no indication of any present impacts to fishing in the lake, although boating would likely be threatened by the presence of invasives, since watermilfoil grows to the lake surface in many lakes. There is no indication of any present impacts to aquatic life in Willow Pond, although the presence of watermilfoil may ultimately threaten the biological condition and aquatic life in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
Beyond the habitat modification related to the invasive plants, there are no apparent sources of pollutants to the waterbody.

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

Section 303(d) Listing
Willow Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire pond. The waterbody is Class C(T).
Philips Mill Pond (1702-0236)  Threatened

Waterbody Location Information
Revised: 02/01/2016

Water Index No: (MW5.3) LIS- 62-P288  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020103  Class: C(T)  Long Island Sound
Water Type/Size: Lake/Reservoir  14.3 Acres  Reg/County: 1/Suffolk (52)
Description: entire lake

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated
Habitat/Hydrology: Fair
Aesthetics: Unknown

Type of Pollutant(s)
Known: AQUATIC INVASIVE SPECIES (Hydrilla)
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
Philips Mill Pond is assessed as threatened due to recreational uses that are thought to be threatened by invasive plant growth. Although uses are currently fully supported, the presence of invasive plants raise concerns and condition should continue to be monitored.

Use Assessment
Philips Mill Pond is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Recreational uses are considered to be fully supported but threatened due to presence of of invasive plant growth
(Hydrilla). Water quality appears to be supportive of uses, however sampling is limited and follow up monitoring is recommended. This waterbody is considered to support a suitable cold water fishery. (DEC/DOW, BWAM/LMAS, July 2016)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Water quality sampling of Philips Mill Pond has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program, The Nature Conservancy and NYS Office of Parks Recreation and Historic Preservation (NYSPRHP) at various times from 2004 through 2009. Results of this sampling indicate the lake is best characterized as mesoligotrophic, or moderately unproductive. Chlorophyll/algal levels are below criteria corresponding to impacted recreational uses, while phosphorus concentrations are typically low. Lake clarity measurements are not applicable in this shallow clear lake and the lake is fully oxygenated to the lake bottom. (DEC/DOW, BWAM/LMAS, March 2011)

There is no indication of any present impacts to fishing in the lake, although boating would likely be threatened by the presence of invasives, since watermilfoil grows to the lake surface in many lakes. There is no indication of any present impacts to aquatic life in Philips Mill Pond, although the presence of invasives may ultimately threaten the biological condition and aquatic life in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
Beyond the habitat modification related to the invasive plants, there are no apparent sources of pollutants to the waterbody.

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

Section 303(d) Listing
Philips Mill Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire pond. The waterbody is Class C(T).
New Mill Pond (1702-0238)

Waterbody Location Information

Water Index No: (MW5.3) LIS- 62-P292
Unit Code: 0203020103
Water Type/Size: Lake/Reservoir 104.9 Acres
Description: entire lake

Drain Basin: Atlantic-Long Island Sound
Class: C(T)
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
<td>Threatened</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

Habitat/Hydrology: Fair
Aesthetics: Unknown

Type of Pollutant(s)

Known: AQUATIC INVASIVE SPECIES (Hydrilla)
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
New Mill Pond is assessed as threatened due to recreational uses that are thought to be threatened by invasive plant growth. Although uses are currently fully supported, the presence of invasive plants raise concerns and condition should continue to be monitored.

Use Assessment
New Mill Pond is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Recreational uses are considered to be fully supported but threatened due to presence of of invasive plant growth
(Hydrilla). Water quality appears to be supportive of uses, however sampling is limited and follow up monitoring is recommended. This waterbody is considered to support a suitable cold water fishery. (DEC/DOW, BWAM/LMAS, July 2016)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Water quality sampling of New Mill Pond has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program, The Nature Conservancy and NYS Office of Parks Recreation and Historic Preservation (NYSPRHP) at various times from 2003 through 2009. Results of this sampling indicate the lake is best characterized as mesotrophic, or moderately productive. Chlorophyll/algal levels are below criteria corresponding to impacted recreational uses, while phosphorus concentrations are typically low. The lake is fully oxygenated to the lake bottom. (DEC/DOW, BWAM/LMAS, March 2011)

There is no indication of any present impacts to fishing in the lake, although boating would likely be threatened by the presence of invasives, since watermilfoil grows to the lake surface in many lakes. There is no indication of any present impacts to aquatic life in New Mill Pond, although the presence of invasives watermilfoil may ultimately threaten the biological condition and aquatic life in the lake. (DEC/DOW, BWAM/LMAS, March 2011)

Source Assessment
Beyond the habitat modification related to the invasive plants, there are no apparent sources of pollutants to the waterbody.

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

Section 303(d) Listing
New Mill Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire pond. The waterbody is Class C(T).
Millers Pond (1702-0013)  Impaired

Waterbody Location Information  Revised: 02/01/2016

Water Index No:  (MW5.3) LIS-62-P296  Drain Basin:  Atlantic-Long Island Sound
Unit Code:  0203020103  Class: C  Drain Basin:  Long Island Sound
Water Type/Size:  Lake/Reservoir  16.5 Acres  Reg/County:  1/Suffolk (52)
Description:  entire lake

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

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>Impaired</td>
<td>Known</td>
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<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Unassessed</td>
<td>-</td>
</tr>
</tbody>
</table>

Conditions Evaluated
- Habitat/Hydrology: Unknown
- Aesthetics: Fair

Type of Pollutant(s)
- Known: NUTRIENTS (phosphorus), ALGAL/PLANT GROWTH (native)
- Suspected: LOW D.O./OXYGEN DEMAND
- Unconfirmed: Pathogens

Source(s) of Pollutant(s)
- Known: URBAN/STORM RUNOFF
- Suspected: Other Non-Permitted Sanitary Discharges
- Unconfirmed: On-Site/Septic Syst

Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Verification of Sources Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Agency/Office:</td>
<td>ext/WQCC</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water Requiring a TMDL (IR Category 5)</td>
</tr>
</tbody>
</table>

Further Details

Overview
Millers Pond is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrients and the resulting algal/weed growth and low dissolved oxygen. No specific sources have been identified, but urban stormwater runoff and other nonpoint sources are the primary contributing source of pollutants.

Use Assessment
Millers 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 uses considered to be impaired due elevated nutrients (phosphorus), excessive algae and plant growth.
Additional bacteriological sampling is needed to more fully evaluate the impact of pathogen levels on recreational use. (DEC/DOW, BWAM/LMAS, July 2013)

Aquatic life is currently considered to be stressed based on suspected low dissolved oxygen related to the eutrophic condition of the lake. Additional fishery assessment is needed to more fully evaluate aquatic life and fishing use. (DEC/DOW, BWAM, January 2016)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (NYS DOH Health Advisories and DEC/DOW, BWAM, December 2014)

Water Quality Information
Water quality sampling of Miller Pond has been conducted through the NYSDEC Lake Classification and Inventory (LCI) Program in 1999. Results of this sampling indicate the lake is best characterized as eutrophic, or highly productive. Chlorophyll/algae levels are above criteria corresponding to impaired recreational uses, while phosphorus concentrations are typically very high. Lake clarity observations indicate water transparency is typically poor. Readings of pH occasionally exceed the range established in state water quality standards for protection of aquatic life though impacts to the fishery are not known. The elevated pH could be a response to algae levels. (DEC/DOW, BWAM/LMAS, May 2006)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, urban/storm runoff and other nonpoint sources are the most likely sources of impacts to the waterbody. Significant population of waterfowl and shoreline residential development are also possible sources.

Management Action
Millers Pond is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below). No other specific management actions have been identified for the waterbody.

Section 303(d) Listing:
Millers 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 and resulting low dissolved oxygen. This waterbody was first listed on the 2002 List. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond. The waterbody is Class C.
Stony Brook Harbor/West Meadow Creek (1702-0047)  Impaired

Waterbody Location Information

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<th>Water Index No:</th>
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<tbody>
<tr>
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<tr>
<td>Water Type/Size:</td>
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<tr>
<td>Drain Basin:</td>
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<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
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<tr>
<td>Class:</td>
<td>SA Long Island Sound</td>
</tr>
</tbody>
</table>

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<td>Fish Consumption</td>
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<td>Aesthetics</td>
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| Type of Pollutant(s)    | Known: PATHOGENS, Low D.O./Oxygen Demand, Nutrients (nitrogen) |
|                        | Suspected: Priority Organics (PCBs/migratory fish) |
|                        | Unconfirmed: - - - |

| Source(s) of Pollutant(s) | Known: URBAN/STORM RUNOFF, OTHER SOURCE (boat pollution) |
|                          | Suspected: Other Source (migratory fish species) |
|                          | Unconfirmed: - - - |

Management Information

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Further Details

Overview
Stony Brook Harbor/West Meadow Creek is assessed as an impaired waterbody due to shellfishing use that is considered to be precluded by pathogens. This assessment is based on year-round and seasonal shellfishing closures. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Stony Brook Harbor/West Meadow Creek is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #43) has been designated uncertified for the taking of shellfish for use as food. About 16% of the area is uncertified year-round including the southernmost head of the Harbor and most of West Meadow Creek. A larger portion (44% of the harbor/creek) including the southeastern Harbor as well as portions of Stony Brook Boat Channel, Stony Brook Creek, and the Smithtown Marina boat basin at Porpoise Channel are closed seasonally as a safeguard when boats are present in nearby marinas. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to [www.dec.ny.gov/regs/4014.html](http://www.dec.ny.gov/regs/4014.html)  (DEC/DFWMR, Region 1, July 2010)

Recreational uses and public bathing are considered to be stressed due to periodic closures of public beaches to swimming, but typically elevated levels of bacteria occur in less than ten percent of samples and result in few (less than 5) beach closure days. Occasional beach closures that do occur are typically pre-emptive closures during heavier rainstorms. Beaches within this waterbody segment include Stony Brook Beach, Stony Brook Yatch Club Beach, and Soundview Beach Association Beach. Bacteriological sampling conducted through the shellfishing monitoring program also indicate elevated pathogen levels. However criteria for shellfishing are more stringent than those for public bathing. Restrictions on shellfishing also represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas, agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
Stony Brook Harbor/West Meadow Creek was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Stony Brook Harbor/West Meadow Creek is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire harbor and West Meadow Creek.
Mill Pond (1702-0239)  Unassessed

Waterbody Location Information

Water Index No: (MW5.4b) LIS-SB-SBH-63-P336  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020103  Class: C(T)  Long Island Sound
Water Type/Size: Lake/Reservoir  7.3 Acres  Reg/County: 1/Suffolk (52)
Description: entire lake

Water Quality Problem/Issue Information

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<th>Severity</th>
<th>Confidence</th>
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<td>Fish Consumption</td>
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Conditions Evaluated

- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

Type of Pollutant(s)

- 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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment is a Class C(T) waterbody, suitable for general recreation use and support of aquatic life, but not for water supply use or for public bathing. The waterbody is also designated as a cold water (trout) fishery.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Mill Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond.
Flax Pond (1702-0240)  Impaired

Waterbody Location Information

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Water Index No: (MW5.4b) LIS-P339

Uses Evaluated

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<td>Aquatic Life</td>
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Conditions Evaluated

| Conditions Evaluated | | |
|----------------------|-----------------|
| Habitat/Hydrology    | Unknown         |
| Aesthetics           | Unknown         |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

| Known: URBAN/STORM RUNOFF |
| Suspected: - - - |
| Unconfirmed: On-Site/Septic Syst |

Management Information

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

Further Details

Overview
Flax Pond is assessed as an impaired waterbody due to shellfishing use that is considered to be precluded by pathogens. This assessment is based on year-round shellfishing closures.

Use Assessment
Flax Pond is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be precluded in these waters. All of this waterbody (included
within Shellfish Growing Area #35) has been designated uncertified certified 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is thought to be stressed based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Restrictions on shellfishing represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas, agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
No specific management actions have been identified for the waterbody. Flax Pond is included on the Section 303(d) List for eventual development of a TMDL or other restoration strategy (see below). However the identified sources of pollutants may limit the effectiveness of a TMDL approach.

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Flax Pond is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2c of the List as a shellfishing impaired waterbody requiring development of a TMDL for pathogens. This waterbody was first listed on the 2012 List. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description
This segment includes the total area of the pond.
Overview
This portion of Port Jefferson Harbor is assessed as an impaired waterbody due to shellfishing use and public bathing that are considered to be impaired by pathogens. This assessment is based on year-round and seasonal shellfishing closures and a high number of beach closures. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Port Jefferson Harbor North is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. Much of this waterbody (included within Shellfish Growing Area #33) has been designated uncertified for the taking of shellfish for use as food. Most of the head of the harbor (southern end) is closed year-round; the rest of the harbor is seasonally or conditionally closed. Additionally, the northeast certified portions of the harbor are routinely closed on a temporary basis during summer holiday weekends due to the significant increase in boat traffic. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational uses and public bathing are also considered to be impaired due to high number of closures of public beaches to swimming. In recent years, elevated levels of bacteria have occurred in more than ten percent of samples and resulted in 10 to 25 beach closure days. Beaches within this waterbody segment include Bayberry Cove Beach, Indian Field Beach and Bayview Beach. Bacteriological sampling conducted through the shellfishing monitoring program also indicate elevated pathogen levels. However criteria for shellfishing are more stringent than those for public bathing. Restrictions on shellfishing and public bathing also represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas; direct waterfowl/wildlife inputs; and boats and marinas. The watershed is highly developed and slopes steeply into the harbor, resulting in significant stormwater runoff loads. Significant summer boat traffic also affects water quality. Various local initiatives aimed at and improving water quality in general and stormwater management in particular are underway. A vessel waste No Discharge Zone was established for the waters of Port Jefferson Harbor in 2001. (DEC/DOW, BWAM, September 2015)

Management Action
Port Jefferson Harbor North was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Port Jefferson Harbor North is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the entire main harbor north of a line from the LILCO bulkhead to Beach Road. Setauket Harbor and Conscience Bay are listed separately.
Port Jefferson Harbor, South, and tribs (1702-0241)  Minor Impacts

Waterbody Location Information

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<td>Water Type/Size:</td>
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<td>Reg/County:</td>
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Water Quality Problem/Issue Information

Uses Evaluated
- Shellfishing: N/A
- Public Bathing: N/A
- Recreation: Stressed, Known
- Aquatic Life: Stressed, Suspected
- Fish Consumption: Stressed, Suspected

Conditions Evaluated
- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

Type of Pollutant(s)
- Known: PATHOGENS, Low D.O./Oxygen Demand, Nutrients (nitrogen)
- Suspected: Priority Organics (PCBs/migratory fish)
- Unconfirmed: - - -

Source(s) of Pollutant(s)
- Known: URBAN/STORM RUNOFF, OTHER SOURCE (boat pollution)
- Suspected: Other Source (migratory fish species), Onsite/Septic Systems
- Unconfirmed: - - -

Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Strategy Implementation Scheduled or Underway</th>
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<tbody>
<tr>
<td>Lead Agency/Office:</td>
<td>ext/WQCC</td>
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<tr>
<td>IR/305(b) Code:</td>
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Further Details

Overview
This portion of Port Jefferson Harbor is assessed as having minor impacts due to recreational uses that are considered to be stressed by pathogens. Although there are no bathing beaches in this segment, public bathing is impaired by pathogens in other portions of the Harbor and is likely stressing recreational uses. The harbor is also monitored and designated as uncertified for shellfishing due to pathogens. However this waterbody is not designated for support of shellfishing use and the pathogen criteria for shellfishing are more stringent than for recreational use. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.
Use Assessment
Port Jefferson Harbor South is a Class SC waterbody, suitable for general recreation use and support of aquatic life, but not as a shellfishing water – although sampling of the waterbody has been included in the shellfish monitoring program – or for public bathing.

Recreational uses public bathing are considered to be stressed due to closures of public beaches to swimming in other portions of the Harbor; there are not public bathing beaches in this portion of the Harbor. Bacteriological sampling conducted through the shellfishing monitoring program also indicate elevated pathogen levels. However criteria for shellfishing are more stringent than those for recreational uses.  (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

All of this waterbody (included within Shellfish Growing Area #33) has been designated as uncertified for the taking of shellfish for use as food. Although these portions of this waterbody are monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use.  (DEC/DFWMR, Region 1, July 2015)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired.  (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption.  (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from highly developed urban and residential areas. Onsite/septic systems have also been identified as a possible contributing source. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study.  (DEC/DOW, BWRM, September 2015)

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public
involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Port Jefferson Harbor South is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the entire main harbor south of a line from the LILCO bulkhead to Beach Road.
Conscience Bay and tidal tribs (1702-0091)  

**Impaired**

### Waterbody Location Information

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</table>

### Water Quality Problem/Issue Information

(Industrial Pollutants indicate MAJOR Pollutants/Sources)

**Uses Evaluated**

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
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<tbody>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Impaired</td>
<td>Known</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
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</table>

**Conditions Evaluated**

<table>
<thead>
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<td>Aesthetics</td>
<td>Unknown</td>
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</table>

**Type of Pollutant(s)**

- **Known:** PATHOGENS, Low D.O./Oxygen Demand, Nutrients (nitrogen)
- **Suspected:** Priority Organics (PCBs/migratory fish)
- **Unconfirmed:** - - -

**Source(s) of Pollutant(s)**

- **Known:** URBAN/STORM RUNOFF, OTHER SOURCE (boat pollution)
- **Suspected:** Other Source (migratory fish species), Onsite/Septic Systems
- **Unconfirmed:** - - -

### Management Information

- **Management Status:** Strategy Implementation Scheduled or Underway
- **Lead Agency/Office:** ext/WQCC
- **IR/305(b) Code:** Impaired Water, TMDL Completed (IR Category 4a)

### Further Details

**Overview**

Conscience Bay is assessed as an impaired waterbody due to shellfishing use and public bathing that are considered to be impaired by pathogens. This assessment is based on year-round and seasonal shellfishing closures and a high number of beach closures. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

**Use Assessment**

Conscience Bay is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #33) has been designated uncertified or as only seasonally certified for the taking of shellfish for use as food. The head of the harbor (southern end) is closed year-round; the rest of the harbor is seasonally closed. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational uses and public bathing are also considered to be impaired due to high number of closures of public beaches to swimming. In recent years, elevated levels of bacteria have resulted in the year-long closure of Minasseroke Beach. Elevated bacteria levels at Grantland Beach resulted in 10 to 25 beach closure days in some years. Bacteriological sampling conducted through the shellfishing monitoring program also indicate elevated pathogen levels. However criteria for shellfishing are more stringent than those for public bathing. Restrictions on shellfishing and public bathing also represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas; direct waterfowl/wildlife inputs; and boats and marinas. Urban stormwater runoff in the watershed introduce pathogens to the waters affecting shellfish consumption, public bathing and other recreation. The watershed is highly developed and slopes steeply into the harbor, resulting in significant stormwater runoff loads. Poor flushing characteristics in the bay affects water quality. Significant summer boat traffic is also a concern. Various local initiatives aimed at and improving water quality in general and stormwater management in particular are underway. A vessel waste No Discharge Zone was established for the waters of Port Jefferson Harbor in 2001. (DEC/DOW, BWRM, September 2015)

Management Action
Conscience Bay was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Conscience Bay is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire Bay. Port Jefferson Harbor is listed separately.
Setauket Harbor (1702-0242)  
Impaired

Waterbody Location Information

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<tr>
<th>Water Index No:</th>
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<tr>
<td>Unit Code:</td>
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<td>Class:</td>
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<td>Water Type/Size:</td>
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Water Quality Problem/Issue Information

Uses Evaluated

- Shellfishing: Impaired, Known
- Public Bathing: Impaired, Suspected
- Recreation: Stressed, Known
- Aquatic Life: Stressed, Suspected
- Fish Consumption: Stressed, Suspected

Conditions Evaluated

- Habitat/Hydrology: Unknown
- Aesthetics: Unknown

Type of Pollutant(s)

- Known: PATHOGENS, Low D.O./Oxygen Demand, Nutrients (nitrogen)
- Suspected: Priority Organics (PCBs/migratory fish)
- Unconfirmed: - - -

Source(s) of Pollutant(s)

- Known: URBAN/STORM RUNOFF, OTHER SOURCE (boat pollution)
- Suspected: Other Source (migratory fish species), Onsite/Septic Systems
- Unconfirmed: - - -

Management Information

- Management Status: Strategy Implementation Scheduled or Underway
- Lead Agency/Office: ext/WQCC
- IR/305(b) Code: Impaired Water, TMDL Completed (IR Category 4a)

Further Details

Overview
Setauket Harbor is assessed as an impaired waterbody due to shellfishing use and public bathing that are considered to be impaired by pathogens. This assessment is based on year-round and seasonal shellfishing closures and a high number of beach closures. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
Setauket Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #33) has been designated uncertified or as only seasonally certified for the taking of shellfish for use as food. The head of the harbor (southern end) is closed year–round; the rest of the harbor is seasonally closed. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to [www.dec.ny.gov/regs/4014.html](http://www.dec.ny.gov/regs/4014.html). (DEC/DFWMR, Region 1, July 2010)

Recreational uses and public bathing are also considered to be impaired due to high number of closures of public beaches to swimming. In recent years, elevated levels of bacteria have occurred in more than ten percent of samples and resulted in up to 10 beach closure days. Beaches within this waterbody segment include Little Bay Beach. Bacteriological sampling conducted through the shellfishing monitoring program also indicate elevated pathogen levels. However criteria for shellfishing are more stringent than those for public bathing. Restrictions on shellfishing and public bathing also represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas; direct waterfowl/wildlife inputs; and boats and marinas. Urban stormwater runoff in the watershed introduce pathogens to the waters affecting shellfish consumption, public bathing and other recreation. The watershed is highly developed and slopes steeply into the harbor, resulting in significant stormwater runoff loads. Poor flushing characteristics in the bay affects water quality. Significant summer boat traffic is also a concern. Various local initiatives aimed at and improving water quality in general and stormwater management in particular are underway. A vessel waste No Discharge Zone was established for the waters of Port Jefferson Harbor in 2001. (DEC/DOW, BWRM, September 2015)

Management Action
Setauket Harbor was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Setauket Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the harbor. Port Jefferson Harbor is listed separately.
Mt Sinai Harbor and tidal tribs (1702-0019)  

**Impaired**

### Waterbody Location Information

- **Water Index No:** (MW5.4d) LIS- MSH  
- **Unit Code:** 0203020103  
- **Class:** SA  
- **Drain Basin:** Atlantic-Long Island Sound  
- **Water Type/Size:** Estuary Waters  
- **Description:** 396.9 Acres  
- **Reg/County:** 1/Suffolk (52)

### Water Quality Problem/Issue Information

**Uses Evaluated**

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<tr>
<th>Uses</th>
<th>Severity</th>
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<tr>
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<td>Stressed</td>
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<td>Known</td>
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<td>Aquatic Life</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
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**Conditions Evaluated**

- **Habitat/Hydrology:** Unknown  
- **Aesthetics:** Unknown

**Type of Pollutant(s)**

- **Known:** PATHOGENS, Low D.O./Oxygen Demand, Nutrients (nitrogen)  
- **Suspected:** Priority Organics (PCBs/migratory fish)  
- **Unconfirmed:** - - -

**Source(s) of Pollutant(s)**

- **Known:** URBAN/STORM RUNOFF, OTHER SOURCE (boat pollution)  
- **Suspected:** Other Source (migratory fish species)  
- **Unconfirmed:** - - -

### Management Information

- **Management Status:** Strategy Implementation Scheduled or Underway  
- **Lead Agency/Office:** ext/WQCC  
- **IR/305(b) Code:** Impaired Water, TMDL Completed (IR Category 4a)

### Further Details

**Overview**

Mt Sinai Harbor is assessed as an impaired waterbody due to shellfishing use that is considered to be precluded by pathogens. This assessment is based on year-round and seasonal shellfishing closures. Nutrient-driven hypoxia is also a concern in the embayments of Long Island Sound. Fish consumption advisories for certain species are also in place. However these advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

**Use Assessment**

Mt Sinai Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #32) has been designated as uncertified or as only seasonally certified for the taking of shellfish for use as food. Nearly all of the Harbor is closed on a seasonal basis, while a small portion (less than 10%) near the southern head of the harbor is closed year-round. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational uses and public bathing are thought to be stressed. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Restrictions on shellfishing represent an impact to recreational use. (DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support an adequate marine water fishery. Low dissolved oxygen in the embayments of Long Island Sound are a concern, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas, agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Urban stormwater runoff in the watershed introduce pathogens to the waters affecting shellfish consumption, public bathing and other recreation. The watershed is highly developed and slopes steeply into the harbor, resulting in significant stormwater runoff loads. Erosion within the watershed is a water quality issue. The harbor is very heavily used for boating and includes mooring capabilities for 1000 boats, a large docking area (marina) and a public boat launch. (DEC/DOW, BWRM, September 2015)

Management Action
Mt Sinai Harbor was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state
agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Mt Sinai Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM, January 2015)

Segment Description
This segment includes the total area of the entire harbor.
<table>
<thead>
<tr>
<th>Water Index Number</th>
<th>Waterbody Segment</th>
<th>Category</th>
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<tbody>
<tr>
<td>(MW5.4d) LIS (portion 5)</td>
<td>Long Island Sound, Suffolk Co, Central (1702-0265)</td>
<td>Minor Impacts</td>
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<tr>
<td>(MW5.4d) LIS- 68</td>
<td>Wading River, Lower, and tidal tribs (1702-0099)</td>
<td>Needs Verification</td>
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<tr>
<td>(MW5.4d) LIS- 69</td>
<td>Wading River, Upper, and tribs (1702-0243)</td>
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<td>(MW5.4d) LIS (portion 6)</td>
<td>Fresh Pond Creek and tribs (1702-0244)</td>
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<td>(MW5.4e) LIS- 71</td>
<td>Long Island Sound, Suffolk County, East (1702-0266)</td>
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<td>(MW5.4e) LIS- 71-</td>
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<td>(MW5.4e) LIS- 72</td>
<td>Tribs to Mattituck Creek (1702-0245)</td>
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<td>(MW5.4e) LIS-P378</td>
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<td>(MW5.4g) LIS-FI-WH-P1108</td>
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<td></td>
<td>Barlow Pond, Fishers Island (1701-0285)</td>
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</table>
Long Island Sound, Suffolk County, Central (1702-0265)  Minor Impacts

Waterbody Location Information

Water Index No: (MW5.4d) LIS (portion 5)  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020104  Class: SA
Water Type/Size: Estuary Waters  182179.6 Acres  Reg/County: 1/Suffolk (52)
Description: Sound from Sound Beach to Mattituck Inlet

Water Quality Problem/Issue Information

Uses Evaluated

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<thead>
<tr>
<th>Uses</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Stressed</td>
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<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
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<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
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</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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Conditions Evaluated

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<th>Conditions</th>
<th>Severity</th>
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<td>Habitat/Hydrology</td>
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Type of Pollutant(s)

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<tr>
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<td>Unconfirmed:</td>
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Source(s) of Pollutant(s)

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<tr>
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Management Information

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

Management Information

Overview
This portion of Long Island Sound is assessed as having minor impacts due to public bathing and recreational uses and fish consumption that are thought to be stressed by pathogens and PCBs. This segment had been assessed as impaired due to a higher frequency of public bathing beach closures however the frequency of closures has been very infrequent. In addition the boundary of this segment has been modified and most of the beaches with closures are now located in the segment to the west of this shoreline reach. These fish consumption advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody.

Use Assessment
This portion of Long Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general
recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. Virtually all of this waterbody (included within Shellfish Growing Area #35) has been certified as safe for the taking of shellfish for use as food. The only restrictions in this segment are a year-round closures for areas within 500 yards of the shoreline around the mouth of Wading River. Because these areas represents less than 1% of the total area of this portion of the Sound, the waterbody is considered to be fully supporting of shellfishing use. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is thought to be supported but stressed based on monitoring and occasional beach closures at beaches in the segment. Beach monitoring revealed elevated bacteriological levels that occurred in generally less than ten percent of the samples collected at these beaches; these results resulted in occasional but infrequent (less than 10 days) beach closures at some beaches in some years. Occasional beach closures in the segment are largely pre-emptive closures during heavier rainstorms that are known to wash pollutants into the harbor. Beaches within this reach include Sound Beaches, Pickwick Beach, Tides Property Owners Beach, Terraces on the Sound Beach, Beech Road Beach, Broadway Beach, Friendship Drive, Shoreham Beach, Shoreham Shore Club Beach, Shoreham Village Beach, Wading River Beach, Camp DeWolfe, Wildwood State Park Beach, Camp Baiting Hollow Beach, Woodcliff Beach, Dorothy Flint Camp Beach, Reeves Beach, Iron Pier Beach and Mattituck Breakwater Beach. Additionally, bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2013 and DEC/DFWMR, July 2014)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance. (DEC/DOW, BWRM, September 2015)

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs.
The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This portion of Long Island Sound 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 pathogens. However this updated assessment suggests that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. This waterbody will be considered for delisting pathogens during the next update of the List. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes all the waters of Long Island Sound within Suffolk County, east of a line due north of the western border of Sound Beach, north of the Long Island north shore, and west of line due north from Mattituck Inlet. The boundary of this segment has been modified (2016); previously, it had extended west to Old Field Point.
Wading River, Lower, and tidal tribs (1702-0099) Needs Verification

Waterbody Location Information

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<tr>
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Water Quality Problem/Issue Information

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Conditions Evaluated

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Type of Pollutant(s)

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<td>Suspected:</td>
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Management Information

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<td>Lead Agency/Office:</td>
<td>ext/WQCC</td>
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<tr>
<td>IR/305(b) Code:</td>
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Further Details

Overview
Lower (tidal) Wading River is assessed as needing verification of impacts to recreational uses that may be be stressed by pathogens. The waterbody is uncertified for shellfishing but it is not certain if other recreational uses are impacted. Urban and storm runoff are the likely primary sources of pathogens, although various other sources such as inadequate onsite treatment/septic systems, boat discharges and waterfowl may also contribute. The river drains an undeveloped marshland with significant wildlife and waterfowl populations.

Use Assessment
Lower Wading River 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 including public bathing is thought to be stressed. Bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Water quality monitoring at beaches along the Long Island Sound shore near the mouth of Wading River (Shoreham...
Beach, Wading River Beach and Camp DeWolfe Beach) indicate no significant impacts to uses. (DEC/DOW, BWAM, January 2016)

All of this waterbody (included within Shellfish Growing Area #31) has been designated as uncertified for the taking of shellfish for use as food. Although this waterbody is monitored through the shellfish program and designated as uncertified, its Class SC designation does not include shellfishing as an appropriate use and this assessment does not include an evaluation for the support of shellfishing use. (DEC/DFWMR, Region 1, July 2015)

This waterbody is thought to support a suitable marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific health advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

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

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Lower Wading River is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the tidal portion of the stream and its trib. This tidal portion of the stream and tidal trib are designated Class SC. (Note that State Classification Regulations include this trib in Article 16, Part 921 – Peconic River-Flanders Bay Drainage Basin).
Wading River, Upper, and tribs (1702-0243)  Unassessed

Waterbody Location Information

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<td>Drain Basin:</td>
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<td>Class:</td>
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Water Quality Problem/Issue Information

Uses Evaluated

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Conditions Evaluated

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Type of Pollutant(s)

- 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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment 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.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of the freshwater portion of the stream. This freshwater portion of the stream, including unnamed ponds P353, P354, P355, is designated Class C. (Note that State Classification Regulations include this trib in Article 16, Part 921 – Peconic River-Flanders Bay Drainage Basin).
### Waterbody Location Information

- **Water Index No:** (MW5.4d) LIS- 69
- **Unit Code:** 0203020104
- **Class:** B
- **Drain Basin:** Atlantic-Long Island Sound
- **Water Type/Size:** River/Stream 0.5 Miles
- **Reg/County:** 1/Suffolk (52)
- **Description:** entire stream and tribs

### Water Quality Problem/Issue Information

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<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
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<tr>
<td>Water Supply</td>
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<td>Public Bathing</td>
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<td>Recreation</td>
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<td>Aquatic Life</td>
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<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
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### Conditions Evaluated

- **Habitat/Hydrology:** Unknown
- **Aesthetics:** Unknown

### Type of Pollutant(s)

- **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**
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

**Use Assessment**
This waterbody segment 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.

**Water Quality Information**
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Fresh Pond Creek is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the freshwater portion of the stream and all tribs. The freshwater portion of the stream (including unnamed pond P356a) is Class B; tribs to this reach are Class C. (Note that State Classification Regulations include this trib in Article 16, Part 921 – Peconic River-Flanders Bay Drainage Basin).
Long Island Sound, Suffolk County, East (1702-0266)  Minor Impacts

Waterbody Location Information

Water Index No: (MW5.4e) LIS (portion 6)  Drain Basin: Atlantic-Long Island Sound
Unit Code: 0203020104  Class: SA
Water Type/Size: Estuary Waters 100709.6 Acres  Reg/County: 1/Suffolk (52)
Description: Sound from Mattituck Inlet to East Point/Fishers Island

Water Quality Problem/Issue Information

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<td>Aquatic Life</td>
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Conditions Evaluated

Habitat/Hydrology: Good
Aesthetics: Good

Type of Pollutant(s)

Known: - - -
Suspected: PRIORITY ORGANICS (PCBS/migratory fish)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: OTHER SOURCE (migratory fish species)
Unconfirmed: - - -

Management Information

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

Further Details

Overview
This portion of Long Island Sound is assessed as having minor impacts due to fish consumption that is thought to be stressed by PCBs. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. All other evaluated uses are considered to be fully supported.

Use Assessment
This portion of Long Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody
(included within Shellfish Growing Area #36) has been certified as safe for the taking of shellfish for use as food. The only restrictions in this segment are year–round administrative closures for areas within a one–half mile radius of the Greenport STP outfall (312 acres) and along the north shore of Plum Island (704 acres). Because these areas represents only about 1% of the total area of this portion of the Sound, the waterbody is considered to be fully supporting of shellfishing use. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed no elevated bacteriological levels at beaches and no beach closures. Beaches within this reach include Mattituck Breakwater Beach, Peconic Dunes Camp Beach, Kenny’s Beach, McCabe’s Beach, Southold Beach. Additionally, bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
This portion of Long Island Sound is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL
Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes all the waters of Long Island Sound within Suffolk County, east of a line due north of Mattituck Inlet, north of the Long Island north shore and a line from Orient Point through Plum Island to East Point and on to Fishers Island, and west of line due north from the western end of Fishers Island.
**Mattituck Inlet/Creek, and tidal tribs (1702-0020)**

**Impaired**

**Waterbody Location Information**

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**Water Quality Problem/Issue Information**

(CAPS indicate MAJOR Pollutants/Sources)

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<th>Uses Evaluated</th>
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**Type of Pollutant(s)**

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

**Source(s) of Pollutant(s)**

- Known: URBAN/STORM RUNOFF
- Suspected: Other Source (boat pollution), On-Site/Septic Syst
- Unconfirmed: - - -

**Management Information**

- Management Status: Strategy Implementation Scheduled or Underway
- Lead Agency/Office: DOW/Reg1
- IR/305(b) Code: Impaired Water, TMDL Completed (IR Category 4a)

**Further Details**

**Overview**

Mattituck Inlet/Creek is assessed as an impaired waterbody due to shellfishing use that is known to be precluded by pathogens. Urban and storm runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Public bathing and other recreational uses are supported, however these uses are thought to be stressed, as a result of the shellfishing restrictions and related pathogen levels.

**Use Assessment**

Mattituck Inlet/Creek is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfishing Use
Shellfish harvesting for consumption is considered to be precluded in these waters. All of this waterbody (included within Shellfish Growing Area #30) has been designated as un certified 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is thought to be stressed. Bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Water quality monitoring at beaches along the Long Island Sound shore near the mouth of Mattituck Inlet (Mattituck Breakwater Beach) indicate no known impacts to uses. (DEC/DOW, BWAM, January 2016)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
Mattituck Inlet/Creek was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)
Section 303(d) Listing
Mattituck Inlet/Creek is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to the completion of a TMDL to address the impairment. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description:
This segment includes the entire inlet and tidal tribs. The inlet and tidal creek is Class SA; a tidal portion of unnamed trib (-1) is Class SA and SC. Freshwater tribs are listed separately.
Tribs to Mattituck Creek (1702-0245)  

Waterbody Location Information

- **Water Index No:** (MW5.4e) LIS- 71-  
- **Unit Code:** 0203020104  
- **Water Type/Size:** River/Stream 1.5 Miles  
- **Description:** total length of selected (freshwater) tribs

- **Drain Basin:** Atlantic-Long Island Sound
- **Class:** C  
- **Reg/County:** 1/Suffolk (52)

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
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</tr>
<tr>
<td>Public Bathing</td>
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<td>-</td>
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<tr>
<td>Recreation</td>
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<td>-</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
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<tr>
<td>Fish Consumption</td>
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</table>

<table>
<thead>
<tr>
<th>Conditions Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
</tr>
<tr>
<td>Aesthetics</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Type of Pollutant(s)</th>
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</thead>
<tbody>
<tr>
<td>Known:</td>
</tr>
<tr>
<td>Suspected:</td>
</tr>
<tr>
<td>Unconfirmed:</td>
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<table>
<thead>
<tr>
<th>Source(s) of Pollutant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known:</td>
</tr>
<tr>
<td>Suspected:</td>
</tr>
<tr>
<td>Unconfirmed:</td>
</tr>
</tbody>
</table>

Management Information

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

Further Details

**Overview**
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

**Use Assessment**
This waterbody segment 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.

**Water Quality Information**
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
This waterbody is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total length of freshwater portions of tribs to Mattituck Creek (-71). The freshwater portions of these tribs are Class C. The lower portion of trib -1 is tidal and included with the Mattituck Inlet/Creek segment.
Goldsmith Inlet (1702-0026)  Impaired

Waterbody Location Information
Revised: 01/19/2016

<table>
<thead>
<tr>
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<th>(MW5.4e) LIS- 72</th>
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<tbody>
<tr>
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<tr>
<td>Water Type/Size:</td>
<td>Estuary Waters  21.6 Acres</td>
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<td>Description:</td>
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<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
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<tr>
<td>Class:</td>
<td>SA</td>
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<tr>
<td>Reg/County:</td>
<td>1/Suffolk (52)</td>
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Water Quality Problem/Issue Information
(CAPS indicate MAJOR Pollutants/Sources)

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<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
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<tr>
<td>Shellfishing</td>
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<td>Recreation</td>
<td>Stressed</td>
<td>Known</td>
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<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
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Conditions Evaluated

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Type of Pollutant(s)

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<tr>
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Source(s) of Pollutant(s)

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<tr>
<td>Suspected:</td>
<td>Other Source (boat pollution), On-Site/Septic Syst</td>
</tr>
<tr>
<td>Unconfirmed:</td>
<td>- - -</td>
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Management Information

<table>
<thead>
<tr>
<th>Management Status:</th>
<th>Strategy Implementation Scheduled or Underway</th>
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<tr>
<td>Lead Agency/Office:</td>
<td>DOW/Reg1</td>
</tr>
<tr>
<td>IR/305(b) Code:</td>
<td>Impaired Water, TMDL Completed (IR Category 4a)</td>
</tr>
</tbody>
</table>

Further Details

Overview
Goldsmith Inlet is assessed as an impaired waterbody due to shellfishing use that is known to be precluded by pathogens. Urban and storm runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Public bathing and other recreational uses are supported, however these uses are thought to be stressed, as a result of the shellfishing restrictions and related pathogen levels.

Use Assessment
Goldsmith Inlet is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfishing Use
Shellfish harvesting for consumption is considered to be precluded in these waters. Virtually all of this waterbody (included within Shellfish Growing Area #67) has been designated as un certified 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. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is thought to be stressed. Bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use. Water quality monitoring at beaches along the Long Island Sound shore near the mouth of Goldsmith Inlet (Peconic Dunes Camp Beach, Kenny’s Beach) indicate no known impacts to uses. (DEC/DOW, BWAM, January 2016)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWWR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Management Action
Goldsmith Inlet was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)
Section 303(d) Listing
Goldsmith Inlet is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to completion of a TMDL to address the impairment. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description:
This segment includes the entire inlet and tidal tributaries. The inlet, including the tidal pond (P376), is Class SA.
Great Pond (1702-0246)  No Known Impacts

Waterbody Location Information

<table>
<thead>
<tr>
<th>Water Index No</th>
<th>Drain Basin</th>
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</thead>
<tbody>
<tr>
<td>(MW5.4e) LIS-P378</td>
<td>Atlantic-Long Island Sound</td>
</tr>
<tr>
<td>Unit Code: 0203020104</td>
<td>Long Island Sound</td>
</tr>
<tr>
<td>Water Type/Size: Lake/Reservoir 30.1 Acres</td>
<td>Reg/County: 1/Suffolk (52)</td>
</tr>
</tbody>
</table>

| Description: entire lake | Class: A Long Island Sound |

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Suspected</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
</tbody>
</table>

Conditions Evaluated

| Habitat/Hydrology | Good |
| Aesthetics        | Good |

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Management Information

| Management Status: Reassessment Needed |
| Lead Agency/Office: DOW/BWAM |
| IR/305(b) Code: Water Attaining Some Standards (IR Category 2) |

Further Details

Overview
Great Pond is considered to have no known impacts. The most recent assessments of the waterbody indicated no known impacts, however that assessment is based on older data and sampling to verify conditions is recommended.

Use Assessment
This waterbody segment is a Class A waterbody, suitable for water supply [or shellfishing], public bathing and general recreation use, and support of aquatic life.

There is no evidence of recreation use impacts in Great Pond, consistent with relatively low lake productivity,
high water clarity, and the lack of invasive species and/or excessive aquatic vegetation. Public bathing is also considered to be fully supported based on the evaluation of overall recreational use, however bacteriological sampling is needed to more fully evaluate swimming use. (DEC/DOW, BWAM/LCI, January 2016)

Public water supply use of Great Pond is also thought to be fully supported. The waterbody is not currently believed to be used as a public supply, however other sampling information suggests the waterbody would support water supply use. (DEC/DOW, BWAM, January 2016)

Based on other available indicators for other related uses, this waterbody is reported to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information
Water quality sampling of Great Pond has been conducted (single sample) through the NYSDEC Lake Classification and Inventory (LCI) Program in 2003. Results of this sampling indicate the lake is best characterized as oligotrophic, or unproductive. Chlorophyll samples were not collected but phosphorus concentrations are typically low. Lake clarity measurements indicate water transparency meets/exceeds the recommended minimum criteria for swimming beaches (Secchi disc was visible on bottom of lake at 2.5 m depth). Readings of pH fall within the range established in state water quality standards for protection of aquatic life. (DEC/DOW, BWAM/LMAS, May 2006)

Source Assessment
There are no apparent sources of pollutants to the waterbody.

Management Actions
No specific management actions have been identified or are deemed necessary for the waterbody.

Section 303(d) Listing
Great Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond. The pond is Class A.
Fishers Island Sound (1702-0264)  

Minor Impacts

Waterbody Location Information

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<th>Water Index No:</th>
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<tbody>
<tr>
<td>Unit Code:</td>
<td>0203020104</td>
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<tr>
<td>Water Type/Size:</td>
<td>Estuary Waters 6036.6 Acres</td>
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<tr>
<td>Description:</td>
<td>estuary waters surrounding Fishers Island</td>
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<td>Drain Basin:</td>
<td>Atlantic-Long Island Sound</td>
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<td>Class:</td>
<td>SA Long Island Sound</td>
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<td>Reg/County:</td>
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Water Quality Problem/Issue Information

Uses Evaluated

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<thead>
<tr>
<th>Uses</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
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<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
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Conditions Evaluated

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<th>Conditions</th>
<th>Severity</th>
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Type of Pollutant(s)

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<tbody>
<tr>
<td></td>
<td>PRIORITY ORGANICS (PCBs/migratory fish)</td>
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Source(s) of Pollutant(s)

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<tbody>
<tr>
<td></td>
<td>OTHER SOURCE (migratory fish species)</td>
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</table>

Management Information

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

Further Details

Overview
Fishers Island Sound is assessed as having minor impacts due to fish consumption that is thought to be stressed by PCBs. These advisories are the result of the migratory range of these fish species, and not related to any known contamination in this specific waterbody. All other evaluated uses are considered to be fully supported.

Use Assessment
Fishers Island Sound is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.

Shellfish harvesting for consumption is considered to be fully supported in these waters. All of this waterbody
(included within Shellfish Growing Area #66) has been certified as safe for the taking of shellfish for use as food. These shellfishing designations are based on results of water quality monitoring and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria. 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)

Recreational use including public bathing is considered supported based on monitoring at beaches in the waterbody and shellfishing certification monitoring. Beach monitoring revealed no elevated bacteriological levels at beaches and no beach closures. Beaches within this reach include Fisher Island Country Club Beach, Culloden Shores Beach and East Lake Drive Beach. Additionally, bacteriological sampling conducted through the shellfishing monitoring program suggest public bathing is supported. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

Management Action
This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
Fishers Island Sound is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes tidal estuary waters east of a line extending due north from the western end of Fishers Island, and north north of a line extending due east from the Island’s eastern end; excluding West Harbor which is listed separately.
### Waterbody Location Information

- **Water Index No:** (MW5.4g) LIS-FI-WH
- **Unit Code:** 0203020104
- **Water Type/Size:** Estuary Waters, 371.2 Acres
- **Description:** Entire harbor, as described below
- **Drain Basin:** Atlantic-Long Island Sound
- **Class:** SA
- **Reg/County:** 1/Suffolk (52)

### Water Quality Problem/Issue Information

#### Uses Evaluated

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfishing</td>
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<tr>
<td>Public Bathing</td>
<td>Fully Supported</td>
<td>Known</td>
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<tr>
<td>Recreation</td>
<td>Fully Supported</td>
<td>Known</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Fully Supported</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

#### Conditions Evaluated

<table>
<thead>
<tr>
<th>Condition Evaluated</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
<td>Unknown</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

#### Type of Pollutant(s)

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

#### Source(s) of Pollutant(s)

- **Known:** URBAN/STORM RUNOFF
- **Suspected:** On-Site/Septic Syst, Other Source (boat pollution), Other Source (migratory fish species)
- **Unconfirmed:** - - -

### Management Information

- **Management Status:** Strategy Implementation Scheduled or Underway
- **Lead Agency/Office:** DOW/Reg1
- **IR/305(b) Code:** Impaired Water, TMDL Completed (IR Category 4a)

### Further Details

**Overview**

West Harbor is assessed as an impaired waterbody due to shellfishing use that is known to be impaired by pathogens. Urban and storm runoff are the primary sources of pathogens, although inadequate onsite wastewater treatment and various other sources such as boat discharges, waterfowl may also contribute. Public bathing and other recreational uses are supported, however these uses are thought to be stressed, as a result of the shellfishing restrictions and related pathogen levels.

**Use Assessment**

West Harbor is a Class SA waterbody, suitable for shellfishing, public bathing and general recreation use, and support of aquatic life.
Shellfishing Use
Shellfish harvesting for consumption is considered to be precluded in these waters. Much of this waterbody (included within Shellfish Growing Area #51) has been designated as uncertified or only seasonally certified for the taking of shellfish for use as food. About 6% of the area is uncertified year–round including the southernmost head of the Harbor. A larger portion (36%) of the harbor is closed seasonally as a safeguard when boats are present in nearby marinas. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Recreational use including public bathing is considered fully supported based on monitoring at beaches in the waterbody. Beach monitoring revealed no elevated bacteriological levels at beaches and no beach closures. Beaches within this waterbody include Hay Harbor Club Beach. (NYSDOH BEACH Act monitoring results, 2010 and DEC/DFWMR, July 2014)

Based on other available indicators for other related uses, this waterbody is expected to support a healthy marine water fishery, although no specific fishery or biological reports are included in this assessment.

Fish consumption is considered to be stressed due to NYSDOH precautionary health advisories recommending limiting consumption of larger weakfish (over 25 inches) and other species from these marine 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. 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. 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 rather than impaired. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption. (NYSDOH and DEC/DFWMR, 2014)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of pathogens to the waterbody are largely nonpoint runoff from developed urban and residential areas agricultural activity and open space/forest; direct waterfowl/wildlife inputs; and boats and marinas. Relative contributions from each type of source are very site-specific in nature, particularly in localized areas of study. (DEC/DOW, BWRM, September 2015)

Impacts to fish consumption are the result of elevated PCBs in fish species with a wide migratory range; there are no known PCB sources within the waterbody of significance.

Management Action
West Harbor was among the waterbodies covered by the 2007 Shellfish Pathogen TMDL to address 27 shellfishing impaired waters in Long Island Sound embayments. (DEC/DOW, BWAM/WQMS, July 2010)

This waterbody is included in the Long Island Sound Study (LISS), a bi-state partnership consisting of federal and state
agencies, user groups, concerned organizations, and individuals dedicated to fully restoring and protecting the waters of the Sound. The LISS was formed by EPA, New York and Connecticut in 1985 to focus on the overall ecosystem. In 2015, the LISS revised its Comprehensive Conservation and Management Plan (CCMP) to address new environmental challenges (such as climate change, long-term sustainability, environmental justice, and ecosystem-based management), incorporate scientific and technological advances, and respond to changing community needs. The new CCMP is organized around four themes: Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, Sustainable and Resilient Communities, and Sound Science and Inclusive Management. The LISS partners have made significant strides to restore and protect Long Island Sound, giving priority to hypoxia, habitat restoration, public involvement and education and water quality monitoring. (DEC/DOW, BWQM/WQMS, July 2015)

Section 303(d) Listing
West Harbor is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. Although it is assessed as an impaired water, it is categorized as an IR Category 4a water that is not listed due to to completion of a TMDL to address the impairment. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description:
This segment includes harbor waters south of a line from Hawks Nest to Clay Point.
Barlow Pond, Fishers Island (1701-0285)  Unassessed

Waterbody Location Information

Water Index No: (MW5.4g) LIS-FI-P1108
Unit Code: 0203020104  Class: A
Water Type/Size: Lake/Reservoir  12.6 Acres
Description: entire lake

Drain Basin: Atlantic-Long Island Sound
Reg/County: 1/Suffolk (52)

Water Quality Problem/Issue Information

Uses Evaluated  Severity  Confidence
Water Supply  Unassessed  -
Public Bathing  Unassessed  -
Recreation  Unassessed  -
Aquatic Life  Unassessed  -
Fish Consumption  Unassessed  -

Conditions Evaluated
Habitat/Hydrology  Unknown
Aesthetics  Unknown

Type of Pollutant(s)
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
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment is a Class A waterbody, suitable for water supply, public bathing and general recreation use and support of aquatic life.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.
Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Barlow Pond is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description
This segment includes the total area of the entire pond.
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1 Introduction

Essential fish habitat (EFH) is defined under section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (Public Law 94-265), as amended by the Sustainable Fisheries Act (SFA) of 1996 (Public Law 104-267), as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” The SFA requires that EFH be identified for those species actively managed under Federal fishery management plans (FMPs). This includes species managed by the eight regional Fishery Management Councils (FMCs), established under the MSFCMA, as well as those managed by National Marine Fisheries Service (NMFS) under FMPs developed by the Secretary of Commerce.

EFH designations emphasize the importance of habitat protection to healthy fisheries and serve to protect and conserve the habitats of marine and estuarine finfish and invertebrates. EFH includes key physical, chemical, and biological attributes of both the water column and the underlying substrate, including sediment, hard bottom, and other submerged structures that support survival and growth of designated species. Under the EFH definition, necessary habitat is that which is required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem. EFH may be designated for the complete life cycle of a species, including spawning, feeding, and growth to maturity, or may be specific for each life stage (egg, larval, juvenile, adult, and spawning adult).

The New York State Department of Environmental Conservation (NYSDEC)’s Artificial Reef Program (Program) was started in 1962 to develop and manage artificial reefs in the state and federal waters surrounding the New York State Marine Coastal District (MCD) under the Division of Marine Resources (DMR). The Program currently maintains a dozen reef sites in the waters of New York’s Marine and Coastal District (MCD) and adjacent Federal waters. Program goals are to administer and manage artificial reef habitat as part of a fisheries management program, provide fishing and diving opportunities, and enhance or restore fishery resources and associated habitat through the selective placement of artificial reef habitat (i.e. natural rock, concrete and steel) in the MCD under Programmatic guidelines.

In 1993, the NYSDEC completed a Generic Environmental Impact Statement (GEIS)/Reef Plan which allowed for the issuance of a permit for the development of artificial reefs at specific locations within the MCD, and adjacent Federal waters. As the Program developed, additional NYSDEC and United States Army Corps of Engineers (USACE) permits were obtained to place material to meet specific goals of the Program outlined in the GEIS/Reef Plan. Since then, New York State artificial reefs have been developed according to the goals of the Artificial Reef Program to provide fishing and diving opportunities, enhance or restore fishery habitat, and manage artificial reef resources as part of an overall fisheries program (NYSDEC 1993).

Artificial reefs are developed using the patch reef system. Patch reef development includes the placement of material in discrete locations or “targets” separated by undisturbed benthic habitat. This method results in a smaller disruption of the site’s natural benthic footprint thereby reducing impacts to the benthic community. Materials are transported to the reef site either by barge (i.e. natural stone and concrete) or towed out by vessel (i.e. steel barges or vessels) under Program supervision. The materials are deployed on pre-designated site targets to produce a patch reef configuration. This construction method results in a larger overall project footprint but allows for the area between the patches to remain as undisturbed benthic habitat thereby reducing impacts to the benthic community. The different artificial reef structures attract a variety of marine life including recreationally important finfish and crustacean (i.e. lobster) species sought by anglers and divers. Artificial reefs provide structure for benthic organisms such as anemones, corals, sponges, hydroids, and bryozoans that would not otherwise be able to colonize on the sandy, unstable seafloor sediments that are dominant
in the region. These reefs also provide shelter and foraging ground for marine organisms such as structure associated fish and other demersal species. This is particularly important for juvenile fish and crustaceans that are especially susceptible to predation (NYSDEC 2015).

The following EFH Assessment has been prepared to support the environmental reviews necessary for the issuance of the required federal and state permits and authorizations related to the NYSDEC Artificial Reef Program.

1.1 Project Location

The Project is situated within the New York State Marine Coastal District (MCD) and the adjacent Federal waters surrounding Long Island. Artificial reefs are located within the marine and estuarine waters of the Atlantic Ocean, Great South Bay, and Long Island Sound (see Figure 1). Reefs are strategically located near or are accessible to Long Island harbors and embayments through local inlets.

Figure 1: Artificial Reef Locations

The area, depth, and development status of each reef site are described in Table 1 below.
<table>
<thead>
<tr>
<th>Reef Name</th>
<th>Year Developed</th>
<th>Reef Site Depth (ft)</th>
<th>Controlling Depth (ft)</th>
<th>Total Acreage</th>
<th>Development Status (%)</th>
<th>Remaining Acreage to be Developed</th>
<th>Materials Currently At Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAllister Grounds</td>
<td>1949</td>
<td>50-53</td>
<td>40</td>
<td>115</td>
<td>75%</td>
<td>28.75</td>
<td>3 vessels, 4 barges, 7 pieces of a 100' scow, 2 steel miter gates, 3 steel dam gates, 1 steel power plant turbine, rock, concrete barriers, and concrete bridge rubble.</td>
</tr>
<tr>
<td>Fire Island</td>
<td>1962</td>
<td>62-73</td>
<td>40</td>
<td>744</td>
<td>70%</td>
<td>223.2</td>
<td>4 vessels, 13 barges, 2 boat hulls, 6 pontoons, surplus armored vehicles, 2 drydocks, Tappan Zee bridge materials, 2 steel miter gates, 1 steel tainter gate, steel bridge girders, steel lift bridge sections, steel pipe, steel lifting towers, rock, concrete cesspool rings, slabs, and rubble.</td>
</tr>
<tr>
<td>Rockaway</td>
<td>1967</td>
<td>32-40</td>
<td>23</td>
<td>413</td>
<td>80%</td>
<td>82.6</td>
<td>1 barge, Tappan Zee bridge materials, 60 steel buoys, rock, concrete slabs, pipes, culvert, decking, and rubble.</td>
</tr>
<tr>
<td>Atlantic Beach</td>
<td>1967</td>
<td>55-64</td>
<td>40</td>
<td>413</td>
<td>87%</td>
<td>53.69</td>
<td>2 vessels, 10 barges, 8 pontoons, 4 pieces of a 100' scow, surplus armored vehicles, 404 auto bodies, 10 Good Humor trucks, steel crane and boom, 27 steel buoys, 1 steel turbine rotor, steel turbine shells, steel pipe, rock, concrete and steel bridge sections, concrete barriers, concrete slabs, pipes, culvert, decking, and rubble.</td>
</tr>
<tr>
<td>Hempstead</td>
<td>1967</td>
<td>50-72</td>
<td>50</td>
<td>744</td>
<td>60%</td>
<td>297.6</td>
<td>13 vessels, 2 barges, 2 steel power plant turbines, surplus armored vehicles, 1 drydock, Tappan Zee bridge materials, City Island bridge materials, Mill Basin bridge materials, steel bridge trusses, and concrete rubble.</td>
</tr>
<tr>
<td>Kismet</td>
<td>1967</td>
<td>16-25</td>
<td>16</td>
<td>10</td>
<td>85%</td>
<td>1.5</td>
<td>2 barges, concrete barriers, concrete blocks, concrete slabs, culvert, and rubble.</td>
</tr>
<tr>
<td>Moriches</td>
<td>1968</td>
<td>70-75</td>
<td>50</td>
<td>14</td>
<td>90%</td>
<td>1.4</td>
<td>12 vessels, 5 barges, surplus armored vehicles, Tappan Zee bridge materials, steel floorbeams, and concrete pipes.</td>
</tr>
<tr>
<td>Shinnecock</td>
<td>1969</td>
<td>79-84</td>
<td>50</td>
<td>35</td>
<td>85%</td>
<td>5.25</td>
<td>8 vessels, 4 barges, surplus armored vehicles, 1 drydock, rock, Tappan Zee bridge materials, a steel and concrete tower, steel and concrete bridge rubble, steel pipes, steel beams, and steel bridge trusses.</td>
</tr>
<tr>
<td>Yellowbar</td>
<td>1969</td>
<td>25-40</td>
<td>16</td>
<td>7</td>
<td>60%</td>
<td>2.8</td>
<td>3 vessels, 1 barge, 4 pontoons, 100 concrete Reef Ball units, and concrete pipes.</td>
</tr>
<tr>
<td>Reef Name</td>
<td>Year Developed</td>
<td>Reef Site Depth (ft)</td>
<td>Controlling Depth (ft)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Total Acreage</td>
<td>Development Status (%)</td>
<td>Remaining Acreage to be Developed</td>
<td>Materials Currently At Site</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------</td>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>---------------</td>
<td>------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Matinecock</td>
<td>1969</td>
<td>30-40</td>
<td>25</td>
<td>41</td>
<td>10%</td>
<td>36.9</td>
<td>1 barge and 7 pontoons.</td>
</tr>
<tr>
<td>Smithtown</td>
<td>1976</td>
<td>38-40</td>
<td>23</td>
<td>3</td>
<td>80%</td>
<td>0.6</td>
<td>2 vessels, 5 barges, steel pipes, and concrete-filled steel cylinders.</td>
</tr>
<tr>
<td>Twelve Mile</td>
<td>2019</td>
<td>123-143</td>
<td>60</td>
<td>850</td>
<td>5%</td>
<td>807.5</td>
<td>2 vessels.</td>
</tr>
<tr>
<td>Sixteen Fathoms</td>
<td>Undeveloped</td>
<td>100</td>
<td>60</td>
<td>850</td>
<td>Undeveloped</td>
<td></td>
<td>Undeveloped-New Site</td>
</tr>
<tr>
<td>Huntington/Oyster Bay</td>
<td>New Site</td>
<td>30-50</td>
<td>TBD</td>
<td>50</td>
<td>Undeveloped</td>
<td></td>
<td>Undeveloped-New Site</td>
</tr>
<tr>
<td>Port Jefferson/Mount Sinai</td>
<td>New Site</td>
<td>70-100</td>
<td>TBD</td>
<td>50</td>
<td>Undeveloped</td>
<td></td>
<td>Undeveloped-New Site</td>
</tr>
<tr>
<td>Mattituck</td>
<td>New Site</td>
<td>60-100</td>
<td>TBD</td>
<td>50</td>
<td>Undeveloped</td>
<td></td>
<td>Undeveloped-New Site</td>
</tr>
</tbody>
</table>


<sup>1</sup> Controlling depth refers to the depth at which reef materials must be deployed below the surface.

TBD: To be determined during the permitting process for these locations.

1.2 Proposed Project Description

1.2.1 Administration and Management
The NYSDEC manages and administers the artificial reef program. Development of artificial reef sites would be consistent with the updated GEIS and applicable permit conditions.

1.2.2 Artificial Reef Construction Materials
The criteria suitable for reef materials include clean concrete, rock, or clean steel (NYSDEC 2004). All artificial reef materials are properly cleaned and free of contaminants.

1.2.3 Siting, Deployment, and Maintenance
Placement of materials at the artificial reef sites would take place within the boundaries of the reef sites identified in Table 1. These reefs are located within the Atlantic Ocean, Great South Bay, and Long Island Sound.

Materials are deployed on the reef in areas devoid of existing structure or other artificial reef materials. Materials are replenished over time as they subside, break down, and no longer meet Program objectives. Placement of materials within the reef areas will be based on hydrographic surveys. Further, each reef is subject to a control depth that reef materials must remain below. Materials are transported to the reef site either by barge or towed out by vessel under Program supervision. The materials are deployed on pre-designated site targets to produce a patch reef configuration. The NYSDEC Reef Program staff oversee the deployment of materials. All reef construction would be completed in accordance with NYSDEC guidelines and a deployment plan for each reef.

Post-material deployment monitoring is done in order to comply with permit conditions and existing artificial reef program guidelines. A post-deployment survey is conducted to verify placement of materials and that controlling depth guidelines are adhered to. The NYSDEC monitoring program for existing artificial reef sites includes recreational and commercial usage, through an aerial survey of
vessels on site. Biological monitoring includes scuba, underwater video, and multi-beam sonar surveys (NYSDEC, 2004).

The reef sites are assessed periodically to ensure compliance with permits and that deployed materials are meeting program objectives of providing hard bottom reef habitat. Over time and due to coastal storms, artificial reefs can become buried with sediment or fall apart and no longer function as complex hard bottom reef habitat. Deployment of additional reef materials in these areas can refresh older, degraded reef sites.

1.2.4 Design
Materials are placed to support the objectives of the NYSDEC’s artificial reef program, including creating structured bottom habitat and increasing fishing and diving opportunities. Artificial reefs would be developed using a patch reef system. Patch reef development includes the placement of material in discrete locations or “targets” separated by undisturbed benthic habitat. This construction method results in a smaller hardbottom benthic footprint thereby reducing impacts to the benthic community. The undisturbed benthic habitat between the patch reefs will be maintained and are typically avoided by commercial fisherman due to gear conflicts. Further, this configuration increases the enhancement of the local natural habitat by introducing profiled hard structure for colonization and reef development. The structures attract a variety of marine life including recreationally and commercially important finfish species sought by anglers and divers.

The materials would be deployed in a manner that avoids interference with navigation. Table 1 provides the controlling depths of each reef and the approximate water depths within the boundary of each site.

2 Existing Conditions
For the purposes of this Project, reefs have been categorized based on the water body that they exist within. These categories include Atlantic Ocean reef sites, Great South Bay reefs, and the Long Island Sound reefs. Atlantic Ocean reefs have been further sub-divided based on their location relative to the State Seaward Boundary (i.e. relative to three nautical miles (nm) of the New York State Mean Low Water (MLW) line). Atlantic Ocean reefs within the three nm line are referred to as “inshore” whereas the reefs beyond the three nm line are referred to as “offshore”. Existing conditions have been summarized below. Additional information can be found as part of this permit application in Appendix I.

2.1 Atlantic Ocean
The Atlantic Ocean inshore reefs include McAllister, Moriches, Rockaway, Shinnecock, and Fire Island reefs. The Atlantic Ocean offshore reefs include Sixteen Fathom (proposed), Twelve Mile, Atlantic Beach, and Hempstead reefs. As these reefs are in close proximity, water quality, sediment type and quality, and biological communities are similar.

The Atlantic continental shelf bathymetry consists of a gentle slope from the MLW mark of the southern shore of Long Island to the edge of the Atlantic outer continental shelf. In the reef locations, water depths vary from 12 meters (m) to 46 m and predominantly consists of feature-less, sandy bottom and is devoid of complex vertical habitat (Menza, Kinlan, Dorfman, Poti, & Caldow, 2012) (Figure 2, 3, 4, and 5).
Figure 2: Bathymetry at Atlantic Inshore reef locations

Figure 3: Bathymetry at Atlantic Offshore reef locations
Figure 4: Existing surficial sediment at Atlantic Offshore reef locations

Figure 5: Existing surficial sediment at Atlantic Inshore reef locations
The benthic communities at the reef sites are common to sandy coastal areas and include polychaete worms (Annelida), amphipods (Arthropoda), sand dollars and sea stars (Echinodermata), horseshoe crabs (*Limulus polyphemus*), and *Yoldia* species of mollusk (Mollusca). Commercially important bivalve clams and scallops, including Atlantic surf clam and ocean quahog are present as well as American lobster, jellyfish (Cnidaria), longfin squid, shortfin squid, and various crab species (United States Army Corps of Engineers, 2016). In addition, as both of these locations have established reefs, epifaunal species such as barnacles, mussels, bryozoans as well as amphipods and isopods are present. These benthic communities provide important sources of prey for commercially and recreationally important fish species.

### 2.2 Great South Bay

The Great South Bay reefs include Kismet reef and Yellowbar reef near Fire Island Inlet. The Bay is characterized by shallow open water habitat, including submerged aquatic vegetation. Reefs are located within 10 to 15 m water depths (Figure 6). Water quality at the reef sites is influenced by the Atlantic Ocean through daily tidal flushing through Fire Island Inlet. Sediments at the reef locations are coarse grain sands and a mix of coarse and fine grains to silty sand (Figure 7).

Dominant benthic species include polychaetes such as yellow-jawed clam worm (*Nereis succinea*), orbiniid worm (*Haploscoloplos fragilis*), opal worm (*Lumbrineris brevipes*), and thread worm (*L. tenuis*), and the bivalves northern dwarf-tellin (*Tellina agilis*) and Atlantic awningclam (*Solemya velum*), amphipods *Lysianopsis alba* and *Paraphoxus spinosus*, and the isopod *Idotea balthica*. Sandy bottom benthic species assemblages characteristically contain populations of polychaetes (*Platynereis dumerillii*), feather-duster worm (*Sabella microphthalma*), opal worm (*Arabella iricolor*), and common bamboo worm (*Clymenella torquata*), bivalves such as northern quahog (*Mercenaria mercenaria*), Morton egg cockle (*Laevicardium mortuni*), blue mussel (*Mytilus edulis*), and the crustaceans slipper shell (*Crepidula fornicata*), and mud crab (*Dyspanapeus sayi*). Muddy sandflats are dominated by polychaetes of the genus *Harmothoe* and the bivalve amethyst gemclam (*Gemma gemma*) (United States Army Corps of Engineers, 2016), (New York Sea Grant, 2001).
2.3 Long Island Sound

The Long Island Sound reefs include Smithtown, Matinecock, and the proposed Huntington/Oyster Bay, Port Jefferson/Mount Sinai, and Mattituck reefs. The majority of these reefs are located in the western basin of Long Island Sound near the north shore of Long Island. The portion of Long Island Sound characterized as the western basin has water depths ranging from 10 m to 20 m (Figure 8). Surficial sediment in this location is a combination of fine grain and coarse grain sediments including sand, silt, and clay (Figure 9). Water quality in this area seasonally fluctuates and experiences episodes of low dissolved oxygen (DO) concentrations in warm summer months.

The most recent data were derived from the Long Island Sound Mapping and Research Collaborative in 2012 and 2013 that collected targeted samples within the Port Jefferson/Mount Sinai area. Three areas consisting of sand, mud, and sandy mud bottom types were identified and 10 randomly selected samples within each were collected. A total of 5,640 animals representing 95 taxa were collected in the 30 samples (Long Island Sound Cable Fund Steering Committee, 2015). Dominant species included the polychaetes *Amphitrite artica*, *Paranois gracilies*, and *Polygordius spp.*, as well as the amphipods *Ampelisca vadorum* and *Leptocheirus pinguis* (Long Island Sound Cable Fund Steering Committee, 2015). Average faunal abundances in each area were 442 individuals per sample for sand, 85 individuals per sample for mud, and 37 individuals per sample for sandy mud (Long Island Sound Cable Fund Steering Committee, 2015). However, sediment characteristics and water quality are similar for the mid-and western-basins and are likely to contain similar assemblages of infaunal invertebrates.

An extensive historic review of benthic communities was summarized in 2004 for the Environmental Impact Statement for the Designation of Dredged Material Disposal Sites in Central and Western Long
Island Sound (USEPA and USACE 2004). The EIS summarized historic benthic studies throughout the sound including offshore and nearshore coastal waters of Connecticut and New York. While there are spatial and temporal trends in species composition and diversity, as is typical of benthic communities, the three main faunal assemblages were consistent: a shallow water, sandy-sediment species based group characterized by polychaetes, *Nephtys picta* and clams, *Spisula solidissima*, and amphipods; a muddy assemblage comprised of *Nephtys incisa*, *Mediomastus ambiseta* and *Polydora cornuta*, clams and Ampelisca amphipods; and a transitional shallow-water benthic community which occupied mixed zones of coarse and fine grain sediments and included polychaetes *Streblospio sp.* and *Polydora sp.*, clams *Tellina agilis* and *Ensis directus* and amphipods *Ampelisca abdita* and *A. vadorum*. The existing and potential reef locations are in mixed sediment zones comprised mostly of coarse grain sediments and therefore will have similar benthic assemblages. In addition, the benthic community may be comprised of additional opportunistic species such as *Mulina lateralis* and Capitellidae worms due to short periods of poor water quality, as discussed above.

![Figure 8: Bathymetry at Long Island Sound reef locations](image)
3 Essential Fish Habitat Assessment

The National Marine Fisheries Service (NMFS), New England Fishery Management Council, Mid-Atlantic Fishery Management Council, and South Atlantic Management Council have defined EFH for key species in the Northeastern United States coastal waters. The NOAA EFH mapper was consulted to determine the presence of EFH within the Project area.

Table 2: EFH-Designated Species within Project area.

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific name</th>
<th>EFH Habitat within Project Area</th>
<th>Habitat Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>ocean pout</td>
<td>Macrozoarces americanus</td>
<td>A,G,L, A</td>
<td>Demersal</td>
</tr>
<tr>
<td>pollock</td>
<td>Pollachius pollockchus</td>
<td>A,G, A,G, L, L</td>
<td>Pelagic</td>
</tr>
<tr>
<td>Common name</td>
<td>Scientific name</td>
<td>EFH Habitat within Project Area</td>
<td>Habitat Association</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Egg</td>
<td>Larvae</td>
</tr>
<tr>
<td>silver hake</td>
<td>Merluccius bilinearis</td>
<td>A,G,L</td>
<td>A,G,L</td>
</tr>
<tr>
<td>yellowtail flounder</td>
<td>Limanda ferruginea</td>
<td>A,G</td>
<td>A</td>
</tr>
<tr>
<td>Mid-Atlantic Finfish Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bluefish</td>
<td>Pomatomus saltatrix</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>scup</td>
<td>Stenotomus chrysops</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>summer flounder</td>
<td>Paralichthys dentatus</td>
<td>A</td>
<td>A,G,L</td>
</tr>
<tr>
<td>Invertebrate Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ocean quahog</td>
<td>Artica islandica</td>
<td>A,G</td>
<td>A,G</td>
</tr>
<tr>
<td>surf clam</td>
<td>Spisula solidissima</td>
<td>A,G</td>
<td>A,G</td>
</tr>
<tr>
<td>Highly Migratory Pelagic Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bluefin tuna</td>
<td>Thunnus thynnus</td>
<td>A,G</td>
<td>A</td>
</tr>
<tr>
<td>skipjack tuna</td>
<td>Katsuwonus pelamis</td>
<td>A</td>
<td>A,G</td>
</tr>
<tr>
<td>Coastal Migratory Pelagic Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skate Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>winter skate</td>
<td>Leucoraja ocellata</td>
<td>A,G,L</td>
<td>A,G,L</td>
</tr>
<tr>
<td>Shark Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shortfin mako shark</td>
<td>Isurus oxyrinchus</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>
### EFH Managed Species

Life history and EFH characteristics for those species most likely to occur at the reef sites are summarized below. Those species that were not discussed are generally pelagic, highly migratory, and only have a transient presence in the Project area (i.e. Spanish mackerel or tiger shark).

#### 3.1.1 New England Finfish Species

##### 3.1.1.1 Atlantic cod (*Gadus morhua*)

**General:** Atlantic cod is a benthopelagic, commercially important groundfish ranging from the coasts of Greenland to north of Cape Hatteras, North Carolina, in North America. The Project area is designated EFH for all life-stages (Table).

**Eggs:** Atlantic cod eggs are pelagic, buoyant, spherical, and transparent with a diameter that ranges from 1.2-1.7 mm (Lough 2004). Hatching occurs after 8 to 60 days in varying temperatures, with temperature exerting the most influence on egg and hatchling size (Lough 2004). EFH for Atlantic cod includes pelagic habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic region, as well as the high salinity zones of bays and estuaries (NEFMC 2017).

**Larvae:** Larvae hatch at sizes between 3.3 and 5.7 mm and occur from near-surface to depths of 75 m, with movement to deeper waters with growth (Lough 2004). Yolk sac larvae are vulnerable to zooplankton predators and planktivorous fish species, such as Atlantic herring and Atlantic mackerel (Lough 2004). EFH for Atlantic cod larvae includes pelagic habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic region, as well as the high salinity zones of bays and estuaries (NEFMC 2017).
Juvenile: EFH for Atlantic cod includes intertidal and subtidal benthic habitats in the Gulf of Maine, southern New England, and on Georges Bank to a maximum depth of 120 m, as well as high salinity zones of bays and estuaries (NEFMC 2017). Structurally complex habitat that contain eelgrass, mixed sand and gravel, gravel pavements, cobbles, and boulders are essential habitats for juvenile cod (NEFMC 2017).

Adult: Adult Atlantic cod are found at depths of 40-150 m with water temperatures <10°C, and salinities between 29-34 ppt (Lough 2004). Atlantic cod spawn near the ocean floor from winter to early spring. Larger females can produce 3 to 9 million transparent, buoyant, pelagic eggs when they spawn (Lough 2004). Smaller Atlantic cod feed primarily on crustaceans, while larger cod feed primarily on fish, which include silver hake, shad (Alosa sp.), mackerel (Scombridae sp.), Atlantic silverside (Menidia menidia), and herring (Clupea sp.). Adult cod predators include large sharks and spiny dogfish (Lough 2004). Adult Atlantic cod essential habitat includes structurally complex hard bottom composed of gravel, cobbles, and boulders substrates with and without emergent epifauna and macroalgae (NEFMC 2017).

3.1.1.2 Atlantic Herring (Clupea harengus)

General: Atlantic herring is a schooling, pelagic, commercially important coastal species that ranges from northern Labrador to North Carolina in the western Atlantic and, depending on feeding, spawning, and wintering, migrates extensively north-south (Collette and Klein-MacPhee 2002). Atlantic herring have been documented in coastal water of New York. The Project area contains designated EFH for Atlantic herring larvae, juvenile and adult life-stages (Table 2).

Larvae: A very long larval stage (4-8 months) allows Atlantic herring to be transported long distances to inshore and estuarine waters where, in the spring, they become early stage juveniles through metamorphosis (NEFMC 2017). Atlantic herring larvae are observed between August and April, with peak abundances generally occurring from September through November (NEFMC 2017).

Juvenile: Atlantic herring juveniles are found in pelagic and bottom waters that range in depth from 15-135 m, at temperatures less than 10°C, and in salinities ranging from 26-32 ppt (Reid et al. 1999). At approximately 40-50 mm, Atlantic herring larvae metamorphose into juveniles and begin schooling. Juvenile Atlantic herring do not migrate seasonally, but instead move to overwintering habitats in southern New England and throughout the Middle Atlantic Bight during summer and fall where they stay in deep bays or near the bottom in offshore areas (Reid et al. 1999). The primary prey of juvenile Atlantic herring include zooplankton, consisting predominantly of copepods, decapod larvae, barnacle larvae, cladocerans, and pelecypod larvae, are the primary prey of juvenile Atlantic herring (Sherman and Perkins 1971). Atlantic herring reach maturity at approximately three years of age and approximately 23 cm (O’Brien et al. 1993).

Adult: Adult Atlantic herring can be found in pelagic and bottom waters ranging in depth from 20-130 m, with temperatures less than 10°C, and salinities that are greater than 28 ppt (Reid et al. 1999). Adult Atlantic herring feed on copepods, euphausiids, decapods, and bivalve larvae and are preyed on by short-finned squid, numerous piscivorous fish (cod [Gadus spp.], monkfish [Lophius spp.], bluefish, silver hake, striped bass [Morone saxatilis], mackerel, and tuna), elasmobranchs (sharks and rays), marine mammals, and seabirds (Sherman and Perkin 1971, Stevenson and Scott 2005, Bigelow and Schroeder 1953, Bowman et al. 2000).

3.1.1.3 Monkfish (Lophius americanus)

General: Monkfish can be found from Newfoundland to North Carolina, in the Gulf of Mexico, and along the coast of Brazil (Collette and Klein-MacPhee 2002). The Project area contains designated EFH for all life stages (Table 2).
Egg: The spawning season for monkfish begins in early spring in the Carolinas and continues through early fall, with peak spawning occurring May through June, including in the Gulf of Maine (Steimle et al. 1999a). Eggs (1.6-1.8 mm in diameter), which are buoyant and float close to the surface, occur in surface waters at depths ranging from 15 m to 1,000 m, in temperatures less than 18°C (Martin and Dewry 1978). Egg incubation time depends on the temperature and can range from 7 to 100 days at 15°C to 5°C, respectively (Steimle et al. 1999a). At approximately 2.5 to 4.5 mm total length (TL1), larvae hatch from eggs and spend 2-3 days in the egg veil (Steimle et al. 1999a).

Larvae: After release from the egg veil, larval monkfish are pelagic occurring at depths of 5 to 1,000 m, in water temperatures ranging from 6°C to 20°C (Steimle et al. 1999a). At approximately 5-10 cm TL, larval monkfish metamorphose into juveniles and bottom dwellers. However, the habitat(s) in which metamorphosis occurs is not well known (Bigelow and Schroeder 1953, Steimle et al. 1999a). Larval monkfish have been collected in NEFSC MARMAP ichthyoplankton surveys, and appear in the New York Bight area in April and June through September (Steimle et al. 1999a). Zooplankton (i.e. copepods, crustacean larvae, and chaetognaths) are the primary prey item for larval monkfish (Steimle et al. 1999a).

Juvenile: Juvenile monkfish can be found in sub-tidal benthic habitats with depths between 50-400 m in the Mid-Atlantic, 20-400 m in the Gulf of Maine, and a maximum depth of 1,000 m on the continental slope (NEFMC 2017). Diverse habitats, including hard sand, pebbles, gravel, broken shells, and soft mud, are critical for juvenile monkfish, as well as algae covered rocks that provide shelter (Steimle et al. 1999a). In the Mid-Atlantic, juvenile monkfish have been predominantly collected at the center of the continental shelf, but have also been collected in the shallow, nearshore waters east of Long Island, in the shelf valley of the Hudson Canyon, and the perimeter of Georges Bank (NEFMC 2017).

Adult: Adult monkfish can be found at depths of 1 to 800 m and are associated with varying bottom habitats (i.e. hard sand, sand and shell mix, pebbly gravel, and rocks covered in algae), in temperatures that range from 0°C to 24°C, with salinities between 29.9 and 36.7 ppt (Steimle et al. 1999a). Opportunistic ambush feeders, adult monkfish feed on a variety of benthic and pelagic fish, such as skates, eels, dogfish, sand lance, herring, mackerel, cod, flounders, and hake, as well as invertebrates, such as crabs and squid, and sometimes sea birds (Steimle et al. 1999a, Bigelow and Schroeder 1953). In response to seasonal changes in water temperature, adult monkfish exhibit onshore-offshore migration habitats and are found seasonally distributed in the southern Middle Atlantic Bight (Steimle et al. 1999a).

3.1.1.4 Ocean Pout (*Macrozoarces americanus*)

General: The ocean pout is a bottom-dwelling, cool-temperate species of fish that utilizes both open and rough habitats, feeding on benthic organisms (Steimle et al. 1999d). The distribution of ocean pout is from the Atlantic continental shelf of North America between Labrador and the southern Grand Banks and Virginia. Ocean pout also occur south of Cape Hatteras in deeper, cooler waters. The Project area is designated EFH for egg, juvenile, and adult life-stages (Table 2).

Egg: Ocean pout eggs are laid in gelatinous masses in sheltered nests, holes, or rocky crevices. Prior to spawning, ocean pout congregate in rocky areas and occupy nesting holds under rocks or in crevices in depths less than 100 m (NEFMC 2017). Ocean pout EFH for eggs includes hard bottom habitats on Georges Bank, in the Gulf of Maine, and in the Mid-Atlantic Bight, as well as high salinity zones of bays and estuaries. Eggs occur at depths less than 100 m on rocky bottom habitats (NEFMC 2017).

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1Total Length is defined as the measurement taken from the anterior-most part of the fish to the end of the caudal fin rays
**Juvenile:** Ocean pout juvenile EFH includes intertidal and subtidal benthic habitats in the Gulf of Maine and on the continental shelf north of Cape May, New Jersey, on the southern portion of Georges Bank, and in the high salinity zones of a number of bays and estuaries north of Cape Cod. EFH extends to a depth of 120 m and occurs on a variety of substrates. Including shells, rocks, algae, soft sediments, sand, and gravel (NEFMC 2017).

**Adult:** Ocean pout EFH includes subtidal benthic habitats between 20 and 140 m in the Gulf of Maine, on Georges Bank, in coastal and continental shelf waters north of Cape May, New Jersey, and in the high salinity zones of bays and estuaries north of Cape Cod. EFH for adult ocean pout includes mud and sand, as well as structure forming habitat such as shells, gravel, or boulders (NEFMC 2017).

### 3.1.1.5 Pollock (*Pollachius pollachius*)

**General:** Pollock is a bony fish found in the northwest Atlantic, being most common on the Scotian Shelf, Georges Bank, in the Great South Channel, and in the Gulf of Maine (Cargnelli et al. 1999c). The Project area is designated EFH for the larval, juvenile, and adult life-stages (Table 2).

**Larvae:** The larval pollock stage lasts approximately 3 to 4 months and are commonly found at temperatures of 3 to 9°C (Bigelow and Schroeder 1953). Pollock larvae normally occur from the shore out to the 200 m depth contour (Cargnelli et al. 1999c). Primary prey of small larvae (4 to 18 mm) are larval copepods (Cargnelli et al. 1999c). EFH for pollock larvae includes pelagic inshore and offshore habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic region, including Great South Bay (NEFMC 2017).

**Juvenile:** Inshore and offshore pelagic and benthic habitats from the intertidal zone to 180 m in the Gulf of Maine, in Long Island Sound, and Narragansett Bay, between 40 and 180 m on western Georges Bank and the Great South Channel, and in mixed and full salinity waters in a number of bays and estuaries north of Cape Cod. Essential fish habitat for juvenile pollock consists of rocky bottom habitats with attached macroalgae (rockweed and kelp) that provide refuge from predators. Shallow water eelgrass beds are also essential habitats for young-of-the-year pollock in the Gulf of Maine. Older juveniles move into deeper water into habitats also occupied by adults.

**Adult:** Offshore pelagic and benthic habitats in the Gulf of Maine and, to a lesser extent, on the southern portion of Georges Bank between 80 and 300 m, and in shallower sub-tidal habitats in Long Island Sound, Massachusetts Bay, and Cape Cod Bay. Essential habitats for adult pollock are the tops and edges of offshore banks and shoals with mixed rocky substrates (including artificial reefs), often with attached macro algae.

### 3.1.1.6 Red hake (*Urophycis chuss*)

**General:** Red hake can be found from southern Nova Scotia to North Carolina, and historically, the heaviest concentrations of red hake were documented from the southwestern area of Georges Bank to the shelf valley of the Hudson Canyon (Bigelow and Schroeder 1953, Grosslein and Azarovitz 1982). The Project area contains designated EFH for all life-stages (Table 2).

**Egg:** Red hake eggs (0.6-1.0 mm in diameter) can be found on the inner continental shelf near the surface due to buoyancy, in temperatures less than 10°C, with salinities less than 25 ppt (Steimle et al. 1999b). Red hake eggs and larvae EFH are pelagic habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic, and includes the Long Island Sound.

**Larvae:** Larval stages of red hake can be found in surface waters at depths of 200 m or less, in temperatures less than 19°C, with salinities 0.5 ppt or greater (Steimle et al. 1999b). At approximately 2 mm in length, red hake larvae hatch and spend the next two months free floating at the surface,
generally with debris, sargassum, and jellyfish (Steimle et al. 1999c). Red hake larvae distribution is not known to be associated with a substrate type (Stone et al. 1994).

**Juvenile:** Once red hake larvae reach 35 to 40 mm in length, they sink to the bottom on fine, silty sand at depths approximately 100 m or less, where they take shelter in depressions in the substrate (Bigelow and Schroeder 1953, Steimle et al. 1999b). In inshore areas, small red hake juveniles (5-15 cm) are highly correlated with eelgrass (Zostera marina) and in deep offshore areas, they can be found frequently hiding in sea scallops (Pecten magellanicus) (Steimle et al. 1999b). Structures, shell fragments, and sea scallops provide shelter for older juveniles (until red hake are approximately 14 cm in length) found in bottom habitats at less than 100 m depth, in water temperatures below 16°C, with salinities between 31-33 ppt (Steimle et al. 1999b). Juvenile red hake prey on euphausiids, amphipods, decapods, and mysids (Bowman et al. 2000).

**Adult:** Preferring bottom habitats of sand and mud with depressions, adult red hake can be found in depths that range from 30 to 130 m, in water temperatures 12°C or lower, with salinities between 33-34 ppt (Steimle et al. 1999b). At two years of age, red hake reach sexual maturity and peak spawning occurs during June and July off Long Island, Georges Bank, and the New York Bight (Grosslein and Azarovitz 1982). Red hake primarily feed on shrimp, small crustaceans, and small fish and red hake predators include striped bass, spiny dogfish, goosefish, white hake, silver hake, sea raven, and harbor porpoise (Phocoena phocoena) (Bowman et al. 2000, Steimle et al. 1999b, Bigelow and Schroeder 1953).

### 3.1.1.7 Silver Hake (Merluccius bilinearis)

**General:** Silver Hake (a.k.a. Whiting) are found from the Gulf of St. Lawrence to Cape Hatteras, North Carolina (Lock and Packer 2004). The areas of highest abundance in the U.S. are the Gulf Of Maine, Georges Bank, and the Middle Atlantic Bight off Long Island (Lock and Packer 2004). The Project area contains designated EFH for whiting egg and larval life-stages (Table 2).

**Egg and Larvae:** Whiting eggs and larvae are found in surface waters of the Gulf of Maine, Georges Bank, the continental shelf off southern New England, and the Mid-Atlantic south to Cape Hatteras (NEFMC 2017). EFH for whiting eggs includes sea surface temperatures that are below 20°C (NEFMC 2017). Eggs can be observed all year, but have peak counts from June through October and larvae are observed year round with peaks from July through September (NEFMC 2017).

**Juvenile:** Juvenile whiting EFH includes bottom habitats of all substrate types in the Mid-Atlantic south to Cape Hatteras. Whiting juveniles are found at depths between 20 and 270 m; salinities greater than 20%; and sea surface temperatures below 20°C (NEFMC 2017).

**Adult:** Adult whiting EFH includes bottom habitats of all substrate types in the Gulf of Maine, on Georges Bank, the continental shelf off southern New England, and the middle Atlantic south to Cape Hatteras (NEFMC 2017). Adult whiting are generally found at water temperatures below 22°C and at depths between 20 and 270 m (NEFMC 2017). Auster et al. (1997) found silver hake were more abundant on silt-sand bottoms containing amphipod tubes in the Middle Atlantic Bight. Silver hake were also found on flat sand, sand-wave crests, shell, and biogenic depressions within the Mid-Atlantic Bight (Auster et al. 1991).

### 3.1.1.8 Windowpane Flounder (Scophthalmus aquosus)

**General:** The range of windowpane flounder is from the Gulf of Saint Lawrence to Florida (Gutherz 1967). The Project area contains designated EFH for windowpane flounder for all life-stages (Table 2).
**Egg:** Windowpane flounder produce buoyant, pelagic eggs that are 1-1.4 mm in diameter (Colton and Marak 1969). Eggs are found on the continental shelf from Georges Bank to Cape Hatteras and in mixed and high salinity zones of coastal bays and estuaries throughout the region.

**Larvae:** Larvae are found on the continental shelf from Georges Bank, southern New England, and the middle Atlantic down to Cape Hatteras. They are found at depths less than 70 m (Stone et al. 1994).

**Juvenile:** Juvenile windowpane flounder are found in intertidal and sub-tidal benthic habitats in estuarine, coastal marine, and continental shelf waters from the Gulf of Maine to northern Florida (NEFMC 2017). EFH for juvenile windowpane flounder is identified as extending from the intertidal zone to a maximum depth of 60 m on muds and sandy substrates (NEFMC 2017).

**Adult:** Adult windowpane flounder are found in the same marine and coastal habitats as juveniles. EFH for adult windowpane flounder extends from the intertidal zone to a maximum depth of 60 m on mud and sand substrates (NEFMC 2017).

### 3.1.1.9 Witch Flounder (Glyptocephalus cynoglossus)

**General:** EFH for witch flounder larvae comprises the surface waters to 250 m depths along the continental shelf from the Gulf of Maine south to Cape Hatteras, North Carolina. The Project area contains designated EFH for windowpane flounder for all life-stages (Table 2).

**Egg:** Pelagic habitats on the continental shelf throughout the Northeast region. Witch flounder eggs are most often observed during the months from March through October.

**Larvae:** The larvae are most often observed between March and November, with peaks between May and July. NOAA Fisheries has designated waters within the New York Bight apex as EFH for this life stage (Cargnelli et al. 1999a, NOAA Fisheries 2013).

**Juvenile:** Bottom habitats with a fine-grained substrate in the Gulf of Maine and along the outer continental shelf from Georges Bank south to Cape Hatteras. Generally, the following conditions exist where witch flounder juveniles are found: water temperatures below 13° C, depths from 50 - 450 m, although they have been observed as deep as 1500 m, and a salinity range from 34 – 36%.

**Adult:** Adult windowpane flounder are found in the same marine and coastal habitats as juveniles. EFH for adult windowpane flounder extends from the intertidal zone to a maximum depth of 60 m on mud and sand substrates (NEFMC 2017).

### 3.1.1.10 Winter Flounder (Pseudopleuronectes americanus)

**General:** The range for winter flounder is from the coastal waters in the Strait of Belle Isle, Newfoundland, south to Georgia (Collette and Klein-MacPhee 2002). These economically important flatfish are also found in inshore areas from Massachusetts and occur regularly in New York waters (Stone et al. 1994). The Project area contains designated EFH for winter flounder egg, larval, juvenile, and adult life-stages (Table 2).

**Egg:** Winter flounder eggs are approximately 0.7 to 0.9 mm in diameter and deposited in adhesive clusters on sand, muddy sand, mud, macroalgae, and gravel bottom substrates (Pereira et al. 1999). Bottom habitats are unsuitable if exposed to excessive sedimentation which can reduce hatching success. The preferred designation for winter flounder eggs defines EFH as sub-tidal coastal waters from the shoreline to a maximum depth of 5 m from Cape Cod to Absecon Inlet, New Jersey.

**Larvae:** Winter flounder larvae are found within estuarine, coastal, and continental shelf benthic habitats from the Gulf of Maine to Absecon Inlet, as well as in the mixed and high salinity zones of
bays and estuaries (NEFMC 2017). Larvae hatch in nearshore waters and estuaries or are transported shoreward from offshore spawning sites, where they later settle to the bottom as juveniles (NEFMC 2017). As larvae age, they become increasingly less buoyant and occupy the lower water column.

**Juvenile:** Juvenile winter flounder are found within estuarine, coastal, and continental shelf water column habitats, as well as the mixed and high salinity zones in bays and estuaries (NEFMC 2017). EFH for juvenile winter flounder extends from the intertidal zone to a maximum depth of 60 m, and includes a variety of bottom types, including mud, sand, rocky substrates with attached macroalgae, tidal wetlands, and eelgrass (NEFMC 2017). Young-of-the-year (YOY\(^2\)) juveniles are found inshore on muddy and sandy sediments within eelgrass and macroalgae, in bottom debris, and marsh creek habitat (NEFMC 2017). Juvenile winter flounder generally settle to the bottom in soft-sediments and disperse to coarser-grained substrates as they age.

**Adult:** Adult winter flounder are found in estuarine, coastal, and continental shelf benthic habitats from the intertidal zone to a maximum depth of 70 m, as well as the mixed and high salinity zones in bays and estuaries (NEFMC 2017). EFH for adult winter flounder occurs on muddy and sandy substrates and hard bottom.

### 3.1.1.11 Yellowtail Flounder (*Limanda ferruginea*)

**General:** Yellowtail flounder have a range along the Atlantic coast of North America from Newfoundland to the Chesapeake Bay, with the majority located on the western half of Georges Bank, the western Gulf of Maine, east of Cape Cod, and southern New England (Collette and Klein-MacPhee 2002). The Project area contains designated EFH for yellowtail flounder for all life-stages (Table 2).

**Egg:** In the northwest Atlantic, spawning occurs from March through August at temperatures of 5-12°C (Fahay 1983). Yellowtail spawn buoyant, round, pelagic eggs with an average diameter of 0.88 mm and ranges in size from 0.79 to 1.01 mm (Johnson et al. 1999). Eggs hatch approximately 5 days after fertilization at temperatures of 10-11°C (Bigelow and Schroeder 1953; Hildebrand and Schroeder 1928). The Northeast Fisheries Science Center (NEFSC) Marine Monitoring Assessment and Prediction (MARMAP) ichthyoplankton surveys occurred within the Project area. The survey collected yellowtail flounder eggs from 1977-1987 and found that most eggs were collected in water from 10 to 170 m deep and most frequently caught between 30 and 90 m. Densities near the Project area in March and April were 1 to < 10 eggs per 10 m\(^2\). EFH for yellowtail flounder includes coastal and continental shelf habitats in the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic region.

**Larvae:** Hatching times for yellowtail flounder larvae range from 14.5 days at 4°C to 4.5 days at 14°C (Yevseyenko and Nevinsky 1981). Larvae hatch at lengths of 2.0-3.5 TL and do not become benthic until reaching approximately 14 mm standard length (Johnson et al. 1999). NEFSC MARMAP ichthyoplankton surveys from 1978-1987 collected in April to June near the Project area identified densities from 1 to < 10 to 10 to < 100 larvae per 10 m\(^2\). EFH for yellowtail flounder includes coastal marine and continental shelf habitats in the Gulf of Maine, and from Georges Bank to Cape Hatteras.

**Juvenile:** Juveniles are found in waters 5 to 75 m at temperatures ranging from 9°C to 13°C (Johnson et al. 1999). Yellowtail flounder larvae occur in the water column briefly before entering the juvenile stage at approximately 11.6-16 mm SL\(^3\) (Johnson et al. 1999). EFH for juveniles includes sub-littoral benthic habitats in coastal waters in the Gulf of Maine and on the continental shelf on Georges Bank and in the Mid-Atlantic. In the Mid-Atlantic, juveniles settle to the bottom of the continental shelf consisting of sandy substrates at depths of 40-70 m.

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2Young-of-the-year are fish produced in one reproductive year. Small fish, hatched from eggs spawning in the current year, are considered young-of-year or age 0.

3 Standard length is defined as the measurement take from the tip of the lower jaw to the posterior end of the hypural bone
**Adult:** Yellowtail flounder adults reach a maximum size of 50 cm and are generally found at depths between 37 and 73 m (Johnson et al. 1999). The EFH for adult yellowtail flounder has been identified as sub-tidal benthic habitats in coastal waters in the Gulf of Maine and on the continental shelf on Georges Bank and in the Mid-Atlantic, including high salinity zones of bays and estuaries. EFH consists of substrate made of sand and sand with mud, shell hash, gravel, and rocks at depths between 25 and 90 m.

3.1.2 Mid-Atlantic Finfish Species

3.1.2.1 Atlantic Butterfish (*Peprilus triacanthus*)

**General:** Atlantic butterfish is a demersal/pelagic species ranging from the Gulf of St. Lawrence south to Florida, but is most abundant from the Gulf of Maine to Cape Hatteras (Bigelow and Schroeder 1953, Overholtz 2006). Butterfish are found in the Mid-Atlantic shelf in the summer and autumn, but migrate to the edge of the continental shelf where they aggregate in response to seasonal cooling of water temperatures (Grosslein and Azarovitz 1982). The Project area contains designated EFH for all life-stages (Table 2).

**Eggs:** Atlantic butterfish are broadcast spawners that spawn primarily in the evening or at night (Cross et al. 1999). Butterfish eggs are buoyant, transparent and have a diameter of 0.68-0.82 mm, with an incubation period of about 48 hours at 18°C (Cross et al. 1999). Spawning may occur in the upper part of the water column and eggs were found between 0 to 4 m at night in the Mid-Atlantic Bight than during the day (Kendall and Naplin (1981). EFH for butterfish eggs is pelagic habitats in inshore estuaries and embayments from Massachusetts Bay to the south shore of Long Island, New York, in Chesapeake Bay, and on the continental shelf and slope, primarily from Georges Bank to Cape Hatteras, North Carolina. EFH for Atlantic butterfish eggs is generally over bottom depths of 1,500 m or less (MAFMC 2011).

**Larvae:** Atlantic butterfish larvae is generally found over bottom depths between 41 and 350 m where average temperatures are 8.5°C to 21.5°C in the upper water column (<200 m) (Cross et al. 1999). The size of Atlantic butterfish larvae ranges from 2.6 to 16 mm standard length (SL) with metamorphosis occurring gradually (Able and Fahay 1998). Butterfish larvae begin taking on the characteristics of adults (i.e. thin, deep body) at approximately 6 mm SL and at 15-16 mm SL they have a forked tail (Martin and Drewry 1978, Horn 1970, Ditty and Truesdale 1983). Between 10-15 mm, Atlantic butterfish are free swimming and generally move independent of currents (Martin and Drewry 1978). Larval Atlantic butterfish are believed to participate in diurnal vertical migrations; however more larvae have been collected in the water column between 0-4 m at night than during the day (Kendall and Naplin 1981).

**Juvenile:** Small juvenile butterfish (less than 30 mm) are surface-dwelling, forming loose schools in association with flotsam and large jellyfish to avoid predation from larger fish (Cross et al. 1999, Mansueti 1963, Bigelow and Schroeder 1953). Larger juvenile butterfish (>30 mm) are found over sand and muddy substrate at depths between 10-365 m in water temperatures that range between 3-28°C (Stone at el. 1994, Cross et al. 1999).

**Adult:** Adult Atlantic butterfish are primarily found at bottom depths between 10 m and 250 m where water temperatures are between 4.5°C and 27.5 °C and salinities are above 5 parts per thousand (ppt) (Cross et al. 1999). Spawning generally occurs at water temperatures over 15°C (Cross et al. 1999).

3.1.2.2 Atlantic mackerel (*Scomber scombrus*)

**General:** Atlantic mackerel is a pelagic, schooling species that can be found from the Gulf of St. Lawrence to Cape Lookout, North Carolina (MAFMC 2011, Studholme et al. 1999). The Project area contains designated EFH for Atlantic mackerel for all life-stages (Table 2).
Egg: Atlantic mackerel eggs are pelagic and spherical and can generally be found over bottom depths of less than 100 m when temperatures in the upper 15 m of the water column average 6.5 to 12.5°C (Berrien 1975, Studholme et al. 1999). Atlantic mackerel eggs have one oil globule and range in size from 1.01-1.28 mm, with an average size of 1.3 mm, in diameter. However, sampling in the Gulf of St. Lawrence indicates that egg size has decreased in response to ambient temperatures over time (Berrien 1975, Ware 1977).

Larvae: Atlantic mackerel larvae can generally be found over bottom depths ranging between 10-130 m, in temperatures ranging from 6°C to 22°C, with the largest portion observed in temperatures between 8-13°C (Studholme et al. 1999). Mackerel larvae measure approximately 3.1-3.3 mm SL at hatching, which occurs between 90 and 120 hours post-fertilization in average water temperature of 13.8°C (Sette 1943, Bigelow and Schroeder 1953, Colton and Marak 1969, Berrien 1975, Ware and Lambert 1985, Scott and Scott 1988). Metamorphosis occurs rapidly for Atlantic mackerel larvae, likely increasing successful capture of prey and avoidance of predation (Sette 1943, Ware and Lambert 1985). Mackerel larvae (<13 mm) were collected in NEFSC MARMAP ichthyoplankton surveys from waters off Chesapeake Bay to the Gulf of Maine, with peak abundances offshore of Delaware Bay to Massachusetts Bay in inshore waters to the seaward limits (Studholme et al. 1999).

Juveniles and Adults: Atlantic mackerel juveniles can generally be found over bottom depths that range from the surface to 340 m, in temperatures between 4°C and 22°C (Studholme et al. 1999). Juveniles collected in Hudson-Raritan estuary of New York and New Jersey were found at depths between 4.9-9.8 m, in temperatures that ranged from 17.6 to 21.7, with salinities of 26.1-28.9 ppt (Studholme et al. 1999). At approximately, 30-50 mm, post-larvae begin to exhibit swimming and schooling behavior, and within approximately two months juveniles reach a length of 50 mm at which time they resemble adults (Sette 1943, Bigelow and Schroeder 1953, Anderson and Paciorkowski 1980, Berrien 1982). Juvenile Atlantic mackerel tend to have similar distribution patterns as adult Atlantic mackerel. However, juveniles have been collected in near coastal waters in the Mid-Atlantic Bight and southern New England, particularly in the fall (Studholme et al. 1999).

3.1.2.3 Black Sea Bass (Centropristis striata)

General: Black sea bass is a pelagic, warm temperate species that can be found in the western Atlantic, ranging from southern Nova Scotia and the Bay of Fundy to southern Florida (Drohan et al. 2007). Black sea bass are found in an array of complex, structured habitats, including reefs, shipwrecks, and lobster pots along the continental shelf (Steimle et al. 1999c). Young-of-year are generally found in estuarine habitats with structural complexity (Drohan et al. 2007). The Project area contains designated EFH for the larval, juvenile, and adult life-stages (Table 2).

Larvae: North of Cape Hatteras, EFH is the pelagic waters found over the continental shelf (from the coast out to the limits of the EEZ), from the Gulf of Maine to Cape Hatteras, North Carolina, in the highest 90% of all ranked ten-minute squares of the area where black sea bass larvae are collected in the MARMAP survey. EFH also includes estuaries where black sea bass were identified as common, abundant, or highly abundant in the ELMR database for the "mixing" and "seawater salinity zones. Generally, the habitats for the transforming (to juveniles) larvae are near the coastal areas and into marine parts of estuaries between Virginia and New York. When larvae become demersal, they are generally found on structured inshore habitat such as sponge beds.

Juvenile: Black sea bass juveniles can be found in demersal waters over the continental shelf and in estuaries, in temperatures greater than 6°C with salinities greater than 18 ppt (Steimle et al. 1999c). Juvenile black sea bass are associated with structured habitats. In the summer, juvenile sea bass are found in estuarine nursery areas following settlement in coastal areas. However, due to declining water temperature, older juveniles will migrate seasonally to nearshore habitats in the spring through fall,
and outer coastal areas at depths of 30 to 128 m in winter (Nichols and Breder 1927, Hales and Abe 2001). Benthic and epibenthic invertebrates (i.e. amphipods, isopods, and small crabs) and small fish dominate the diets for juvenile black sea bass (Drohan et al. 2007, Bowman et al. 2000).

**Adult:** Black sea bass adults can be found in demersal waters over the continental shelf and in estuaries, in temperatures greater than 6°C and salinities greater than 18 ppt (Steimle et al. 1999c). Black sea bass become more piscivorous as they mature (between one and four years of age) and in the Mid-Atlantic, feed primarily on crustaceans (*Cancer irroratus* and *Meganyctiphanes norvegica*) and small fish (Grosslein and Azarovitch 1982, Steimle et al. 1999c, Bowman et al. 2000). Northern populations of adult sea bass, located primarily between Chesapeake Bay and Montauk, New York, spawn during summer months in water 18 to 44 m (Musick and Mercer 1977).

### 3.1.2.4 Bluefish (*Pomatomus saltatrix*)

**General:** Bluefish are a coastal migratory pelagic species that can be found in inshore and offshore temperate and warm temperate waters of the continental shelf, ranging from Nova Scotia to Florida, as well as the Gulf of Mexico from Florida to Texas (Bigelow and Schroeder 1953, Briggs 1960). In mid-to-late May, bluefish, traveling in large schools of like-size fish, migrate into Mid-Atlantic waters, returning to deeper offshore waters of southeastern Florida in November (Grosslein and Azarovitch 1982, Stone et al. 1994). The Project area contains designated EFH for all life-stages (Table 2).

**Egg:** Bluefish eggs (0.8-1.2 mm) are found in mid-shelf waters ranging from 30 to 70 m in southern New England to Cape Hatteras, in temperatures ranging from 18°C to 22°C, with salinities greater than 31 ppt (Hardy 1978, Fahay et al. 1999). The incubation times for bluefish eggs varies with temperature with egg hatching generally occurring within 46 to 48 hours at temperatures ranging between 18°C to 22.2°C (Deuel et al. 1966, Hardy 1978). EFH for bluefish eggs include pelagic waters found over the continental shelf at mid-shelf depths, from Montauk Point, New York, to Cape Hatteras (MAFMC 1998). Bluefish eggs are generally not collected in estuarine waters and there are no EFH designations for inshore waters. Bluefish eggs have been found from April through August in temperatures greater than 18°C, and shelf salinities greater than 31 ppt (MAFMC 1998).

**Larvae:** Bluefish larvae are found in oceanic waters in temperatures of 18°C, with salinities of greater than 30 ppt (Able and Fahay 1998, Shepherd and Packer 2006). Larval bluefish are 2-2.4 mm when they hatch (Shepherd and Packer 2006). Bluefish spend their larval stage at no deeper than 15 m in the water column, are most concentrated at 4 m during the day, and are equally distributed between 4 m and the surface at night (Kendall and Naplin 1981).

**Juvenile:** Juvenile bluefish are found in pelagic, nearshore areas and estuaries in temperatures between 19°C and 24°C, with salinities that range from 23 to 36 ppt (Shepherd and Packer 2006). In North Atlantic estuaries, bluefish juveniles are typically found March through December and associated with sand, mud, clay, submerged aquatic vegetation (*Ulva* and *Zostera*) beds and bottom habitats (*Fucus* spp; Nelson et al. 1991, Jury et al. 1994, Stone et al. 1994, Fahay et al. 1999).

**Adult:** Bluefish adults can be found in oceanic, nearshore, and continental shelf waters and prefer temperatures above 14-16°C and salinities above 25 ppt (Fahay et al. 1999). The species migrate extensively and are distributed based on season and size of the individuals within the schools (Shepherd and Packer 2006). There are two predominate spawning areas on the east coast for bluefish adults: one during the spring that is located offshore from southern Florida to North Carolina and the other during summer in the Middle Atlantic Bight (Wilk 1982).

### 3.1.2.5 Scup (*Stenotomus chrysops*)

**General:** Scup is a demersal species that can be found from the Gulf of Maine to North Carolina, with a winter distribution that ranges from approximately New Jersey to Cape Hatteras in waters 36-146 m
deep and a summer distribution that ranges from southern New England to Mid-Atlantic coasts (Bigelow and Schroeder 1953, Collette and Klein-MacPhee 2002, Grosslein and Azarovitz 1982). The Project area contains designated EFH for all life-stages (Table 2).

**Eggs:** EFH is estuaries where scup eggs were identified as common, abundant, or highly abundant in the ELMR database for the "mixing" and "seawater" salinity zones. In general, scup eggs are found from May through August in southern New England to coastal Virginia, in waters between 55 and 73 °F and in salinities greater than 15 ppt.

**Larvae:** EFH is estuaries where scup were identified as common, abundant, or highly abundant in the ELMR database for the "mixing" and "seawater" salinity zones. In general, scup larvae are most abundant nearshore from May through September, in waters between 55 and 73 °F and in salinities greater than 15 ppt.

**Juvenile:** Scup juveniles (18-19 mm TL or greater) school in demersal waters over the continental shelf and inshore estuaries with salinities of 15 ppt or greater and prefer diverse habitats, including mud, sand, mussel beds, and eelgrass (Steimle et al. 1999d).

**Adult:** Adult scup prefer nearshore habitats within close proximity to large bays during the summer that are deeper than 1.8 to 3.7 m, with salinities greater than 15 ppt (Bigelow and Schroeder 1953, Steimle et al. 1999d). Scup are bottom feeders, preying on crustaceans, polychaetes, hydroids, sand dollars, squid and small fish, and can be found in a variety of habitats, including smooth to rocky bottoms and mixed sand and mud sediments that allow scup to forage on small benthic invertebrates (Bigelow and Schroeder 1953, Bowman et al. 2000). Spawning takes place for Mid-Bight scup from May to August along the inner continental shelf of southern New England, with peak spawning occurring from June through July.

### 3.1.2.6 Summer Flounder (Paralichthys dentatus)

**General:** Summer flounder is a demersal, left-sided flatfish that is distributed from Georges Bank to South Carolina and Florida, and is concentrated in the Middle Atlantic Bight from Cape Cod to Cape Hatteras (Bigelow and Schroeder 1953, Collette and Klein-MacPhee 2002). The Project area contains designated EFH for larval, juvenile, and adult life-stages (Table 2).

**Larvae:** After hatching, at approximately 3 mm in length, summer flounder larvae remain in the water column at depths of 10-70 m, in temperatures ranging between 0°C and 23°C, with salinities 35 ppt or less before settling to the bottom (Martin and Drewry 1978, Colton and Marak 1969). Larval and post-larval summer flounder migrate to shallower areas in inshore coastal and estuarine habitats where they metamorphose (at approximately 8-18 mm SL) into juveniles that will bury into sandy bottom substrate (Packer al. 1999, Keefe and Able 1994).

**Juvenile:** Summer flounder juveniles can be found in a variety of estuarine, soft-bottom habitats (i.e. mud flats, seagrass beds, marsh creeks, and open bays) with water temperatures 11°C or greater and salinities ranging from 10 to 30 ppt (Packer et al. 1999, Deubler and White 1962). Juvenile summer flounder are generalist when it comes to diet, feeding primarily on benthic invertebrates and then, fish, as individuals grow in size (Bowman et al. 2000).

**Adult:** In the summer, adult summer flounder can be found in demersal waters over the continental shelf and on sandy or muddy bottoms of inshore estuaries at depths of 0 to 25 m in an extensive range of salinities, whereas, in winter, adult summer flounder are found offshore at depths between 75-150 m (Grosslein and Azarovitz 1982). NMFS has designated habitat area of particular concern (HAPC) for juvenile and adult summer flounder, which includes all native species of maroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed within EFH. The diet of adult summer flounder...
includes a variety of smaller fish (i.e. windowpane [Scophthalmus aquosus], winter flounder [Pseudopleuronectes americanus], northern pipefish [Syngnathus fuscus], Atlantic menhaden [Brevoortia tyrannus], bay anchovy, red hake, silver hake, scup, Atlantic silverside, American sand lance [Ammodytes americanus], bluefish, weakfish, and mummichog [Fundulus heteroclitus]), squids, crabs, shrimp, small mollusks, worms, and sand dollars (Bowman et al. 2000). Adult summer flounder predators include large sharks, rays, and goosefish (Bigelow and Schroeder 1953).

3.1.3 Invertebrate Species

3.1.3.1 Longfin Inshore Squid (Loligo pealeii)

General: The longfin inshore squid is a pelagic, schooling species that can be found from Newfoundland to the Gulf of Venezuela and is considered a commercially important species from Georges Bank to Cape Hatteras (Cargnelli et al. 1999b). Longfin inshore squid are known to migrate seasonally, moving south and offshore in the late fall and wintering on the continental shelf edge; as temperatures increase seasonally, this species moves inshore and north (Cargnelli et al. 1999b). The Project area contains designated EFH for all life-stages (Table 2).

Egg: Like most squids, longfin inshore squid produce egg masses that are demersal and anchored to the substrates they are laid on. Females deposit the gelatinous capsules of eggs typically in depths less than 50 m to different substrate types, including shells, fish traps, boulders, submerged aquatic vegetation (e.g. Fucus sp.), sand, and mud (MAFMC 2011). EFH for longfin inshore squid eggs occurs in inshore and offshore bottom habitats from Georges Bank southward to Cape Hatteras, where bottom temperatures are between 10ºC to 23ºC, salinities between 30 and 32 ppt, and depths less than 50 m (MAFMC 2011).

Juvenile: Juvenile longfin inshore squid are found at bottom depths that range between 6 and 160 m, in temperatures of 8.5°C to 24.5°C, with salinities of 28.5 to 36.5 ppt (Cargnelli et al. 1999b, MAFMC 2011). In the fall, juveniles in the pre-recruitment stage migrate offshore to winter in deeper waters along the continental shelf edge (Cargnelli et al. 1999b). Longfin inshore squid juveniles participate in diurnal vertical migration. EFH is considered pelagic habitats in inshore and offshore continental shelf waters from Georges Bank to South Carolina, in the southwestern Gulf of Maine, and in embayments such as Narragansett Bay, Long Island Sound, and Raritan Bay (MAFMC 2011).

Adult: In open waters, longfin inshore squid utilize varying depths of the water column. However, in inshore habitats, longfin inshore squid adults are typically found at bottom depths ranging from 6 to 200 m, in bottom water temperatures of 8.5°C to 14°C, with salinities of 24 to 36.5 ppt (Cargnelli et al. 1999b). EFH is pelagic habitats in inshore and offshore continental shelf waters and within the same embayments as juvenile longfin inshore squid.

3.1.3.2 Ocean Quahog (Arctica islandica)

General: The ocean quahog is a commercially important bivalve mollusk distributed along the continental shelf that can be found from Newfoundland to Cape Hatteras, with peak offshore densities occurring south of Nantucket to the Delmarva Peninsula (Cargnelli et al. 1999e). The ocean quahog is managed by the Mid-Atlantic Fishery Management Council under the Atlantic surfclam and ocean quahog fishery management plan. The Project area contains designated EFH for juvenile and adult life-stages (Table 2).

Juvenile: Ocean quahog juveniles are typically found offshore in sandy substrates, although they are known to survive in muddy intertidal habitats when protected from predators, and in the Middle Atlantic Bight exist at depths of 45-75 m with salinities ranging between 32-34 ppt (Kraus et al. 1991).

Adult: Adult ocean quahogs generally exist in dense beds on level bottoms, just below the surface of medium to fine grain sediments, at depths of 14-82 m, with most being found at 25 to 61 m and some

3.1.3.3 Surf Clam (Spisula solidissima)

General: The surf clam is a commercially important bivalve that can be found in sandy habitats along the continental shelf and ranges from the southern Gulf of St. Lawrence to Cape Hatteras, North Carolina, with concentrations located on Georges Bank, south of Cape Cod, off Long Island, southern New Jersey and the Delmarva Peninsula (Merrill and Ropes 1969, Ropes 1980). The surf clam is managed by the Mid-Atlantic Fisheries Management Council under the Atlantic surf clam and ocean quahog fishery management plan. The Project area contains designated EFH for juvenile and adult life-stages (Table 2).

Juvenile: High concentrations of surf clams are found at depths ranging from 8 to 66 m in areas of turbidity deeper than the break zone, and can tolerate salinities ranging from 14-52 ppt (Fahay et al. 1983, Ropes 1980). Surf clam juveniles are distributed in well-sorted, medium sand and may also be found in fine and silty-fine sand (Cargnelli et al. 1999b).

Adult: Adult surf clams are distributed similar to juveniles, with high concentrations found in well-sorted, medium sand or fine and silty-fine sand (Cargnelli et al. 1999b). Surf clams reach sexual maturity at varying sizes and ages, including as early as 3 months and 5 mm length after settlement off the coast of New Jersey to as long as 4 years and 80-95 mm length off Prince Edward Island, Canada (Chintala and Grassle 1995, Sephton and Bryan 1990).

3.1.4 Skate Species

3.1.4.1 Little Skate (Leucoraja erinacea)

General: The little skate is a demersal fish species that occurs from Nova Scotia to Cape Hatteras (Packer et al. 2003a). Little skate are most abundant and found year-round in the northern section of the Mid-Atlantic Bight and Georges Bank (Packer et al. 2003a). The little skate prefers sandy or pebbly bottom, but can also be found on mud and ledges (Collette and Klein-MacPhee 2002) where temperature ranges from 1 to 21ºC. The Project area contains EFH for little skate juvenile and adult life-stages (Table 2).

Juvenile: Little skate are able to mate any time throughout the year, and mating occurs frequently (Packer et al. 2003a). A single fertilized egg is encapsulated and deposited on the seafloor bottom until hatching. Juvenile little skate are fully developed at hatching, with an approximate size of 93-102 mm TL (Packer et al. 2003a). EFH for juvenile little skate includes intertidal and subtidal benthic habitats in coastal waters extending from the Gulf of Maine to Delaware Bay, and on Georges Bank. EFH consist of sand and gravel substrates, but juvenile little skate are also found on mud to a maximum depth of 80 m (NEFMC 2017).

Adult: Adult little skate have an average size of 41-51 cm TL and a maximum of 53 cm TL (Bigelow and Schroeder 1953). EFH for adult little skate includes intertidal and subtidal benthic habitats in coastal waters extending from the Gulf of Maine to Delaware Bay, and on Georges Bank. EFH consist of sand and gravel substrates, but juvenile little skate are also found on mud to a maximum depth of 100 m (NEFMC 2017).

3.1.4.2 Winter Skate (Leucoraja ocellata)

General: Winter skate occurs from the south coast of Newfoundland and the southern Gulf of St. Lawrence to Cape Hatteras (Packer et al. 2003b). Like the little skate, winter skate are highly abundant
on Georges Bank and in the northern section of the Mid-Atlantic Bight. The Project area contains EFH for the winter skate juvenile and adult life-stages (Table 2).

**Juvenile:** Like the little skate, winter skate is fully developed at hatching, with a TL between 11.2 cm to 12.7 cm. Winter skate predominately feeds on infaunal organisms, such as burrowing polychaetes, amphipods, and bivalves (Packer et al. 2003b). Winter skate is preyed upon by sharks, other skates, gray seals, and gulls (Packer et al. 2003b). EFH for juvenile winter skate includes subtidal benthic habitats in coastal waters extending from eastern Maine to Delaware Bay, as well as on the continental shelf in southern New England and the Mid-Atlantic region. EFH for juvenile winter skate occurs on sand and gravel substrates, but are also found on mud from the shoreline to a maximum depth of 90 m (NEFMC 2017).

**Adult:** The average size of adult winter skate is 76.2 to 86.4 cm TL (Bigelow and Schroeder 1953). EFH for adult winter skate includes subtidal habitats in coastal waters in the southwestern Gulf of Maine, in coastal and continental shelf waters in southern New England and the Mid-Atlantic region, and on Georges Banks. EFH includes depths of 80 m, including the high salinity zones of bays and estuaries, which includes Great South Bay and Barnegat Bay, and occurs on sand and gravel substrates, as well as mud substrates (NEFMC 2017).

### 3.1.5 Shark Species

#### 3.1.5.1 Blue Shark (*Carcharhinus plumbeus*)

**General:** Blue shark have a wide range of occurrence and may be found in oceanic or nearshore Atlantic waters from Newfoundland to the Falkland Islands. They often occur in aggregations typically offshore, though they may move inshore at night. Blue sharks often remain near the surface they may occur to depths of 152 m (Compagno 1984). They prefer cool water between 7°C and 16°C, but can tolerate temperatures above 21°C. The Project area contains designated EFH for neonate/YOY, juvenile, and adult life-stages (Table 2).

**Neonate/YOY:** Blue sharks become reproductively mature at 6 or 7 years of age (Cailliet et al. 1983). In the Atlantic, gestation lasts for approximately 12 months and blue shark produce litters of 28 to 54 pups (Bigelow and Schroeder 1948). The length of the reproductive cycle is believed to be annual and nursery areas appear to be in open oceanic waters of higher latitudes. Neonate/YOY sizes for blue shark are less than or equal to 76 cm FL (NMFS 2017). EFH for blue shark neonate/YOY life stages in the Atlantic include areas offshore of Cape Cod through New Jersey, seaward of the 30 m bathymetric line, excluding inshore waters such as Long Island Sound (NMFS 2017). EFH follows the continental shelf south of Georges Bank to the outer extent of the U.S. EEZ in the Gulf of Maine.

**Juveniles/Adults:** Male blue shark become mature once they reach 183 cm FL and females mature at 213 to 243 cm TL (Bigelow and Schroeder 1948). Nursery areas are typically closed bays or sheltered coastal areas that provide protection from predators. Blue sharks are opportunistic predators that feed on squids, octopi, lobsters, crabs, small sharks, and various fishes such as haddock (*Melanogrammus aeglefinus*), pollock (*Pollachius sp.*), flounder (*Pleuronectoidei sp.*), mackerel, herring, sea raven (*Hemitripteridae sp.*), silver hake, white hake (*Urophycis tenuis*), red hake (*Urophycis chuss*), butterfish (*Stromateidae sp.*), and cod. The younger sharks are frequently eaten by larger shark species, such as great white (*Carcharodon carcharias*) and tiger sharks (*Galeocerdo cuvier*) (Vandeperre et al. 2014). The EFH designations are the same for juvenile and adult blue shark life-stages. EFH for blue shark juvenile/adult life stages includes localized areas in the Atlantic Ocean in the Gulf of Maine, from Georges Bank to North and South Carolina, Georgia, and Florida (NMFS 2017).
3.1.5.2  Sandbar Shark (*Carcharhinus plumbeus*)

**General:** The sandbar shark is a common species found in coastal habitats and subtropical and warm temperature waters (NMFS 2009). The North Atlantic population ranges from Cape Cod to the western Gulf of Mexico (NMFS 2009). This bottom-dwelling species is common in 20 to 55 m of water and only found occasionally at depths of approximately 200 m (NMFS 2009). The Project area contains designated EFH for all life-stages (Table 2).

**Neonate:** The neonate and YOY for sandbar shark are less than 78 cm in TL (NMFS 2009). Designated EFH is identified in localized coastal areas on the Florida panhandle, as well as localized areas along the Georgia and South Carolina coastlines and from Cape Lookout to Long Island, New York (NMFS 2009). Sandbar shark nursery areas are typically in shallow coastal waters for neonates and young-of-the-year life-stages. (Merson and Pratt, 2001, 2007). The juvenile diet consists of blue crabs, mantis shrimp and other crustaceans, and a variety of fish, such as menhaden, black sea bass, and flatfish (Medved and Marshal 1981).

**Juvenile:** Juvenile sandbar shark sizes are 79 to 190 cm TL and have designated EFH along localized areas of the Atlantic coast of Florida, South Carolina, and southern North Carolina, and from Cape Lookout to southern New England (NMFS 2009). Juveniles will remain in or near the nursery grounds until late fall, later forming schools and migrating to deeper waters (NMFS 2009). Juvenile sandbar sharks return to nursery grounds during warmer months and repeat this migratory pattern until they are approximately 7 to 10 years of age and begin a wider migration into the adult life-stage (HMSMD 2006). The diet of juvenile sandbar sharks consists of hakes, mackerels, monkfish, flatfish, squids, and crabs (Stillwell and Kohler 1993).

**Adult:** Adult sandbar shark sizes are greater than or equal to 191 cm TL (NFMS 2009 Adult sandbar sharks are found along the Atlantic coast from the shore to a depth of 280 m in southern Nantucket, Massachusetts, to the Florida Keys (NMFS 2009). EFH in the Atlantic Ocean includes coastal areas from southern New England to the Florida Keys, ranging from inland waters of Delaware Bay and the mouth of Chesapeake Bay to the continental shelf break. Sandbar sharks migrate seasonally along the western Atlantic coast, moving north with warming water temperatures during the summer and south as temperatures begin to decrease during the fall (Collette and Klein-MacPhee 2002). Sandbar sharks are opportunistic bottom feeders that prey on bony fishes, smaller sharks, rays, cephalopods, gastropods, crabs and shrimps (Collette and Klein-MacPhee 2002, Bowman et al. 2000, Stillwell and Kohler 1993).

3.1.5.3  Shortfin mako (*Isurus oxyrinchus*)

**General:** Shortfin mako is a coastal and oceanic species with circumglobal distribution throughout all temperate and tropical seas. They occur along the North American coast from the Gulf of Maine south past Florida. The Project area contains designated EFH for all life-stages (Table 2).

**Neonate:** Cailliet and Mollet (1997) estimated that female mako sharks mature at 4 to 6 years, have a two-year reproductive cycle, and a gestation period lasting 12 months. Litter sizes range from 4 to 25 pups, with a size at birth of approximately 70 cm TL (Cailliet and Mollet 1997). There is no information about where shortfin mako mating occurs.

**Juvenile:** Early juveniles are most likely to occur in the New York Bight during the spring, while later juveniles may be present year-round (Compagno 2002). NOAA Fisheries has designated EFH for early juvenile shortfin makos between the 25 m and 50 m isobaths between the Chesapeake Bay and Georges Bank, and between the 50 m and 2,000 m isobaths between Cape Lookout, North Carolina, and Georges Bank. EFH for late juveniles/subadults has been designated between the 25 m and 2,000 m isobaths between Onslow Bay, North Carolina and Cape Cod, Massachusetts, and offshore to the EEZ boundary (NOAA Fisheries 2013).
Adult: This species gives live-birth to litters of young, typically between winter and mid-summer (Compagno 2002). Adult shortfin mako are greater than 275 cm FL and feed on fast-moving fishes such as swordfish, tuna, and other sharks, as well as clupeids, needlefishes, crustaceans, and cephalopods (NMFS 2017, Castro 1983). EFH for adult shortfin mako is the same for neonate/juvenile life-stages.

3.1.5.4 Spiny Dogfish (Squalus acanthias)

General: The spiny dogfish is widely distributed throughout the world, with populations existing on the continental shelf of the northern and southern temperate zones, which includes the North Atlantic from Greenland to northeastern Florida, with concentrations from Nova Scotia to Cape Hatteras (Compagno 1984). The Project area contains designated EFH for juvenile and adult life-stages (Table 2).

Juvenile: Spiny dogfish are born offshore in fall or winter, ranging from approximately 20-33 cm TL (Soldat 1979, Nammack et al. 1985, Burgess 2002). Sexual maturity is reached at approximately 6 years of age for males and 12 years of age for females (Collette and Klein-MacPhee 2002, Nammack et al. 1985, Bigelow and Schroeder 1953). From 1963-2003, NEFSC bottom trawl surveys collected spiny dogfish juveniles at depths ranging from 11 to 500 m, in water approximately 3-17°C, with salinities ranging from 24 to 36 ppt (Stehlik 2007).

Adult: Adult spiny dogfish are found in deeper waters inshore (more commonly males and mature females) and offshore from the shallows to approximately 900 m deep, in water temperatures that range from 6°C to 8°C, and seldom over 15°C (Collette and Klein-MacPhee 2002, Jensen 1965). Spawning occurs offshore during the winter and pups are born via live birth after approximately 18-22 months of gestation (Bigelow and Schroeder 1953, Jensen 1965). Based on seasonal temperatures, spiny dogfish migrate up to 1,600 km along the east coast (Compagno 1984a, Jensen 1965).

3.1.5.5 Smooth Dogfish (Mustelis canis)

General: Smooth dogfish is a common coastal shark species found in the Atlantic Ocean from Massachusetts to northern Argentina. They are primarily demersal sharks that inhabit continental shelves and are typically found in inshore waters down to 200m depth (Compagno, 1984). Smooth dogfish is a migratory species that responds to changes in water temperature. They primarily congregate between southern North Carolina and the Chesapeake Bay in the winter. In the spring, smooth dogfish move along the coast when bottom water warms up to at least 6 to 7 °C. As temperatures get colder, smooth dogfish move offshore to their wintering areas (Compagno, 1984). Smooth dogfish can tolerate a range of temperatures from 6 to 27 °C. Their diet primarily consists of invertebrates and large crustaceans. The Project area contains designated EFH for all life-stages (Table 2).

Neonate, Juvenile, Adult: EFH for all life stages in Atlantic coastal areas ranges from Cape Cod Bay, Massachusetts to South Carolina, inclusive of inshore bays and estuaries (e.g., Pamlico Sound, Core Sound, Delaware Bay, Long Island Sound, Narragansett Bay, etc.). EFH also includes continental shelf habitats between southern New Jersey and Cape Hatteras, North Carolina.

4 Assessment of Impacts to EFH in the Project Area

Table 3 provides a summary of the impact assessment for this Project. In general, species with benthic life stages will experience direct impacts, while pelagic species with designated EFH will likely experience minor to no impacts as a result of the placement of artificial reef materials and maintenance of the artificial reef sites. However, artificial reefs provide benefits to both benthic and pelagic life stages as reefs add complex vertical habitat which species use for foraging and protection.
The types of potential impacts include turbidity plumes, noise, vessel traffic, conversion of habitat type, and local changes in bathymetry and hydrodynamics. Indirect impacts include the direct burial of benthic infaunal prey organisms for bottom feeding EFH species. As the Project area represents a very small percentage of foraging grounds within the Atlantic Ocean, Great South Bay and Long Island Sound and bottom-feeding fish and crustaceans will consume epifaunal organisms living on the reef the overall indirect impact of the placement of reef materials to EFH species will be minimal.

With the exception of the sandy substrate habitats being converted to hard-bottom habitat with vertical relief, the remaining substrates within the surrounding areas in the Atlantic Ocean, Great South Bay, and Long Island sound are anticipated to function the same as pre-existing conditions, and allow the continued use by designated EFH species.
<table>
<thead>
<tr>
<th>Project Activity</th>
<th>Potential Impacts</th>
<th>Benthic EFH Species Impacts</th>
<th>Pelagic EFH Species Impacts</th>
<th>Impact Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Eggs</td>
<td>Larvae</td>
<td>Juveniles</td>
</tr>
<tr>
<td>Turbidity</td>
<td>Short Term Direct</td>
<td>Short</td>
<td>Short</td>
<td>Short</td>
</tr>
<tr>
<td>Noise</td>
<td>No Impact</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Vessel Traffic</td>
<td>No Impact</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Direct Impacts**: The deployment of reef materials has the potential to cause short term direct impacts to benthic fish species due to the temporary increase in turbidity. Placement of material will last a couple of hours per deployment. In addition, artificial reef locations were sited in sand which quickly settles and does not stay suspended in the water column. Potential impacts due to suspended sediments for Matinecock is greater than at other reef locations due to the silty sands present at the site. However, this impact will be temporary and localized.

**Indirect Impacts**: The deployment of reef materials has the potential to cause short term impacts to benthic community which are a food source to EFH species. Due to the increase in turbidity, non-mobile benthic species may temporarily be buried by settling sand.

**Direct and Indirect Impacts**: During placement of reef materials, vessels or barges will be at the reef location which will result in temporary increase in noise. However, the level of noise will be similar to the recreational and commercial traffic that is currently present in these water bodies and at these sites; therefore, impacts from noise associated with placement of material and use of the reef are not anticipated.

**Direct Impacts**: The placement of reef materials represents a long term direct impact to benthic species and life stages that use benthic sand habitats as well as pelagic species that utilize water column habitats. Those species and life stages that utilize sandy uniform substrates will experience a long term loss of habitat in the areas where reef materials are placed. The reef areas represent a small percentage of the available sandy habitat on the coastal shelf, barrier island bays and Long Island Sound.

Those species and life stages that are structure oriented or utilize coarse habitats such as boulders or cobbles will experience a long term gain of habitat and benefit of the addition of complex vertical habitat. In addition to providing physical shelter for benthic species the reef materials will provide substrate for encrusting organisms that would otherwise be unable to colonize the sandy habitats. These encrusting organisms will in turn provide shelter and forage for life stages of benthic and structurally oriented species. The deployed materials will bury benthic non-mobile life stages that are present at the site during placement.

Mortality to immobile species and life stages would be limited to the footprint of the deployed materials and represent a onetime occurrence.

**Indirect Impacts**: Mortality to existing benthic species which are food sources to EFH species is expected within the footprint of the reef. However, the benthic community and habitats in the undeveloped areas of reef sites are similar to the surrounding area and represent an extremely small portion of the available...
<table>
<thead>
<tr>
<th>Placement of Material at Reef Location</th>
<th>Changes in Local Bathymetry and Hydrodynamics</th>
<th>Benthic EFH Species Impacts</th>
<th>Pelagic EFH Species Impacts</th>
<th>Impact Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Eggs Larvae Juveniles Adults</td>
<td>Eggs Larvae Juveniles Adults</td>
<td>benthic habitat in the area. Therefore, any potential impacts associated with the deployment of materials are not expected to have an adverse impact.</td>
</tr>
</tbody>
</table>

**Direct Impacts:** The reef materials will provide vertical relief in areas that previously consisted of generally uniform benthic sand habitat. This vertical relief may cause localized changes in current, scour, and sediment deposition. The vertical relief of the reef material will provide current breaks and shelter for structure oriented life-stages as well as localized areas of increased current or “rips” as the water flows around the reef structure. These current edges can provide foraging opportunities for pelagic predators. The reef materials are not of sufficient size to significantly alter or restrict currents in the area of reef sites.

There will also be a modest decrease in depth in areas where materials are deployed. Each reef site is subject to a control depth that limits how high above the bottom reef materials can be placed (see Table 1). The control depths at the reef sites range from 0 to 60 ft above the existing bottom. The water column below the control depths have the potential to be occupied by reef materials. While there will be a modest change in depth in areas where materials are deployed, post deployment depths will still be in the same general range and unlikely to cause a reduction in EFH due to depth changes.

This material will occupy portions of the water column that were previously vacant and lead to minor localized reduction in pelagic, water column habitat. The pelagic habitat above the reef sites is similar to surrounding areas and represents an extremely small portion of the available pelagic habitat.
5 Assessment Summary

This assessment concludes that the overall potential adverse impacts to EFH designated species and EFH in the Project area will be minimal. Long term impacts are associated with the permanent conversion of a limited area of sand habitat to complex hard substrate with vertical relief. The development of the artificial reef sites will provide a long term benefit to benthic and pelagic species, structure oriented species that are commercially and recreationally valuable, and establish an epibenthic community, providing a more diverse and complex community.

6 References


Mid-Atlantic Fishery Management Council (MAFMC). 1998. Amendment 1 to the bluefish fishery management plan, volume 1. Published by the National Oceanic and Atmospheric Association.


Appendix F
NMFS Essential Fish Habitat Assessment and Consultation
Dear Mrs. Damon-Randall,

We are carrying out the proposed project as described below. This letter is to request Endangered Species Act (ESA) concurrence from your office for the New York State Department of Environmental Conservation’s (NYSDEC) Artificial Reef Program for artificial reef expansion and the addition and creation of new sites. We have made the determination that the proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered by NMFS under the ESA of 1973, as amended. Our supporting analysis is provided below.

**Proposed Project**

In 1993, the NYSDEC completed a Generic Environmental Impact Statement (GEIS)/Reef Plan which allowed for the issuance of a permit for the development of artificial reefs at specific locations within the study area. As the NYSDEC Artificial Reef Program developed, additional NYSDEC and United States Army Corps of Engineers (USACE) permits were obtained to provide authority to place material to meet specific goals of the Program outlined in the GEIS/Reef Plan. These reefs are located off the south shore of Long Island, Great Bay, and Long Island Sound (Figure 1).

The proposed action includes the assessment of previously permitted sites, the expansion of seven existing sites (Fire Island, Hempstead, McAllister Grounds/Fishing Line, Moriches, Rockaway, Shinnecock, and Smithtown Reefs) and the addition and creation of four new sites (Sixteen Fathoms, Huntington/Oyster Bay, Port Jefferson/Mount Sinai and Mattituck Reefs; see Table 1 and Figure 1). Artificial reefs are developed using the patch reef system. Patch reef development includes the placement of material in discrete locations or “targets” separated by undisturbed benthic habitat. This method results in a smaller disruption of the site’s benthic footprint thereby reducing impacts to the benthic community. NYSDEC will acquire the required State and Federal permits prior to placing material on reef locations (Table 2). This action is required for future reef permit acquisition to maintain, expand and develop existing site footprints and create new sites. Reef site locations are, and may be, in the Atlantic Ocean, Great South Bay, and Long Island Sound. All reef sites are strategically located near or accessible to Long Island harbors and embayments through local inlets. The Program will seek future permits of ten-year duration which would continue the Program into the late 2020s.
Table 1. Reef Locations, Status, and Modifications

<table>
<thead>
<tr>
<th>Reef</th>
<th>Location-Category</th>
<th>Previously Analyzed or Permitted Acreage</th>
<th>Development Status (%)</th>
<th>Proposed Modification</th>
<th>Location Latitude/Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Ocean-Inshore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockaway</td>
<td>Atlantic Ocean - Inshore</td>
<td>413</td>
<td>80%</td>
<td>Expand to 635 Acres</td>
<td>40°32.453’N / 073°50.558’W</td>
</tr>
<tr>
<td>McAllister Grounds</td>
<td>Atlantic Ocean - Inshore</td>
<td>115</td>
<td>75%</td>
<td>Expand to 425 Acres</td>
<td>40°32.207’N / 073°39.441’W</td>
</tr>
<tr>
<td>Fire Island</td>
<td>Atlantic Ocean - Inshore</td>
<td>744</td>
<td>70%</td>
<td>Expand to 850 Acres</td>
<td>40°35.863’N / 073°12.423’W</td>
</tr>
<tr>
<td>Moriches</td>
<td>Atlantic Ocean - Inshore</td>
<td>14</td>
<td>90%</td>
<td>Expand to 850 Acres</td>
<td>40°43.476’N / 072°46.479’W</td>
</tr>
<tr>
<td>Shinnecock</td>
<td>Atlantic Ocean - Inshore</td>
<td>35</td>
<td>85%</td>
<td>Expand to 850 Acres</td>
<td>40°48.135’N / 072°28.483’W</td>
</tr>
<tr>
<td>Atlantic Ocean-Offshore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atlantic Beach</td>
<td>Atlantic Ocean - Offshore</td>
<td>413</td>
<td>87%</td>
<td>None</td>
<td>40°31.792’N / 073°43.018’W</td>
</tr>
<tr>
<td>Hempstead</td>
<td>Atlantic Ocean - Offshore</td>
<td>744</td>
<td>60%</td>
<td>Expand to 850 Acres</td>
<td>40°31.107’N / 073°32.393’W</td>
</tr>
<tr>
<td>Sixteen Fathom</td>
<td>Atlantic Ocean - Offshore</td>
<td>850</td>
<td>Undeveloped</td>
<td>New Site</td>
<td>40°25.927’N / 073°21.603’W</td>
</tr>
<tr>
<td>Twelve Mile</td>
<td>Atlantic Ocean - Offshore</td>
<td>850</td>
<td>5%</td>
<td>None</td>
<td>40°36.778’N / 072°31.538’W</td>
</tr>
<tr>
<td>Great South Bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellowbar</td>
<td>Great South Bay</td>
<td>7</td>
<td>60%</td>
<td>None</td>
<td>40°37.974’N / 073°14.503’W</td>
</tr>
<tr>
<td>Kismet</td>
<td>Great South Bay</td>
<td>10</td>
<td>85%</td>
<td>None</td>
<td>40°38.198’N / 073°12.702’W</td>
</tr>
<tr>
<td>Long Island Sound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matinecock</td>
<td>Long Island Sound</td>
<td>41</td>
<td>10%</td>
<td>None</td>
<td>40°54.586’N / 073°37.469’W</td>
</tr>
</tbody>
</table>
Project Purpose and Need
The needs for the artificial reef program are to provide complex hard bottom habitat to enhance fisheries and benthic communities, provide enhanced recreational fishing and diving opportunities; and offer an associated socio-economic benefit to local coastal communities. The purpose of the artificial reef program in New York is to fulfill its obligation under the National Fishing Enhancement Act in accordance with the standards of the National Artificial Reef Plan. The proposed action seeks to continue the use of, expand, and enhance the existing network of artificial reefs in the Atlantic Ocean, Great South Bay, and Long Island Sound coastal areas by providing a hard substrate that benefit fish, shellfish and crustaceans; and provide additional fishing grounds for anglers, and underwater structures attractive to scuba divers. Specifically, the purpose of the project is to:
• enhance or restore fishery resources and associated habitat, to the maximum extent practicable, utilizing artificial habitat;
• administer and manage artificial habitat to ensure its prudent use as part of an overall fisheries management program; and
• provide fishing and diving opportunities for reef-associated fishery resources by selective placement of artificial habitat in State and adjacent Federal waters.

All of these uses ultimately share the common purpose of enhancing or increasing the marine habitat available for associated fishes and other organisms. Planned manmade reefs can provide local economic benefits because fish and benthic organisms utilize the structure provided at known locations and are often popular attractions for commercial and recreational fishermen, and divers.

Description of the Action Area
The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50CFR§402.02). For this project, the action area includes the existing artificial reef sites, expansion of sites, and development of new sites within the Atlantic Ocean, Great South Bay, and Long Island Sound, as well as vessel transit route to and from each of the artificial reef sites (Figure 1). Approximately 1,620 acres of artificial reefs have been developed of the 3,389 acres permitted as per the 1993 GEIS and subsequent state and federal permits. The proposed Project would add an additional 3,423 acres to the total area permitted through the expansion and addition of reef sites, bringing the total Project area to 6,812 acres. This area is expected to encompass all of the effects of the proposed project.

Table 2. Federally Threatened and Endangered Species Potentially Present within the Project Reef Sites

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Species Name</th>
<th>Federal Protection Status</th>
<th>State Protection Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue whale</td>
<td>Balaenoptera musculus</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>Fin whale</td>
<td>Balaenoptera physalus</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>Humpback whale</td>
<td>Megaptera novaeangliae</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>North Atlantic right whale</td>
<td>Eubalaena glacialis</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>Sei whale</td>
<td>Balaenoptera borealis</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>Sperm whale</td>
<td>Physeter macrocephalus</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
<tr>
<td>Green sea turtle</td>
<td>Chelonia mydas</td>
<td>Threatened</td>
<td>Threatened</td>
</tr>
<tr>
<td>Hawksbill sea turtle</td>
<td>Eretmochelys imbricata</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
</tbody>
</table>
Kemp’s or Atlantic Ridley | *Lepidochelys kempii* | Endangered | Endangered
---|---|---|---
Leatherback | *Dermochelys coriacea* | Endangered | Endangered
Loggerhead | *Caretta caretta* | Threatened | Threatened
Atlantic sturgeon | *Acipenser oxyrhynchus oxyrhynchus* | Endangered | Endangered

**Effects Determination**

**Marine Mammals**

Of the six listed marine mammals, only three would likely occur in the waters offshore of Long Island and within Long Island Sound. These include the North Atlantic right whale (*Eubalaena glacialis*), the humpback whale (*Megaptera novaeangliae*), and the fin whale (*Balaenoptera physalus*). Blue whale (*Balaenoptera musculus*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*) are found in deeper waters offshore over the outer continental shelf and shelf break (Greene et al. 2010 Waring et al. 1999, 2011, 2013). The three species that are likely to occur in the Project area are seasonally present, using the nearshore, coastal waters of the Atlantic Ocean as they migrate to and from calving and foraging grounds. Humpback and fin whales occur in the waters of New York during the spring, summer, and fall months, while the North Atlantic right whale occurs primarily from November 1 through April 30.

**Sea Turtles**

The Hawksbill sea turtle has only historically been confirmed in the waters surrounding Long Island and is not expected to occur within the artificial reef sites. Green sea turtle (*Chelonia mydas*), Kemp’s ridley sea turtle (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*) are highly migratory and typically use the New York Bight as a migratory path between feeding grounds and nesting sites (NYS DOS 2013). As temperatures rise in the spring, these turtles begin to migrate northward. As temperatures decline rapidly in the fall, turtles in northern waters begin their southward migration. Sea turtles are expected to be found in New York waters when temperatures reach approximately 15°C, typically during the months of May through November. The highest concentration of sea turtles is June through October (Morreale and Standora 1990; Morreale and Standora 2005; Shoop and Kenney 1992; Ruben and Morreale 1999).

Several studies have identified the seasonal distribution of sea turtles in New York waters. Sea turtles begin to arrive in New York waters in June (Morreale and Standora 1993; Morreale and Burke 1997). Juvenile Kemp’s ridley sea turtles that were tagged and tracked made their way south from New York coastal waters by the first week in November (Standora *et al.* 1992). Loggerhead and Kemp’s ridley sea turtles begin leaving New York waters in October and generally by the first week of November, heading southward past the Virginia border (Morreale and Standora 2005). These sea turtle species also have the potential to occur within the Long Island Sound. Sea turtles typically utilize the eastern portion of Long Island Sound as a foraging ground during annual migrations between feeding grounds and nesting sites (NYS DOS 2013).
Only mature egg-laying female will crawl onto land, once hatched sea turtles spend their entire life in the ocean (NYSDEC 2005). There are no known nesting locations along Long Island Sound or Long Island shorelines (NYSDEC 2005).

Atlantic Sturgeon
There are five distinct population segments (DPS) of Atlantic sturgeon listed as threatened or endangered. Atlantic sturgeon from the New York Bight, Chesapeake Bay, South Atlantic and Carolina DPSs are listed as endangered and the Gulf of Main DPS is listed as threatened. All five DPSs have a marine range extending along the Atlantic coast from Canada to Cape Canaveral, Florida. Atlantic sturgeon generally spawn in April through May in the Mid-Atlantic and at around three years of age, subadults exceeding 70 centimeters in total length begin to migrate to marine waters (Bain et al. 2000). After moving from their natal river/estuary, subadults and adults travel in marine waters typically less than 50 meters in depth, using coastal bays, sounds, and ocean waters (ASSRT 2007).

Dunton et al. (2015) completed a study of Atlantic sturgeon aggregations and migrations routes along the coast of Long Island to determine the temporal and spatial use of marine habitat. Aggregation periods and areas were documented in this study. Catches were an order of magnitude higher in May, June, September, and October in known aggregation areas, as opposed to other areas and times of the year. The highest average weighted catch per unit effort (CPUE) was during the month of May, followed by October, November, September, and June (Dunton et al. 2015). The CPUE was highest along western Long Island (Dunton et al. 2015). No Atlantic sturgeon were captured at depths of 20-30 m. If Atlantic sturgeon were present, it would likely be in the spring months of April to June and the fall months of September to November.

The Atlantic sturgeon is a federally-endangered fish that has the potential to occur within the waters offshore of Long Island and within Long Island Sound. Atlantic sturgeon of all sizes are seen and captured in Long Island Sound and the Sound may be an important feeding or resting area on the way to and from spawning grounds (CTDEEP 1999). However, the Atlantic sturgeon stock in the Connecticut River is thought to be extirpated and any sturgeon found in the deep-water areas in the estuarine portion of the Connecticut River are likely Hudson River progeny (Savoy and Pacileo 2003).

Effects of the Action
Potential effects of the proposed action fall into two categories:

- effects from installation of artificial reef materials; and
- effects of increases in vessel traffic.

The effects of artificial reef material placement has the following associated potential impacts: direct contact, habitat modification, and water quality. Potential impacts as a result of the proposed action are discussed further below.

Effects from Deployment of Artificial Reef Material During Deployment

Direct Impact from Artificial Reef Material During Deployment
The deployment of artificial reef materials has the potential to directly affect listed species by making direct impact. However, the risk of artificial reef material making direct contact with a listed species is highly unlikely due to the species’ mobility and ability to sense activity in the
water column and the limited duration of actual reef material deployment events. Further, their presence would likely be transient in nature. Therefore, no impacts to listed species are anticipated as a result of direct impact from artificial reef material deployment.

**Habitat Modifications**

The artificial reef sites are not a prime foraging or migratory area for listed species. If listed species were present, they may be temporarily disturbed while directly utilizing the reefs for foraging or shelter. However, artificial reef material deployments may occur year-round, with the time of deployment short in duration and only occurring during daylight hours. Further, the presence of listed species would likely be transient in nature and expected to return to the area after cessation of activities. Therefore, no impacts to marine mammals, turtles, or Atlantic sturgeon are anticipated as a result of habitat modifications.

Benthic organisms may be affected by the placement of artificial reef materials on the seafloor through burial. Listed species may opportunistically forage in the area, however, the artificial reef sites are not a prime area for foraging, and constitute a small fraction (6,812 acres) of the available habitat off the New York coast. Additionally, maintenance of the artificial reef sites would create enhanced habitat and foraging prey items for some species, such as colonizing mollusks and crustaceans for loggerhead sea turtles to feed on. Therefore, impacts on foraging behavior of marine mammals, sturgeon, and sea turtles is not significant.

**Water Quality**

During placement of artificial reef materials, water quality could be affected by causing a temporary increase in the amount of turbidity in the action area. However, any suspended sediments are anticipated to settle quickly out of the water column due to the predominately sandy sediments within the action area. Any increases in turbidity would be short in duration. There have been no studies on the effects of temporary suspended solids on Atlantic sturgeon, however, Atlantic sturgeon juveniles and adults are often documented in turbid waters (Dadswell 1984). There is limited information on the effects of increased turbidity on sea turtles and marine mammals. Further, sea turtles and marine mammals breathe air and do not experience the same potential respiratory effects of high turbidity as fish. Atlantic sturgeon, sea turtles, and whales are highly mobile and would avoid any sediment plumes. Therefore, no significant impacts on listed species due to changes in water quality would occur.

**Vessel Traffic**

Atlantic sturgeon, sea turtles, and whales experience direct mortality as a result of being struck by boat hulls or propellers. The risk factors involved with direct impacts to listed species may depend on the size and speed of the vessels, depth of the water and draft of the vessel in the area where the vessel is operating, and the behavior of the individuals in the area, such as foraging or migrating.

The proposed action involves vessels transporting materials for deployment at the artificial reef sites. Most vessel strikes are thought to occur from fast-moving vessels. The proposed action will only involve the addition of slow moving vessels within the action area for a relatively brief period of time needed to transit to the site (farthest artificial reef site is 12.0 nautical miles from
Moriches and Shinnecock inlets). Based on the above, the effects of vessel traffic on sturgeon, sea turtles, and marine mammals will not be significant.

**Artificial Reef Maintenance**

The effects of the future maintenance of the reef sites will be the same as those of the initial placement of reef building materials. Therefore, any effects from reef maintenance would not be significant.

**Conclusions**

Based on the analysis that all effects of the proposed action will not be significant, we have determined that the proposed action is not likely to adversely affect any listed species or critical habitat under NMFS’ jurisdiction. We certify that we have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination.

Sincerely,

Christopher LaPorta
NYSDEC Artificial Reef Program Coordinator
Literature Cited


Long Island Field Office
340 Smith Road
Shirley, NY 11967

SUBJECT: Request for Informal Consultation with United States Fish and Wildlife Service and Effects Determination for Federally Listed Species or Species Proposed for Listing

To Whom It May Concern,

On behalf of the New York State Department of Environmental Conservation (NYSDEC), HDR Inc., requests an informal consultation with the United States Fish and Wildlife Service (USFWS) Long Island Field Office regarding the potential for the NYSDEC’s Artificial Reef Program activities to affect the federally threatened or endangered species listed in Table 1 below. In 1993, the NYSDEC completed a Generic Environmental Impact Statement (GEIS)/Reef Plan which allowed for the issuance of a permit for the development of artificial reefs at specific locations within the study area. As the NYSDEC Artificial Reef Program developed, additional NYSDEC and United States Army Corps of Engineers (USACE) permits were obtained to provide authority to place material to meet specific goals of the Program outlined in the GEIS/Reef Plan. In April 2018, Governor Andrew Cuomo announced the largest expansion of the artificial reef program in state history. The development of the artificial reef program bolstered the 12 existing artificial reefs off the shore of Long Island. Materials for the reef enhancement were strategically placed to improve New York’s diverse marine life and boost Long Island’s recreational sport fishing and diving industries.

In addition to the enhancement of reef sites under the Governor’s Artificial Reef Initiative, seven of the existing artificial reefs are proposed to be expanded and four new reefs sites are put forward for consideration including one in the Atlantic Ocean and three in Long Island Sound. New artificial reef locations were sited based on criteria developed for the NYSDEC Artificial Reef Program and lessons learned in artificial reef development since the GEIS was developed. Criteria were developed to meet the Artificial Reef Program Purpose and Need and to provide benefit to local users. As a Type I Action under New York State Environmental Quality Review Act (SEQRA), a full Environmental Assessment Form (FEAF) was prepared for the proposed action. It was determined based on the information developed to prepare the FEAF that there may be significant adverse impacts associated with the proposed action, and that a Supplemental Generic Environmental Impact Statement (SGEIS) is needed to assess potential impacts.

Under Section 7 of the Endangered Species Act (ESA), the NYSDEC as the State Sponsor is required to consult with the USFWS to determine whether any federally listed species or species proposed for listing as endangered or threatened, or their designated critical habitats, occur in the vicinity of the proposed project. Table 1 presents the federally and threatened species with the potential to occur within the proposed project reef sites using data from the U.S. Fish and Wildlife’s Information, Planning, and Consultation System on March 19, 2019 and review of the NYSDEC’s New York Nature Explorer mapper for the Atlantic Ocean and Long Island Sound on March 21, 2019. A discussion of the potential impacts is presented below for flowering plants and birds.
Table 1. Federally Threatened and Endangered Species Potentially Present within the Project Reef Sites

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Species Name</th>
<th>Federal Protection Status</th>
<th>Year Last Documented (where applicable)</th>
<th>Distribution Status</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sandplain Gerardia</td>
<td>Agalinis acuta</td>
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<td>Historically confirmed(^a)</td>
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<td>2004</td>
<td>Recently confirmed(^a)</td>
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<td><strong>Birds</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping plover</td>
<td>Charadrius melodus</td>
<td>Endangered/Threatened</td>
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<td>Recently confirmed</td>
</tr>
<tr>
<td>Red knot</td>
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<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Roseate tern</td>
<td>Sterna dougallii dougallii</td>
<td>Endangered</td>
<td>2015</td>
<td>Recently confirmed</td>
</tr>
</tbody>
</table>

\(^a\) Historically/recently confirmed within the terrestrial areas in Nassau and Suffolk county

Flowering Plants

Project construction activities will take place within waters of the Atlantic Ocean, Great South Bay, and Long Island Sound. No impacts to threatened and endangered flowering plant species would occur as a result of the project.

Birds

Project construction activities will take place within waters of the Atlantic Ocean, Great South Bay, and Long Island Sound. Bird species are anticipated to avoid the area during construction due to distance from onshore areas, noise, and presence of construction equipment. Materials are often deployed from barges based on the reef design, material type for artificial reef enhancement, and available equipment. Construction equipment includes, and is not limited to, bulldozers, hopper barges, or cranes.

We appreciate your quick response to this request. Please do not hesitate to contact me at should you have any questions or require additional information.

Sincerely,

Jaclyn Chapman
Environmental Scientist
Attachment G

NYSDEC Aerial Boat Surveys
## Atlantic Ocean Inshore Reefs 2016 through 2019 Vessel Counts

**Atlantic Ocean Inshore Reef**

<table>
<thead>
<tr>
<th>Date</th>
<th>Rockaway</th>
<th>McAllister Grounds</th>
<th>Fire Island</th>
<th>Moriches</th>
<th>Shinnecock</th>
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<tbody>
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**Atlantic Ocean Inshore Reef**

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### Atlantic Ocean Offshore Reefs 2016 through 2019 Vessel Counts

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### Aerial Reef Survey Vessel Count Summaries by Year and Site Location.

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<th>Number of Surveys</th>
<th>Inshore Sites</th>
<th>Offshore Sites</th>
<th>Long Island Sound Sites</th>
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Attachment H

Agency Consultation
Re: New York State Department of Environmental Conservation
Historic Resources and Archaeological Request
Artificial Reef Program

To Whom This May Concern,

The New York State Department of Environmental Conservation (NYSDEC) is preparing a Supplemental Generic Environmental Impact Statement (SGEIS) to identify any significant issues associated with the Proposed Action under the NYSDEC’s Artificial Reef Management Program. In April 2018, Governor Andrew Cuomo announced the largest expansion of the artificial reef program in state history. The enhancement of the artificial reef program bolstered the 12 existing artificial reefs off the shore of Long Island. Materials for the reef enhancement were strategically placed to improve New York’s diverse marine life and boost Long Island’s recreational sport fishing and diving industries.

In addition to the enhancement of reef sites under the Governor’s Artificial Reef Initiative, seven of the existing artificial reefs are proposed to be expanded and four new reefs sites are put forward for consideration including one in the Atlantic Ocean and three in Long Island Sound. New artificial reef locations were sited based on criteria developed for the NYSDEC Artificial Reef Program and lessons learned in artificial reef development since the GEIS was developed.

NYSDEC is requesting New York State Office of Parks, Recreation & Historic Resources (OPRHP) review of the NYSDEC’s Artificial Reef Program for the reef sites pursuant to SEQR and Section 106 of the National Historic Preservation Act (Table 1, Figure 1). According to the 1993 GEIS/Reef Plan, an unknown number of shipwrecks exist in the area covered by the Plan. The historical or cultural value of most these wrecks is undetermined. More information about the project, a review of available historic and cultural data sources, and potential shipwrecks within the vicinity of these reef sites is provided below.

**Project Description**

The NYSDEC’s Artificial Reef Program (Program) maintains a series of reef sites in the waters of New York’s Marine and Coastal District (MCD). Program goals are to administer and manage artificial reef habitat as part of a fisheries management program, provide fishing and diving opportunities, and enhance or restore fishery resources and associated habitat through the selective placement of artificial reef habitat (i.e. natural rock, concrete and steel) in the MCD under Programmatic guidelines.

Materials (i.e. natural stone and concrete) are transported to the reef site either by barge or towed out by vessel (i.e. steel barges or vessels) under Program supervision. The materials are deployed on pre-designated site targets to produce a patch reef configuration. This
configuration increases the enhancement of the local natural habitat by introducing profiled hard structure for colonization and reef development while maintaining areas of natural bottom habitat between patch reef structures. The different structures attract a variety of marine life including recreationally important finfish and crustaceans (i.e. lobster) species sought by anglers and divers.

Table 1. Reef Sites and Development under the NYSDEC Artificial Reef Program

<table>
<thead>
<tr>
<th>Reef</th>
<th>Category</th>
<th>Acreage</th>
<th>Development Status (%)</th>
<th>Proposed Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAllister Grounds</td>
<td>Atlantic Ocean - Inshore</td>
<td>115</td>
<td>75%</td>
<td>Expand to 425 Acres</td>
</tr>
<tr>
<td>Moriches</td>
<td>Atlantic Ocean - Inshore</td>
<td>14</td>
<td>90%</td>
<td>Expand to 850 Acres</td>
</tr>
<tr>
<td>Shinnecock</td>
<td>Atlantic Ocean - Inshore</td>
<td>35</td>
<td>85%</td>
<td>Expand to 850 Acres</td>
</tr>
<tr>
<td>Rockaway</td>
<td>Atlantic Ocean - Inshore</td>
<td>413</td>
<td>80%</td>
<td>Expand to 635 Acres</td>
</tr>
<tr>
<td>Fire Island</td>
<td>Atlantic Ocean - Inshore</td>
<td>744</td>
<td>70%</td>
<td>Expand to 850 Acres</td>
</tr>
<tr>
<td>Sixteen Fathom</td>
<td>Atlantic Ocean - Offshore</td>
<td>850</td>
<td>Undeveloped</td>
<td>New Site</td>
</tr>
<tr>
<td>Twelve Mile</td>
<td>Atlantic Ocean - Offshore</td>
<td>850</td>
<td>5%</td>
<td>None</td>
</tr>
<tr>
<td>Atlantic Beach</td>
<td>Atlantic Ocean - Offshore</td>
<td>413</td>
<td>87%</td>
<td>None</td>
</tr>
<tr>
<td>Hempstead</td>
<td>Atlantic Ocean - Offshore</td>
<td>744</td>
<td>60%</td>
<td>Expand to 850 Acres</td>
</tr>
<tr>
<td>Kismet</td>
<td>Great South Bay</td>
<td>10</td>
<td>85%</td>
<td>None</td>
</tr>
<tr>
<td>Yellowbar</td>
<td>Great South Bay</td>
<td>7</td>
<td>60%</td>
<td>None</td>
</tr>
<tr>
<td>Matinecock</td>
<td>Long Island Sound</td>
<td>41</td>
<td>10%</td>
<td>None</td>
</tr>
<tr>
<td>Smithtown</td>
<td>Long Island Sound</td>
<td>3</td>
<td>80%</td>
<td>Expand to 31 Acres</td>
</tr>
<tr>
<td>Huntington / Oyster Bay</td>
<td>Long Island Sound</td>
<td>50</td>
<td>Undeveloped</td>
<td>New Site</td>
</tr>
<tr>
<td>Port Jefferson / Mount Sinai</td>
<td>Long Island Sound</td>
<td>50</td>
<td>Undeveloped</td>
<td>New Site</td>
</tr>
<tr>
<td>Mattituck</td>
<td>Long Island Sound</td>
<td>50</td>
<td>Undeveloped</td>
<td>New Site</td>
</tr>
</tbody>
</table>

Atlantic Offshore Reefs

The Bureau of Ocean Energy Management conducted a study within the Atlantic Outer Continental Shelf (OCS) to better manage known and potential cultural resources. Information was gathered from historic shipwrecks, past landscapes, human settlement patterns, and site formation and preservation conditions. This information was then used to determine the sensitivity category (no, low, or high sensitivity) for the various Atlantic OCS regions. The report indicates that the Atlantic Beach reef area has a high archaeological sensitivity potential, representing areas exposed during the Paleoindian and later periods, from -70 meters to more
shallow areas (BOEM 2012). Specific landforms will have potential for intact sites in these areas of high sensitivity. Despite the high sensitivity, the seafloor has not been studied and mapped in sufficient detail to locate all specific landforms and it is not possible to precisely delineate potential site settings within the area of high preservation potential.

Data for potential shipwrecks were gathered from the NOAA Office of Coast Survey Wrecks and Obstruction Database. The tugboat Fran S sank in the Jones Inlet in the 1970, was salvaged and towed to the Atlantic Beach Reef and purposefully re-sunk two years later (NYSDEC 1993). There are two unknown obstructions in the vicinity of this reef (NOAA 2019). The Andy Pierce shipwreck is located close to Hempstead Reef, as well as several other unknown obstructions (NOAA 2019).

**Atlantic Inshore Reefs**

BOEM conducted a study within the Atlantic Outer Continental Shelf (OCS) to better manage known and potential cultural resources. Information was gathered from historic shipwrecks, past landscapes, human settlement patterns, and site formation and preservation conditions. This information was then used to determine the sensitivity category (no, low, or high sensitivity) for the various Atlantic OCS regions. The report indicates that the inshore reef study area has a high archaeological sensitivity potential, representing areas exposed during the Paleoindian and later periods, from -70 meters to more shallow areas (BOEM 2012). Specific landforms will have potential for intact sites in these areas of high sensitivity. Despite the high sensitivity, the seafloor has not been studied and mapped in sufficient detail to locate all specific landforms and it is not possible to precisely delineate potential site settings within the area of high preservation potential.

Data for potential shipwrecks were gathered from the NOAA Office of Coast Survey Wrecks and Obstruction Database. One wreck, from the vessel Mistletoe, is close in proximity to the Rockaway Reef, as well as several undefined obstructions. An undefined obstruction is located in proximity to McAllister Grounds (NOAA 2019). There are two shipwrecks near Moriches, and the Zeeliner shipwreck is near Fire Island reef. There is one undefined obstruction near Shinnecock Reef.

**Great South Bay Reefs**

According to the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) Cultural Resources Information System (CRIS), no historic or archeological sites are present within the Kismet and Yellowbar reef sites (New York State Office of Parks, Recreation, and Historic Preservation, 2019).

**Long Island Sound Reefs**

According to the New York State OPRHP CRIS, no historic or archeological sites are present within the Long Island Sound reef sites (New York State Office of Parks, Recreation, and Historic Preservation, 2019). Shipwreck data were readily available through NOAA’s Office of Coast Survey Wrecks and Obstructions Database (NOAA 2019). In the U.S. Army Corps of Engineers Dredged Material Management Plan (2010), a likely paleoshoreline of Long Island
Sound at 11000 Before Present (B.P.) and 9000 B.P. is depicted. The waters of Huntington and Oyster Bay are assessed as having high archaeological sensitivity (U.S. Army Corps of Engineers, 2010). Additional data on historic shipwrecks and Paleoindian cultural resources located in or near the Matinecock reef site is not readily available.

**Request for Information**

NYSDEC is specifically requesting OPRHP concurrence that there would be no impact on historic or cultural resources. In order to maintain our project schedule, we kindly request a response in no more than 30 days.

Feel free to contact me at (631) 444-0438 or via email at christopher.laporta@dec.ny.gov should you have any questions regarding this request. Thank you for your time in providing us with the requested information.

Sincerely,

Christopher LaPorta
NYSDEC Artificial Reef Coordinator
Literature Cited


January 8, 2020

Daniel Rosenblatt
New York State Department of Environmental Conservation
NY Natural Heritage Program
50 Circle Road
SUNY @ Stony Brook
Stony Brook, NY 11790-3409
NaturalHeritage@dec.ny.gov

Dear Daniel Rosenblatt:

On behalf of the New York State Department of Environmental Conservation (NYSDEC), HDR, Inc. is requesting a search of the Natural Heritage Database records for rare or endangered species and natural communities on or near the proposed project located off the south shore of Long Island, Great Bay, and Long Island Sound in Nassau, Suffolk, Kings, and Queens Counties, New York. Further, any information regarding potential impacts to listed species or any other permit considerations for this project is requested. A map depicting the project location is attached.

In April 2018, Governor Andrew Cuomo announced the largest expansion of the artificial reef program in state history. The enhancement of the artificial reef program bolstered the 12 existing artificial reefs off the shores of Long Island. Materials for the reef enhancement were strategically placed to improve New York’s diverse marine life and boost Long Island’s recreational sport fishing and diving industries.

In addition to the enhancement of reef sites under the Governor’s Artificial Reef Initiative, seven of the existing artificial reefs are proposed to be expanded and four new reefs sites are put forward for consideration including one in the Atlantic Ocean and three in Long Island Sound. New artificial reef locations were sited based on criteria developed for the NYSDEC Artificial Reef Program and lessons learned in artificial reef development since the GEIS was developed. Criteria were developed to meet the Artificial Reef Program Purpose and Need and to provide benefit to local users. As a Type I Action under New York State Environmental Quality Review Act (SEQRA), a full Environmental Assessment Form (FEAF) was prepared for the proposed action. It was determined based on the information developed to prepare the FEAF that there may be significant adverse impacts associated with the proposed action, and that a Supplemental Generic Environmental Impact Statement (SGEIS) is in development to assess potential impacts.

In an effort to determine known environmental characteristics of the site, we request any records you may have on special status plant/animal species and habitat found within the site indicated on the attached map. If you have any questions about this request, please contact me at (201) 335-9333 or at Jaclyn.Chapman@hdrinc.com. Thank you.
Sincerely,

Jaclyn Chapman  
*Environmental Scientist*

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**Figure 1. Reef Locations, Modifications, and Study Area**

**Table 2. Reef Locations**

<table>
<thead>
<tr>
<th>Reef</th>
<th>Category</th>
<th>Location Latitude / Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAllister Grounds</td>
<td>Atlantic Ocean - Inshore</td>
<td>40°32.207’N / 073°39.441’W</td>
</tr>
<tr>
<td>Moriches</td>
<td>Atlantic Ocean - Inshore</td>
<td>40°43.476’N / 072°46.479’W</td>
</tr>
<tr>
<td>Shinnecock</td>
<td>Atlantic Ocean - Inshore</td>
<td>40°48.135’N / 072°28.483’W</td>
</tr>
<tr>
<td>Rockaway</td>
<td>Atlantic Ocean - Inshore</td>
<td>40°32.453’N / 073°50.558’W</td>
</tr>
<tr>
<td>Fire Island</td>
<td>Atlantic Ocean - Inshore</td>
<td>40°35.863’N / 073°12.423’W</td>
</tr>
<tr>
<td>Sixteen Fathom</td>
<td>Atlantic Ocean - Offshore</td>
<td>40°25.927’N / 073°21.603’W</td>
</tr>
<tr>
<td>Twelve Mile</td>
<td>Atlantic Ocean - Offshore</td>
<td>40°36.778’N / 072°31.538’W</td>
</tr>
<tr>
<td>Atlantic Beach</td>
<td>Atlantic Ocean - Offshore</td>
<td>40°31.792’N / 073°43.018’W</td>
</tr>
<tr>
<td>Location</td>
<td>Body of Water</td>
<td>Coordinates</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Hempstead</td>
<td>Atlantic Ocean - Offshore</td>
<td>40°31.107'N / 073°32.393'W</td>
</tr>
<tr>
<td>Kismet</td>
<td>Great South Bay</td>
<td>40°38.198'N / 073°12.702'W</td>
</tr>
<tr>
<td>Yellowbar</td>
<td>Great South Bay</td>
<td>40°37.974'N / 073°14.503'W</td>
</tr>
<tr>
<td>Matinecock</td>
<td>Long Island Sound</td>
<td>40°54.586'N / 073°37.469'W</td>
</tr>
<tr>
<td>Smithtown</td>
<td>Long Island Sound</td>
<td>40°55.967'N / 073°11.100'W</td>
</tr>
<tr>
<td>Huntington / Oyster Bay</td>
<td>Long Island Sound</td>
<td>TBD</td>
</tr>
<tr>
<td>Port Jefferson / Mount Sinai</td>
<td>Long Island Sound</td>
<td>TBD</td>
</tr>
<tr>
<td>Mattituck</td>
<td>Long Island Sound</td>
<td>TBD</td>
</tr>
</tbody>
</table>