

MS4 Phase II Stormwater Regulations

NASSAU COUNTY ANNUAL REPORT



Nassau County
Department Of Public Works



March 10, 2020 - March 9, 2021

MS4 Annual Report Cover Page

MCC form for period ending March 9, 2021

This cover page must be completed by the report preparer.
Joint reports require only one cover page.

SPDES ID
N Y R 2 0 A 0 2 2

Choose one:

This report is being submitted on behalf of an individual MS4.

Fill in SPDES ID in upper right hand corner.

Name of MS4

C o u n t y o f N a s s a u

OR

This report is being submitted on behalf of a Single Entity

(Per Part II.E of GP-0-10-002)

Name of Single Entity

OR

This is a joint report being submitted on behalf of a coalition.

Provide SPDES ID of each permitted MS4 included in this report. Use page 2 if needed.

Name of Coalition

N a s s a u C o u n t y S t o r m W a t e r
C o a l i t i o n

SPDES ID

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MS4 Annual Report Cover Page

MCC form for period ending March 9,

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Provide SPDES ID of each permitted MS4 included in this report.

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MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID

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Water Quality Trends

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s are contributed to this report?

1. Has this MS4/Coalition produced any reports documenting water quality trends related to stormwater? If not, answer No and proceed to Minimum Control Measure One.

Yes No

If Yes, choose one of the following

- Report(s) attached to the annual report
- Web Page(s) where report(s) is/are provided below

Please provide specific address of page where report(s) can be accessed - not home page.

URL

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Minimum Control Measure 1. Public Education and Outreach

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

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1. Targeted Public Education and Outreach Best Management Practices

Check all topics that were included in Education and Outreach during this reporting period:

- Construction Sites
- General Stormwater Management Information
- Household Hazardous Waste Disposal
- Illicit Discharge Detection and Elimination
- Infrastructure Maintenance
- Smart Growth
- Storm Drain Marking
- Green Infrastructure/Better Site Design/Low Impact Development
- Other:
- Pesticide and Fertilizer Application
- Pet Waste Management
- Recycling
- Riparian Corridor Protection/Restoration
- Trash Management
- Vehicle Washing
- Water Conservation
- Wetland Protection
- None

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Other

2. Specific audiences targeted during this reporting period:

- Public Employees
- Residential
- Businesses
- Restaurants
- Other:
- Contractors
- Developers
- General Public
- Industries
- Agricultural

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Other

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3. What strategies did your MS4/Coalition use to achieve education and outreach goals during this reporting period? Check all that apply:

- Construction Site Operators Trained # Trained
- Direct Mailings # Mailings
- Kiosks or Other Displays # Locations
- List-Serves # In List
- Mailing List # In List
- Newspaper Ads or Articles # Days Run
- Public Events/Presentations # Attendees
- School Program # Attendees
- TV Spot/Program # Days Run
- Printed Materials: Total # Distributed

Locations (e.g. libraries, town offices, kiosks)

Y	O	U	R		V	I	L	L	A	G	E		H	A	L	L				

Other: Facebook, Twitter

Web Page: Provide specific web addresses - not home page. Continue on next page if additional space is needed.

URL

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3. Web Page cont.: Provide specific web addresses - not home page.

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MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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Name of MS4/Coalition

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4. Evaluating Progress Toward Measurable Goals MCM 1

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

C. How many times was this observation measured or evaluated in this reporting period?

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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this Measurable Goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

The Manhasset Bay Protection Committee will: Publish a 2016-2018 water quality report by December 2021 and a bacteria trend report by March 9, 2022 (previous progress was halted by Covid-19). Continue our quarterly newsletter (on-going) and prepare a landing page to view past newsletters (summer 2021). Continue and expand our social media presence (on-going).

MS4 Annual Report Form

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Minimum Control Measure 2. Public Involvement/Participation

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

1. What opportunities were provided for public participation in implementation, development, evaluation and improvement of the Stormwater Management Program (SWMP) Plan during this reporting period? Check all that apply:

- Cleanup Events # Events
- Comments on SWMP Received # Comments
- Community Hotlines

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- Community Meetings # Attendees
- Plantings Sq. Ft.
- Storm Drain Markings # Drains
- Stakeholder Meetings # Attendees

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- Volunteer Monitoring # Events

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- Other:

2. Was public notice of availability of this annual report and Stormwater Management Program (SWMP) Plan provided?

Yes No

- List-Serve # In List
- Newspaper Advertising # Days Run
- TV/Radio Notices # Days Run
- Other:

Web Page URL: Enter URL(s) on the following two pages.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID

N	Y	R	2	0				
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7. Evaluating Progress Toward Measurable Goals MCM 2

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

C. How many times was this observation measured or evaluated in this reporting period?

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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No



E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

Operate a Seabin trash collector and use citizen scientists to catalog what is collected (Summer 2021).
Begin the development of a new Water Quality Improvement Plan for Manhasset Bay, which will include public meetings and public input (Consultant will be selected by Summer 2021).

**MANHASSET BAY PROTECTION COMMITTEE
THIRD PARTY CERTIFICATION STATEMENT**

*Pursuant to
Permit # GP-0-15-003 pg. 18 Part IV.G Reliance Upon Third Parties*

In furtherance of the purposes set forth in the Manhasset Bay Protection Committee ("COMMITTEE") Inter-Municipal Agreement of 2015, the COMMITTEE shall undertake, to the extent practicable, the following activities on behalf of its member municipalities within their collective jurisdictions in order to assist in the fulfillment of NYS Phase II regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-15-003) provided that annual member dues and applied for grant funds (where applicable) are received:

Scope of Work:

Activities and Deliverables may include, but are not limited to the following:

Minimum Control Measure # 1 (Public Education and Outreach):

Prepare and conduct a public education and outreach program including the preparation of brochures and promotional give-aways, portable displays, presentations to community, business, educational, and/or stakeholder organizations, targeted mailings, press releases, articles for publication, an informational website, social media page, and educational signage.

Minimum Control Measure # 2 (Public Involvement and Education):

Conduct public meetings for members of the public and stakeholders at critical junctures on major projects, develop and maintain e-mailing and postal mailing lists to keep the public apprised and involved in projects undertaken by the COMMITTEE, organize and assist in beach cleanups and wetland plantings to the extent possible, conduct attitude and awareness surveys, maintain and foster inter-relationships with community organizations, business organizations, recreation organizations, educational institutions, environmental organizations, and various levels of government.

Minimum Control Measure # 3 (Illicit Discharge Detection and Elimination):

Conduct water quality monitoring to document trends and detect unexpected changes in water quality, record and report observations of identified or suspected illicit discharges to appropriate agencies, assist in and help coordinate responses to identified or suspected illicit discharges, and assist in the maintenance and updating of the county's storm drain GIS mapping system.

M A N H A S S E T B A Y P R O T E C T I O N C O M M I T T E E
15 Vanderventer Avenue, Port Washington, New York 11050-3710
P: 516-767-4843 • E: mbpcExec@gmail.com

Minimum Control Measure # 4 (Construction Site Stormwater Runoff Control):

Assist member municipalities in identifying available construction site stormwater runoff control measures, requirements and procedures, and report any observed instances of stormwater runoff from construction sites to the member municipality and/or appropriate agency or agencies.

Minimum Control Measure # 5 (Post Construction Stormwater Management):

Assist member municipalities in identifying available post construction stormwater management control measures, requirements and procedures, and report any observed instances of post construction to the member municipality and/or appropriate agency or agencies.

Minimum Control Measure # 6 (Pollution Prevention / Good Housekeeping):

Assist member municipalities in identifying available pollution prevention / good housekeeping practices including, but not limited to information on pet waste management, Canada Goose control, household hazardous waste programs, and recycling programs.

Contracted Entity Certification Statement:

The Manhasset Bay Protection Committee understands that its member municipalities must comply with the requirements of New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-15-003) and any successor permit, and that it is unlawful for any person to directly or indirectly cause or contribute to a violation of water quality standards. The Committee agrees to provide, to the extent practicable, the above-described services on behalf of its member municipalities in order to assist them in the fulfillment of New York State Municipal Phase II requirements provided that annual member dues are received.


Signature

4/8/2021
Date

Sarah Deonarine
Name

Executive Director
Title

MANHASSET BAY PROTECTION COMMITTEE
15 Vanderventer Avenue, Port Washington, New York 11050-3710
P: 516-767-4843 • E: mbpcExec@gmail.com



MANHASSET BAY PROTECTION COMMITTEE
Phase II Activities Undertaken
On Behalf of Member Municipalities
March 10, 2020 to March 9, 2021 Permit Year

Note on the Reporting Year

On March 11, 2020 (the second day of this permit year), the World Health Organization declared the Novel Coronavirus disease (Covid-19) a global pandemic. Shortly thereafter, most activities in New York State were shutdown making this permit year unlike any other in the past. Many activities that are normally undertaken were suspended and not all have resumed.

MCM # 1 – Public Education and Outreach

Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.

- Continued a quarterly e-newsletter and grew the distribution list from 120 to 165 recipients. A link to sign-up is posted on the Committee's website and on the Facebook page. Four newsletters were released in this reporting period (all were also posted to the Committee's Facebook and Twitter pages); links and dates of publications are on the [attached sheet](#). An archive of all past mailings is [here](#).
- Continued to grow the Committee's Facebook presence (<https://www.facebook.com/manhassetbay/>) and again participated in the #DontTrashLIS social media campaign run this past summer by the Long Island Sound Study and the member organizations of its Citizens Advisory Committee, which highlighted the problem of plastic waste to wildlife and water quality.
- The Committee was unable to staff informational tables as all public events were cancelled due to the Novel Coronavirus, which hindered much of the Committee's work during this reporting period.
- The Committee purchased two new domains that direct to the Committee's home page: ManhassetBay.info and ManhassetBay.net, making it easier to both find and direct people to the webpage.
- The Committee started Twitter (<https://twitter.com/manhassetbaypc>) and Instagram (<https://www.instagram.com/manhassetbaypc/>) accounts
- Kept members and the general public apprised of updates and the existence of the Army Corps' *New York New Jersey Harbor and Tributaries Focus Area Coastal Storm Risk Management Feasibility Study*, including the Study's suspension in March 2020.
- The Manhasset Sewer Feasibility Study was completed in January 2020 and the Committee has been asked to provide public comments on the Study in a May 2020 letter to the Manhasset Chamber of Commerce.
- Began planning an upcoming joint protection committee meeting (public) with the Hempstead Harbor, Oyster Bay/Cold Spring Harbor, and Peconic Estuary Protection Committees, the Setauket Harbor Task Force, and Friends of the Bay to be held May 20, 2021 virtually. Topic and agenda are still being discussed.

due to Novel Coronavirus, this program was limited and did not include the YSI Handheld Multiparameter Probe.

- As stated above, the Committee kept the general public apprised of updates and the existence of the Army Corps' *New York New Jersey Harbor and Tributaries Focus Area Coastal Storm Risk Management Feasibility Study*.
- Distributed information on the Great Neck and Port Washington Water Pollution Control Districts' *Shed the Meds* collection programs, the Town of North Hempstead's STOP programs, and the Town's Sustainability classes and programs throughout the reporting period.
- Began planning an upcoming joint protection committee meeting (public) with the Hempstead Harbor, Oyster Bay/Cold Spring Harbor, and Peconic Estuary Protection Committees, the Setauket Harbor Task Force, and Friends of the Bay to be held May 20, 2021 virtually. Topic and agenda are still being discussed.
- Continued editing and distributing introductory folders to new committee member representatives in order to educate them on the Committee, stormwater, and regulations. The goal is to make new representatives comfortable in their new role.

MCM # 3 – Illicit Discharge Detection and Elimination

Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).

- Conducted a weekly water quality monitoring program (June through September) with North Hempstead Bay Constables and Nassau County Dept. of Health.
- Included removing illegal downspout hook-ups as a “What You Can Do” tip on several newsletters and other publications.

MCM # 4 – Construction Site Runoff Control

Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary stormwater detention ponds).

- Forwarded information to Phase II contacts about NYSDEC Erosion & Sediment Control Training held locally throughout the year.
- Monitored changes in regulations and advised member municipalities as needed.
- Bay constables watched for unusual discharges or conditions while conducting weekly water quality monitoring

MC # 5 – Post Construction Runoff Control

Developing, implementing, and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.

2020 – 2021 Newsletters and mailings:

Winter 2021 Newsletter:

March 4, 2021

<https://mailchi.mp/e52a8873eccf/winter-2021>

Autumn 2020 Newsletter:

November 5, 2020

<https://mailchi.mp/90117c7c957f/fall-2020-newsletter-5075348>

2020 Beach Cleanup Updates

September 10, 2020

<https://mailchi.mp/a0147133b059/2020-annual-beach-cleanup-5053224>

2020 Beach Cleanup

September 4, 2020

<https://mailchi.mp/f23abb62664c/2020-annual-beach-cleanup-5046460>

Summer 2020 Newsletter:

August 13, 2020

<https://mailchi.mp/5d41d16d771d/winter-2019-newsletter-5032268>

Spring 2020 Newsletter:

April 15, 2020

<https://us17.campaign-archive.com/?u=df70a805d021557ae64c3aaa5&id=5df075dc88>

Blog

Palsdottir, H. (2020, Nov. 3). Opinion: Earth Matters: Recycle fall leaves on your property. *The Island Now*. Retrieved from: <https://theislandnow.com/blog-112/earth-matters-recycle-fall-leaves-on-your-property/>

Wilson-Pines, J. (2020, Aug 3). Earth Matters: Long Island's aquifer can be sustained. *The Island Now*. Retrieved from: <https://theislandnow.com/blog-112/earth-matters-long-islands-aquifer-can-be-sustained/>

Army Corps Feasibility Study

Adams, M., C. Ryan, and M. Schaden. (2020, March 11). Dead Gate: Army Corps Sea Gates Project Suspended. *Great Neck Record*. Retrieved from: <https://greatneckrecord.com/dead-gate-army-corps-sea-gates-project-suspended/>

Ryan, C., M. Adams, and M. Schaden. (2020, March 11). Sea Gate Project In Flux After Funding For Study Frozen. *Port Washington News*. Retrieved from: <https://portwashington-news.com/sea-gate-project-in-flux-after-funding-for-study-frozen/>

Member News

Ryan, C. (2020, Oct. 1). Meeting Held for Proposed BW Zoning Code Changes. *Port Washington News*. Retrieved from: <https://portwashington-news.com/meeting-held-for-proposed-bw-zoning-code-changes/>

Zou, D. (2020, July 30). Draft of proposed code changes may end moratorium in Port Washington biz district. *Newsday*. Retrieved from: <https://www.newsday.com/long-island/nassau/moratorium-development-waterfront-code-1.47503583>

Hampton, D. (2020, July 30). Code Changes Drafted For Port Washington Waterfront Area: Report. *Port Washington Patch*. Retrieved from: <https://patch.com/new-york/portwashington/code-changes-drafted-port-washington-waterfront-area-report>

MS4 Municipal Compliance Certification (MCC) Form

MCC form for period ending March 9, 2021

Name of MS4

SPDES ID

N Y R 2 0 A

Section 3 - Partner Information

Did your MS4 work with partners/coalition to complete some or all permit requirements during this reporting period? Yes No

If Yes, complete information below.

Submit a separate sheet for each partner. Information provided in other formats will not be accepted. If your MS4 cooperated with a coalition, submit one sheet with the name of the coalition. It is not necessary to include a separate sheet for each MS4 in the coalition.

If No, proceed to Section 4 - Certification Statement.

Partner/Coalition Name

O Y S T E R B A Y / C O L D S P R I N G H A R B O R

Partner/Coalition Name (con't.)

P R O T E C T I O N C O M M I T T E E

SPDES Partner ID - If applicable

N Y R 2 0

Address

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City

O Y S T E R B A Y

State

N Y

Zip

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eMail

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Phone

(0) 0 -

Legally Binding Agreement in accordance with GP-0-08-002 Part IV.G.? Yes No

What tasks/responsibilities are shared with this partner (e.g. MM1 School Programs or Multiple Tasks)?

- MM1 M U L T I P L E T A S K S
- MM2 M U L T I P L E T A S K S
- MM3 S O U R C E I D E N T I F I C A T I O N
- MM4 S T O R M W A T E R W E B I N A R S
- MM5 S E D I M E N T & E R O S I O N T R A I N I N G
- MM6 G R E E N I N F R A S T R U C T U R E

Additional tasks/responsibilities

- *Watershed Improvement Strategy Best Management Practices* required for MS4s in impaired watersheds included in GP-0-08-002 Part IX.

Education on pathogens

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID

N	Y	R	2	0					
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3. What strategies did your MS4/Coalition use to achieve education and outreach goals during this reporting period? Check all that apply:

- Construction Site Operators Trained

Trained
- Direct Mailings

Mailings
- Kiosks or Other Displays

Locations
- List-Serves

In List
- Mailing List

In List

		3	0	0
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- Newspaper Ads or Articles

Days Run

				6
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- Public Events/Presentations

Attendees

		5	0	0
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- School Program

Attendees
- TV Spot/Program

Days Run
- Printed Materials:

Total # Distributed

		5	0	0
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Locations (e.g. libraries, town offices, kiosks)

N	o	n	s	e	w	e	r	e	d		h	o	m	e	s				
C	l	e	a	n		u	p	s											
T	o	w	n	,		V	i	l	l	a	g	e		H	a	l	l	s	
P	u	b	l	i	c		L	i	b	r	a	r	i	e	s				

● Other:

F	a	c	e	b	o	o	k												
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● Web Page: Provide specific web addresses - not home page. Continue on next page if additional space is needed.

URL

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URL

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MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID

N Y R 2 0

2. URL(s) con't.:

Please provide specific address(es) where notice(s) can be accessed - not home page.

URL

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Oyster Bay/Cold Spring Harbor Protection Committee Third Party Certification Statement

Pursuant to
Permit # GP-0-08-002 pg.12 Part IV.G MS4 Annual Report

In furtherance of the purposes set forth in establishing the Oyster Bay/Cold Spring Harbor Protection Committee ("Committee"), the Committee shall undertake, to the extent practicable, the following activities on behalf of its member municipalities within their collective jurisdictions in order to assist in the fulfillment of the NYS Phase II regulations (New York State Pollutant Discharge Elimination Systems ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-08-002) provided that funds either from grants or member dues are available.

Scope of Work:

Activities and Deliverables *may include but are not limited* to the following:

Minimum Control Measure #1 (Public Education and Outreach):

Prepare and conduct a public education and outreach program including the preparation of brochures, portable displays, targeted mailings, press releases, articles for publication, an informational website, promotional give-ways, signage, and presentations to the community, business and/or stakeholder organizations.

Minimum Control Measure #2 (Public Involvement and Education):

Conduct public meetings for members of the public and stakeholders at critical junctures on major projects, develop and maintain e-mailing and postal mailing lists to keep apprised and involved in projects undertaken by the Committee, assist in beach clean-ups and wetland plantings to the extent possible, conduct attitude and awareness surveys, maintain and foster interrelationships with community organizations, business organizations, recreation organizations, educational institutions, environmental organizations and various levels of governments.

Minimum Control Measure #3 (Illicit Discharge Detection and Elimination):

Support water quality monitoring to detect unexpected changes in water quality, record and report observations of identified or suspected illicit discharges to appropriate agencies, assist in and help coordinate responses to identified or suspected illicit discharges, and assist in the maintenance and updating of the county's storm drain GIS mapping system.

Minimum Control Measure #4 (Construction Site Stormwater Runoff Control):

Assist member municipalities in identifying available construction site stormwater runoff control measures, requirements and procedures, and report any observed instances of stormwater runoff from construction sites to the member municipality and/or appropriate agency or agencies.

Minimum Control Measure #5 (Post Construction Stormwater Management):

Assist member municipalities in identifying available post construction stormwater management control measures, requirements and procedures, and report any observed instances of post construction stormwater runoff to the member municipality and/or appropriate agency or agencies.

Minimum Control Measure #6 (Pollution Prevention/Good Housekeeping):

Assist member municipalities in identifying available pollution prevention/good housekeeping practices including but not limited to information on pet waste management, Canada Goose control, "Get Pumped! Long Island" onsite wastewater treatment homeowner education campaign, household hazardous waste programs, recycling programs, and making the Town of Oyster Bay's "Don't Feed the Quackers Crackers or Bread" video available.

Contracted Entity Certification Statement:

The Oyster Bay/Cold Spring Harbor Protection Committee understands that its member municipalities must comply with the requirements of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-08-002) and any successor permit, and that it is unlawful for any person to directly or indirectly cause or contribute to a violation of water quality standards. The Committee agrees to provide, to the extent practicable, the above described services on behalf of its member municipalities in order to assist them in the fulfillment of New York State Phase II requirements provided that annual member dues and applied for grant funds (where applicable) are received.



April 12, 2021

Signature

Date

Rob Crafa

Coordinator

Name

Title



**Phase II Activities Undertaken
On Behalf of Member Municipalities
March 10, 2020 to March 9, 2021 Permit Year**

MCM # 1 – Public Education and Outreach

- Expanded successful Community Shellfish Gardening program to raise awareness of and address local water quality issues in Oyster Bay and Cold Spring Harbor engaging more than 100 families, students and organizations (i.e. Cold Spring Harbor Lab, Girl/Boy/Sea Scouts, Eagle Dock, St. John’s Church, Three Harbors Garden Club, Lloyd Harbor Bath Club, Cold Spring Harbor Beach Club, Seawanhaka Corinthian Yacht Club, and State Senator James Gaughran) at community gardens, local bathing and yacht clubs and private residences.
 - Outreach program involved:
 - Held Public Information and Training Zoom Meetings
 - Hands-on training at Laurel Hollow Village to learn about oyster life cycle, to build oyster cages and to learn how to maintain the garden
 - Weekly community cleanings at Laurel Hollow Village Hall, West Harbor Beach in Bayville and added West Neck Beach in Lloyd Harbor.
 - Partnered with villages of Laurel Hollow and Bayville, Friends of the Bay, Cornell Cooperative Extension, the Town of Oyster Bay, the North Oyster Bay Baymen’s Association and Frank M. Flower and Sons.
- Supported the Town of Oyster Bay’s management of new Bay Management Area in Cold Spring Harbor included a spawner sanctuary including:
 - Monitoring (2 site dives, signage and illegal harvesting)
 - Seeding (TOB clams, oysters from gardening program)
 - Disease testing
- Participated in Town of Oyster Bay, The Nature Conservancy and Pew Charitable Trust Supporting Oyster Aquaculture and Restoration (SOAR) program seeding 60,000 mature oysters to Town waters including a press conference in December 2020 promoting the program.
- Implemented Community Shellfish Gardening internship for college and young professionals.

- Participating with Manhasset Bay and Hempstead Harbor protection committees, Town of Oyster Bay and Friends of the Bay in CESSPOOL (Coordinated Environmental Solutions to Septic Problems Occurring On Long Island) to raise public awareness of impact of onsite waste treatment systems.
- Promoted “Get Pumped! Long Island” onsite wastewater treatment education campaign:
 - Distributed “Get Pumped! Long Island” homeowner education kits including brochures, fact sheets and file folders to member municipalities.
 - Promoted residents to “Get Pumped!” through www.getpumpedli.org.
- Publicized public education and outreach activities in watershed through:
 - Web site - event calendar maintained at web site
 - Facebook posts – three sites: Oyster Bay/Cold Spring Harbor Protection Committee, Scoop the Poop Long Island and GetPumpedLI!
 - E-mail list
 - Posting signs
- Protection Committee featured in Newsday and several local weekly publications.
- Distributed public outreach materials including:
 - Portable display with branded tent and table cloth
 - Fact sheets:
 - About the Committee
 - Pump your onsite wastewater treatment system
 - Pick up after your pet
 - Don’t feed the waterfowl
 - Green Household Cleaning Alternatives
- Monitored Nassau County Sewage Spill Reports
- Maintained Oyster Bay/Cold Spring Harbor Protection website (www.oysterbaycoldspringharbor.org) and Facebook page

MCM # 2 – Public Participation

- Engaged 100+ families in Oyster Bay and Cold Spring Harbor watershed to raise 1,000 oysters each (100,000 total) to increase awareness of and involvement in water quality issues affecting the water body. Program included two public meetings, two training days, twelve community cleanings, and a year-end celebration.
- Support Friends of the Bay’s Volunteer Water Quality Monitoring Program and participation in the Unified Sound Wide monitoring program

- Held five (5) Oyster Bay/Cold Spring Harbor Protection Committee ZOOM meetings (open to the public) in April, June, October and December in 2020 and January 2021
- Networked with local citizens groups – Friends of the Bay, Theodore Roosevelt Audubon Sanctuary, North Shore Land Alliance, Long Island Sound Citizens Advisory Committee, Nassau County Soil and Water Conservation District, New York State Marine Education Association, Long Island Native Plants Initiative, Save the Great South Bay
- Maintained Oyster Bay/Cold Spring Harbor Protection Committee and Oyster Gardening mailing list (300+ combined).
- Financially contributed to Friends of the Bay Citizens Water Quality Monitoring Program.

MCM # 3 – Illicit Discharge Detection and Elimination

- Supported MS4 Illicit Discharge Detection Investigation using Thermal Imaging UAVs (Drones) – Friends of the Bay granted funded by Nassau County Soil and Water Conservation District
- Engaged Cornell Cooperative Extension to identify possible illicit discharges in Cold Spring Harbor based on existing studies (Outfall #237) and via the Cold Spring Harbor Watershed Initial Characterization and Management of Pathogens Affecting Sanitary Condition of Shellfish Lands (Laurel Hollow and Cold Spring Brook Subwatersheds) – Cornell Cooperative Extension - granted funded by Nassau County Soil and Water Conservation District
- Continued to implement a multi-year C.E.S.S.P.O.O.L. public education program to raise awareness about the impact of discharges from onsite septic systems and the need to conduct regular maintenance. Proper maintenance of septic systems may reduce the incentive for homeowners and others to install illicit discharges to handle overflows.
- Pursuing, with the Village of Bayville, connecting businesses in “The Stands” on Bayville Avenue to the Glen Cove Sewage Treatment Plants with Nassau County Department of Public Works.
- Advocated for Comprehensive Wastewater Management Plan for Incorporated Village of Bayville.
- Supporting analysis of potential sources of pollution resulting in the closure of Laurel Hollow Village Beach.

MCM # 4 – Construction Site Runoff Control

- Monitored changes in regulations and advised member municipalities of changes.
- Participated in several Stormwater Management Webinars.

MCM # 5 – Post Construction Runoff Control

- Monitored changes in regulations and advised member municipalities of changes.

MCM # 6 – Good Housekeeping

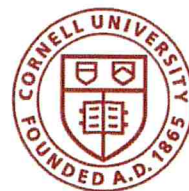
- Developed annual strategic priorities for Protection Committee.
- Distributed articles, newsletters, studies, research papers, grant opportunities and other information of interest to municipal partners.
- Implementing Comprehensive Canada Geese Management Program.
- Worked with Town of Huntington and Town of Oyster Bay Geese Peace program managers to enhance their programs.
- Developed and advocated for adoption of “Don’t Feed Waterfowl” and “Pooper Scooper” model laws for municipalities that do not have them.
- Assisted the Long Island Native Plant Initiative with offering low cost native plants to municipalities and residents.
- Implementing comprehensive Pet Waste Management Program including sponsoring Pet Waste Stations in Bayville and promoting stations in other areas.

Other

- Scanning and monitoring potential environmental issues important to local governments including:
 - Long Island Sound Study
 - Long Island Nitrogen Action Plan
 - Suffolk County Subwatersheds Wastewater/9E Plan
 - Nassau County 9E Plan
- Supported grants related to Oyster Bay and Cold Spring Harbor including:
 - ***MS4 Illicit Discharge Detection Investigation using Thermal Imaging UAVs (Drones) – Friends of the Bay granted funded by Nassau County Soil and Water Conservation District***

- **Cold Spring Harbor Watershed Initial Characterization and Management of Pathogens Affecting Sanitary Condition of Shellfish Lands** (Laurel Hollow and Cold Spring Brook Subwatersheds) – *Cornell Cooperative Extension - granted funded by Nassau County Soil and Water Conservation District*
- **Underwater Remote Operated Vehicle** by Friends of the Bay grant funded by Wildlife Conservation Society
- **Kelp Nutrient Bioextraction** in Bayville and Laurel Hollow by Adelphi University funded by LIS Futures Fund
- **Septic Improvement Program Delivery** by The Nature Conservancy grant funded by LIS Futures Fund
- **St. John's Salt Marsh: Community Engagement and Planning for Restoration Grant** submitted by Cornell Cooperative Extension to Long Island Sound Futures Fund - unsuccessful
- Managed the Oyster Bay/Cold Spring Harbor Protection Committee including:
 - Hosting five (5) regular meetings open to the public approximately every other month
 - Maintaining Protection Committee mailing list and grant spreadsheet
- Monitored Nassau County Sewage Spill Notifications and special projects such as Army Corps of Engineers NYC Storm Surge Barriers study.

Cornell Cooperative Extension
Suffolk County



FINAL REPORT
Cold Spring Harbor Watershed

Initial Characterization and Management
of Pathogens Affecting Sanitary Condition of Shellfish Lands

&

Assessment of the Spring Street Outfall #273 and Associated
Conveyance as it Pertains to Pathogens Affecting Sanitary
Condition of Shellfish Lands

Prepared for

Nassau County Soil and Water Conservation District
&
Oyster Bay - Cold Spring Harbor Protection Committee

Submitted by:

Cornell Cooperative Extension of Suffolk County
423 Griffing Avenue, Suite 100
Riverhead, NY 11901-3071

Contact:

Carolyn Sukowski, Water Quality Program Coordinator
E-mail: cs424@cornell.edu
Phone: 631-239-1800 ex.6

PURPOSE

Surface water impairment by fecal coliform bacteria is a water quality issue of national scope and importance. Cold Spring Harbor currently has a year-round shellfish land closure for the area including tributaries south and east of a line extending southerly from the seaward end of the dock serving the Cold Spring Harbor Beach Club to the western extremity of the 'Gale House' located on the shoreline immediately west of Cold Spring Beach, on the campus of Cold Spring Harbor Laboratory. Additionally, the area including tributaries south and east of a line extending westerly from the seaward end of the dock serving the Cold Spring Harbor Beach Club to the flag pole situated near the village hall of the Village of Laurel Hollow is closed to shellfishing seasonally.

The purpose of this project is to characterize and manage fecal coliform contamination in the Cold Spring Harbor Watershed as a first step towards identifying and reducing the sources of bacterial contamination that are causing shellfish closures in southern Cold Spring Harbor with the ultimate goal of opening these shellfish lands. The Oyster Bay - Cold Spring Harbor Protection Committee (OBCSHPC) has committed to pursuing this effort in the Spring Street subwatershed which lies within the Town of Huntington boundary. The Nassau County Soil and Water Conservation District (NCSWCD) has additionally committed to pursuing this effort in the Laurel Hollow and Cold Spring Brook Subwatersheds. This project aligns with the recommended actions identified in the Friends of the Bay Watershed Action Plan and involves identifying preliminary fecal coliform loads during dry weather and storm events for three significant subwatersheds to Cold Spring Harbor. All samples have been processed and preserved for future microbial source tracking (MST) and recommendations have been provided on prioritizing sample selection. A review of existing fecal coliform data as it compares to the U.S. Food and Drug Administration's National Shellfish Sanitary Program and additional assessments in these subwatersheds has been conducted. Additionally, training of Oyster Bay-Cold Spring Harbor Protection Committee (OBCSHPC) members and volunteers in ways they can continue efforts in identifying potential illicit discharges to the storm sewer system will be used to guide efforts to identify problem areas and manage fecal coliform contamination in the watershed.

FINDINGS

TASK I (NCSWCD): Review of Existing Water Quality Data

Existing fecal coliform data from inner Cold Spring Harbor has been compiled and analyzed as it relates to the U.S. Food and Drug Administration's National Shellfish Sanitary Program recommendations. Data review included New York State Department of Environmental Conservation (NYS DEC) Division of Marine Resources Shellfish Harvest Area Classification Unit Report on Cold Spring Harbor Shellfish Growing Area #48 (Annual Evaluation 2020 and 2019) as well as data collected by Friends of the Bay (FOB). Local bathing beach data from EPA Water Quality Data portal (WQX) / STORET database and EPA Beacon2 database was also reviewed.

Ambient Water Quality Monitoring (FOB, NYS DEC)

A review of ambient water quality monitoring data was conducted in order to highlight most recent conditions. The analysis provided below presents the most recent data available including NYS DEC data from 2009 through 2019 as well as data provided by Friends of the Bay (FOB) from 2011 through 2019.

The NYS DEC conducts an annual sanitary survey and evaluation of Cold Spring Harbor Shellfish Growing Area #48. Systematic random sampling is conducted throughout the growing area. This field sampling and data analysis design presumes that if intermittent, unfavorable changes in water quality occur, they will be revealed in the bacteriological sampling results. These unfavorable sampling results will then contribute to the variation of the data set. Data sets displaying greater levels of variation will consequently exhibit an elevated estimated 90th percentile. The estimated 90th percentile serves as the statistic to measure the variance of a data set. This statistic, along with the geometric mean, is used when evaluating each sampling station for compliance with the National Shellfish Sanitation Program (NSSP) growing area criteria. For fecal coliform, a geomean threshold of 14 MPN/100mL and a 90th percentile of 49 MPN/100mL are used as standards to determine an area as approved.

The approved, or 'open', classification for a growing area requires that the sanitary survey has determined that there are no unacceptable concentrations of fecal material, pathogenic microorganisms, or poisonous and deleterious substances. There are no NSSP limitations on the harvest of shellstock from growing areas placed in this classification.

The conditional, or 'seasonal', classifications are designed to address growing areas that are subject to intermittent microbiological pollution. This classification applies when during certain times of the year or under certain conditions, the shellstock from the growing area may be safely harvested. For example, during periods of low runoff and/or cooler temperatures, these areas may be below thresholds.

The restricted, prohibited, or 'uncertified/closed' area classifications are designed to address growing areas that do not meet approved area criteria and which may be subject to administrative closures such as areas in proximity to waste water treatment plant outfalls. This classification is commonly used for areas affected by non-point pollution from either urban or rural sources that cause the water quality to fluctuate unpredictably or of sufficient frequency that a conditionally approved area is not feasible.

The following maps include NYS DEC and Friends of the Bay (FOB) data going back enough full years to be able to highlight the geomeans and 90th percentiles for at least 30 data points. Friends of the Bay monitoring data is only included in the closed period map since data is only collected in these warmer months, not year-round. The extent of the maps focus on inner-Cold Spring Harbor stations only, specifically out to NYS DEC station 48-8 located off of Jennings Beach. One NYS DEC monitoring station, 48-24, was only recently added in December of 2019 so there is insufficient data to present values. NYS DEC stations located in the year-round closed area (48-11, 48-13, 48-13.1, 48-14, and 48-15) have been marked by NYS DEC as 'inactive' and were not included in the State's most recent Annual Evaluation (2020) for these stations. However, data was collected at these stations in 2019, and is included in our analyses.

Figure 1 represents a year-round (1/1-12/31) NYS DEC data summary that includes a minimum of 30 data points per station going back as far as 2013. Stations in areas closed year-round are failing both the geomean and 90th percentile standards. Seasonal stations are either failing one of the metrics or approaching a threshold value. Nearshore stations in the open area (48-8 and 48-10) would not necessarily be considered to be approaching thresholds for this year-round analysis. However the 90th percentiles are relatively higher than that of the open station located in the middle of the harbor, 48-9.

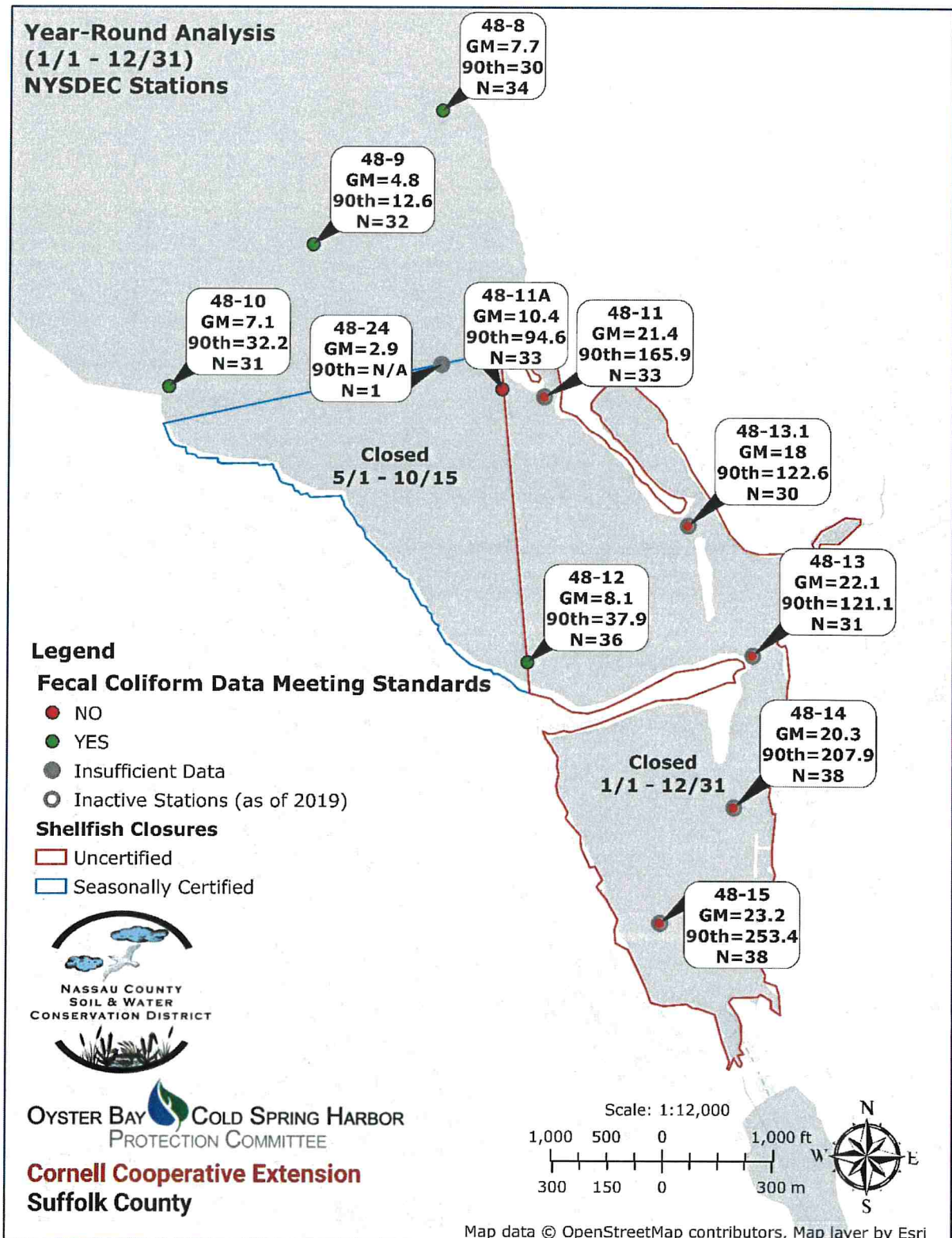


Figure 1. Year-Round (1/1 – 12/31) Analysis: NYS DEC Fecal Coliform Data in Inner Cold Spring Harbor

Figure 2 represents a seasonally closed (5/1-10/15) NYS DEC and FOB data summary going back to (2010 for NYS DEC data and 2017 for FOB data). This seasonal closed analysis includes the most recent year of data available (2019) whereas the 2020 NYS DEC Annual Evaluation leaves 2019 data out for the closed areas as these stations have been marked as inactive. With the inclusion of the most recent year of data (2019), when compared to the NYS DEC Annual Evaluation, there is still no improvement seen in these stations. All NYS DEC stations and FOB stations, FB-1 and FB-2, in areas closed year-round are failing both the geomean and 90th percentile standards for this period. Seasonal stations, including FOB station FB-3, are also failing both the geomean and 90th percentile standards for this period. Nearshore stations (48-8 and 48-10) in the open year-round area could be considered to be approaching thresholds for both the geomean and 90th percentile. However, additional years of data would be needed to continue to assess status.

It should be noted that in the 2020 NYS DEC Annual Evaluation, which uses station data from 5/1-10/31 despite the closed period being from 5/1-10/15, station 48-10 is identified as approaching threshold values with a geomean of 8.8 MPN/100mL and 90th percentile of 42.8 MPN/100mL (N=31). Our review, which includes data from the seasonally closed window of 5/1-10/15 and contains an additional year of data produced a geomean of 8.5 MPN/100mL and 90th percentile of 38.5 MPN/100mL (N=35). The difference is not significant, but is worth mentioning considering the importance of this year-round open station. Additionally, when analyzing the 5/1-10/15 period for this station using the same data years as DEC we see a geomean of 9.4 MPN/100mL and a 90th percentile of 46.6 MPN/100mL (N=29). NSSP uses a minimum of the 30 most recent randomly collected samples to calculate the geomean and the 90th percentile which is why the CCE analysis went back an additional year. This additional analysis of this station was considered as it is the year-round open station closest to the seasonally closed area and therefore could be used to consider potential future extensions of closed areas.

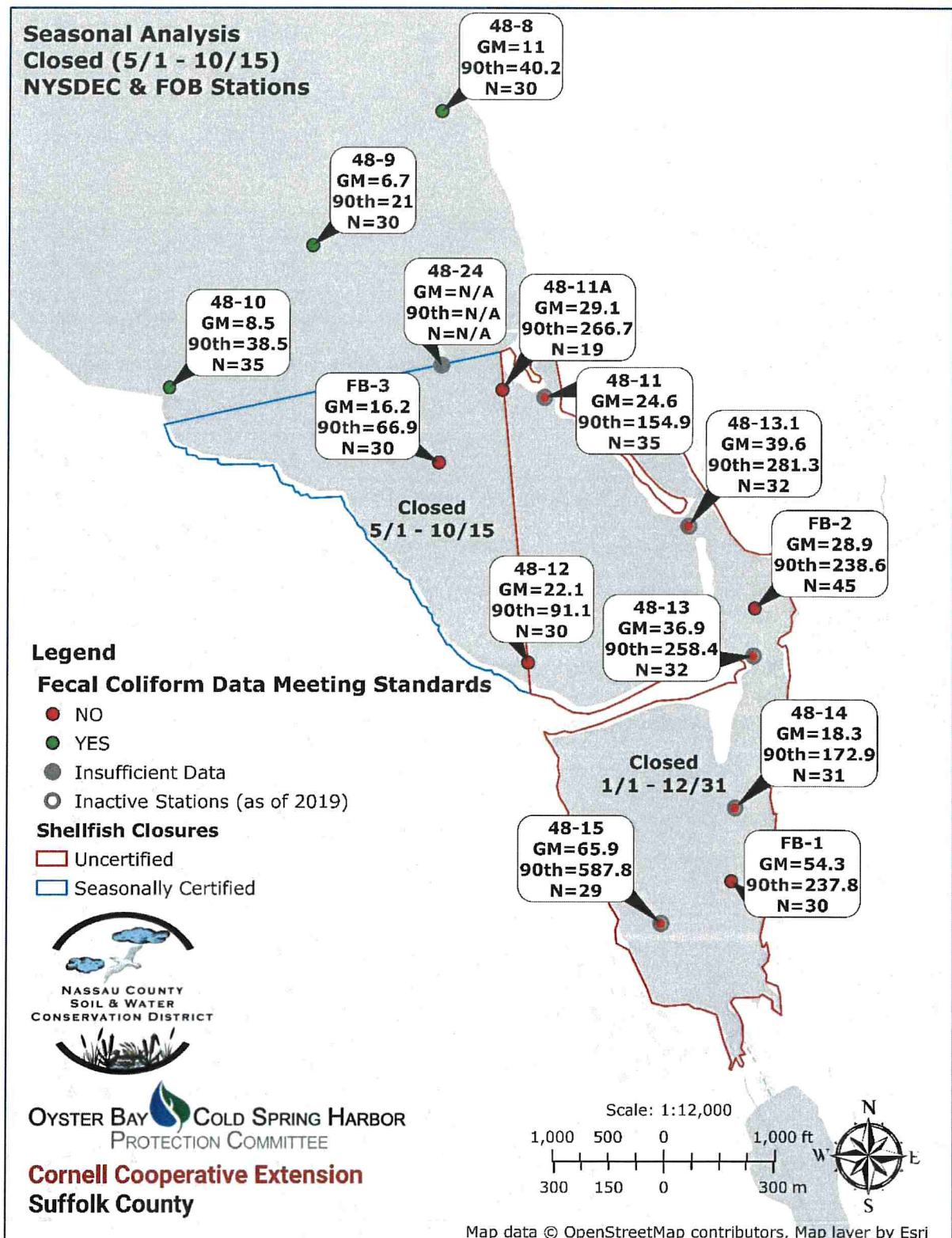


Figure 2. Seasonally Closed Period (5/1–10/15) Analysis:
NYSDEC & FOB Fecal Coliform Data in Inner Cold Spring Harbor

Figure 3 represents a seasonally open (10/16 - 4/30) NYS DEC data summary going back to 2009. Two NYS DEC stations (48-14, 48-15) in the area closed year-round are failing both the geomean and 90th percentile standards for this period. The other three NYS DEC stations in the annually closed area (48-11, 48-13, 48-13.1) are below thresholds between October 16th and April 30th. However, there is a significant difference between these stations and those located on the seasonal line boundary. The difference can be seen specifically in the 90th percentile values indicating that the stations located in the year-round closed area show a higher level of variation which reveals that intermittent unfavorable changes in water quality are occurring, just not to the level they do in the warmer months and to the extent that they trigger failure of standards during colder months. All seasonally open stations and all stations open year-round are also below thresholds between October 16th and April 30th.

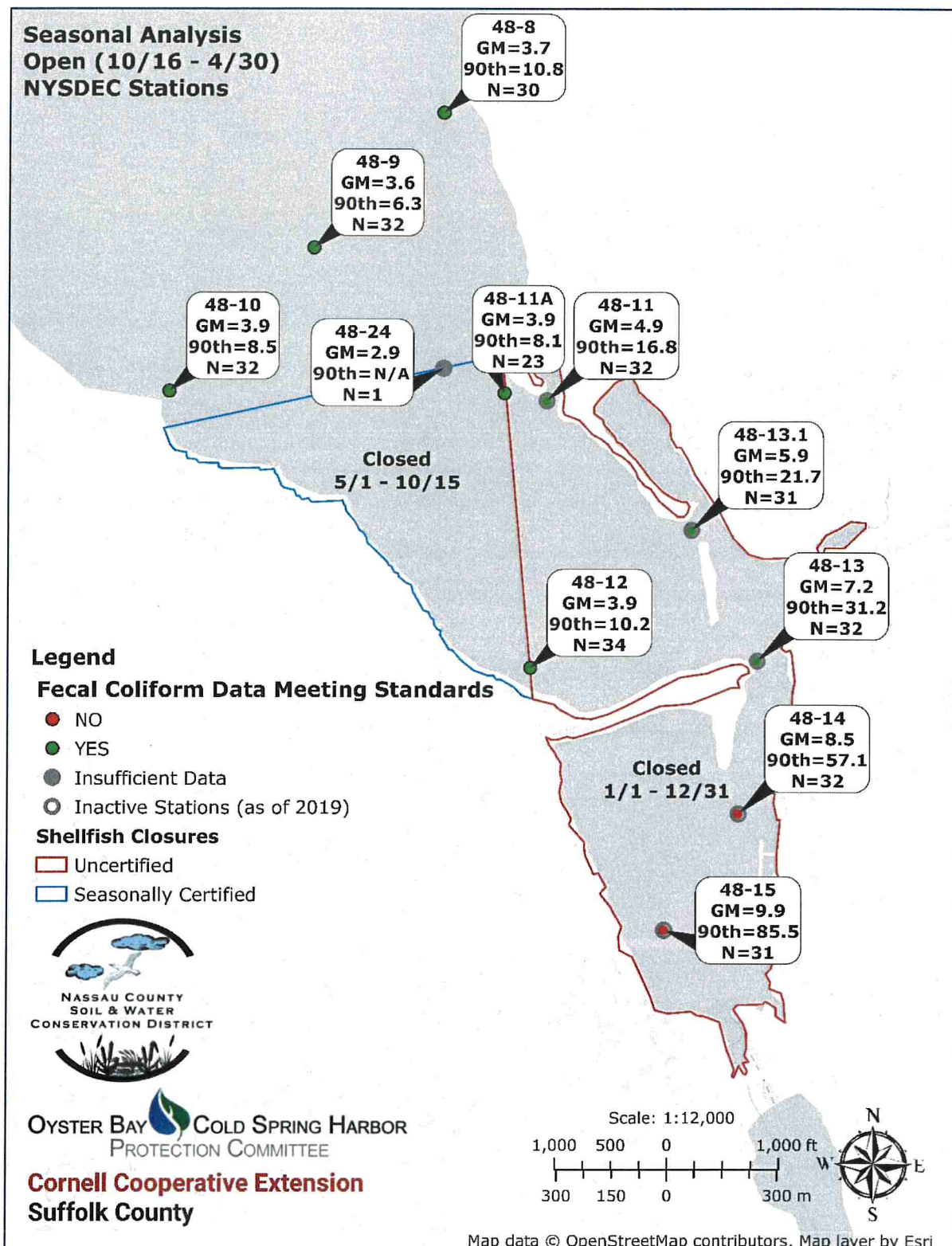


Figure 3. Seasonally Open Period (10/16 – 4/30) Analysis:
NYSDEC Fecal Coliform Data in Inner Cold Spring Harbor

NYS DEC and FOB data was additionally processed for annual trends during the closed period (5/1-10/15). *Figure 4* presents the annual analysis of geometric means and 90th percentiles for NYS DEC fecal coliform data for the seasonally closed period (May 1-October 15) of combined stations in the open, closed, and seasonal areas. *Figure 5* presents the same but for FOB fecal coliform data. The NYS DEC and FOB analyses align with one another except for the open areas, which is expected, since the FOB open water station, FB-4, is located in outer Cold Spring Harbor, whereas the NYS DEC open water stations analyzed were located closer to inner Cold Spring Harbor and the closed areas. This explains the lower geomeans for the open area in the FOB graph versus the NYS DEC graph.

For the most recent data year, 2019, NYS DEC open area stations (48-8, 48-9, 48-10) failed both the geomean and 90th percentile standard during the May 1st to October 15th period. This has occurred once before, in 2014. The FOB open area station located in outer Cold Spring Harbor had a geomean below the threshold, but a 90th percentile that failed. Additionally, in 2019, both the closed area and the seasonal area failed the geomean and 90th percentile standards.

An analysis of variance was completed to assess trends between years for both the NYS DEC data and the FOB data. The NYS DEC data in *Figure 4*, indicates that the open area had significantly higher fecal coliform geomeans in 2014 and 2019; the closed area had a significantly lower fecal coliform geomean in 2012 and a significantly higher fecal coliform geomean in 2018 and 2019; and the seasonal area showed a significantly higher fecal coliform geomean in 2019. The FOB data in *Figure 5*, indicates that the open and seasonal areas have no significant differences between years, whereas the closed area did show a significantly higher geomean in 2011 and a significantly lower geomean in 2018. 2019 FOB data fell in between the lowest year (2018) and the highest year (2011).

Geomeans and 90th percentiles were compared to annual rainfall data from a local NOAA station during the closed period of 5/1-10/15. A correlation between fecal coliform values and annual rainfall was not found.

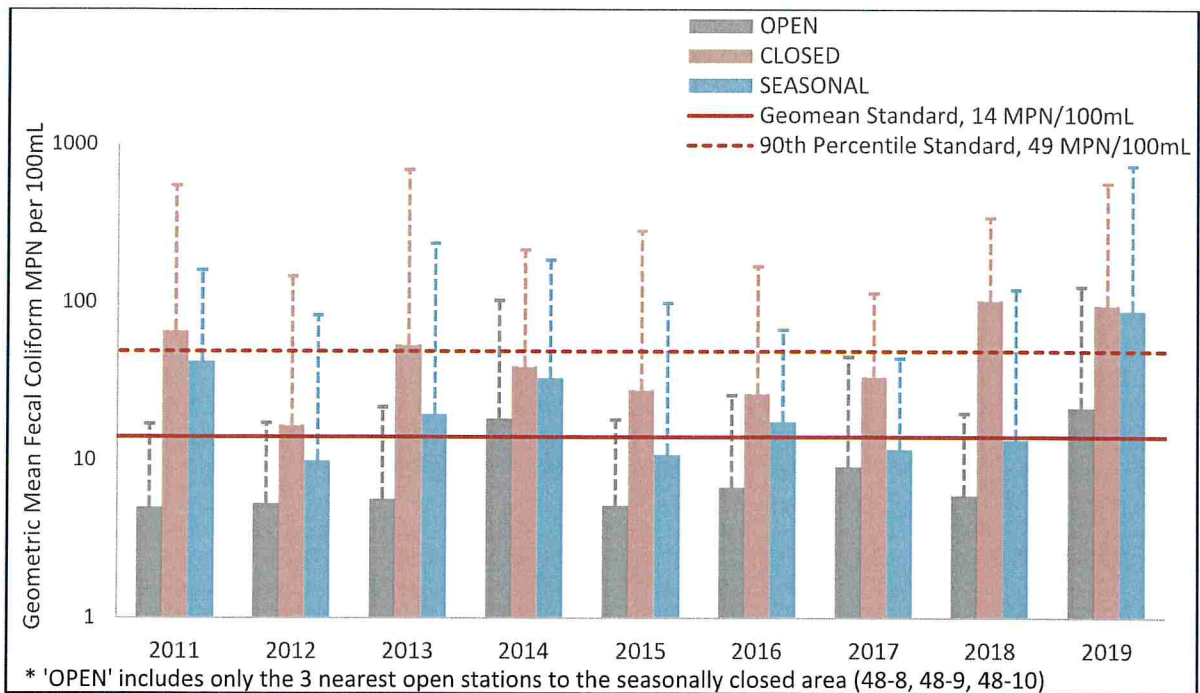


Figure 4. NYS DEC Data - Seasonal (May 1-October 15):
Geometric Mean Fecal Coliform MPN per 100mL and 90th Percentile of Stations in Open, Closed, and Seasonal Areas by Year

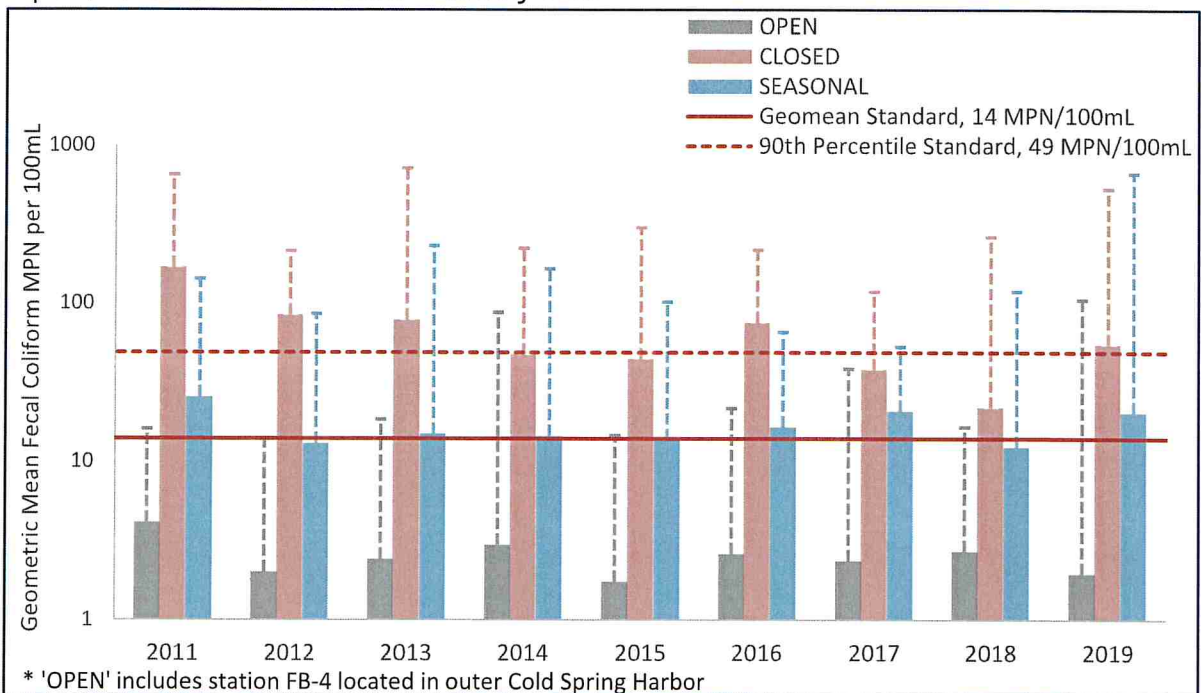


Figure 5. FOB Data - Seasonal (May 1-October 15):
Geometric Mean Fecal Coliform MPN per 100mL and 90th Percentile of Stations in Open, Closed, and Seasonal Areas by Year

Outfall and Stream Monitoring

Friends of the Bay

The Stream and Outfall Monitoring Program that has been implemented by Friends of the Bay complements the existing open water body monitoring program within the Oyster Bay/Cold Spring Harbor estuary. Sampling data has been reviewed for the 2015-2017 years. Monitoring was discontinued after 2017, however the Program may continue in subsequent years. The Stream and Outfall Monitoring Program involves collecting samples from 10 major discharges into the Estuary. These discharges include streams, ponds, an untreated sewage discharge, and a 'rotating' outfall that changes for each event in an effort to identify other pollutant sources. Samples are collected four times per year. Two of these monitoring events occur following a period without precipitation ("dry" events), and the remaining two occur during precipitation events ("wet" events). Samples are analyzed for a variety of biological, chemical, and physical parameters including fecal coliform bacteria.

In 2015 through 2017, sampling involved 2 dedicated stream sample sites (DeForest Pond Outflow, St. Johns Pond Outflow) and 2 stormwater outfalls that were sampled on a rotating basis (Spring Street Outfall, Laurel Hollow Beach Outfall)

A summary of data collected by location can be viewed in *Table 1*. While there was not enough data collected annually to be able to determine trends for outfall locations or to be able to compare to sampling data of this current study, the stream outflows sampled have significantly lower fecal coliform enumeration values than the stormwater outfalls sampled on average ($p = 0.008$).

Table 1. Friends of the Bay Stream and Outfall Monitoring Summary from 2015 to 2017 for Cold Spring Harbor Watershed. Values indicate Fecal Coliform Enumeration (FC/100mL) for individual samples.

Sampling Location	Winter		Spring		Summer		Fall	
	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
DeForest Pond	10	35/19	35/21	5	23	260	35/31	ND
St. Johns Pond	1	21/10	21/17	4	25/25	0.99	82/3	ND
Spring Street Outfall	55	27/7100	120	ND	270	570	2200/145	ND
Laurel Hollow Beach Outfall	ND	260	ND	590	ND	ND	4200	ND

Suffolk County Department of Health

Suffolk County Department of Health has collected stream data in the past, however, there is not a significant amount of more recent data for streams in the Cold Spring Harbor watershed to aid in determining trends. A station located in Cold Spring Brook was sampled 7 times since 1993 as follows: April 1993, Jan 1995, Aug 1995, May 1997, Aug 1999, July 2003, July 2004.

Cornell Cooperative Extension of Suffolk County (2009)

In 2009, wet weather and dry weather sampling in the Town of Huntington was conducted at stormwater outfall locations, including Spring Street outfall #273. Sampling results for fecal coliform enumeration were comparable to this current study of fecal coliform concentrations from the Spring Street outfall #273 sampled in 2020. The average of dry weather samples was 934 FC/100mL in 2009 whereas the average of dry weather samples was 298 FC/mL in 2020. For comparable sampling months, the average of wet weather samples was 16,600FC/mL whereas for the current study, the average of wet weather samples was 25,295 FC/100mL.

Bathing Beach Data

Bathing beach standards use enterococcus concentrations of samples whereas shellfish standards use fecal coliform concentrations, which is the focus of this study. However, since the source of pathogens may be the same for bathing beach and shellfishing waters, we reviewed local bathing beach data from EPA Water Quality Data portal (WQX) / STORET database and EPA Beacon2 database. This data is best summarized in the Sound Health Explorer, a Save the Sound project, at soundhealthexplorer.org/swimmable. Appendix A provides the summaries for each of the 6 bathing beaches in Cold Spring Harbor in 2019 along with an explanation of the grading.

Of note would be that bathing beaches with the worst grades tended to have a greater percentage of samples that failed water quality standards during wet weather events versus dry weather events.

TASK I (OBCSHPC): Mapping and Verification of Spring Street Outfall #273 and Associated Conveyance

All stormwater structures found to connect to the Spring Street Outfall, regardless of jurisdiction, were field verified and mapped along with associated attributes into GIS. Structures were surveyed for illicit connections but none were found. Completion of conveyance mapping will ensure proper assessment of Spring Street Outfall #273 and aid in future crackdown of any pollutant sources. Mapping can be seen in *Figure 6*. A total of 111 structures were verified and associated data was collected.

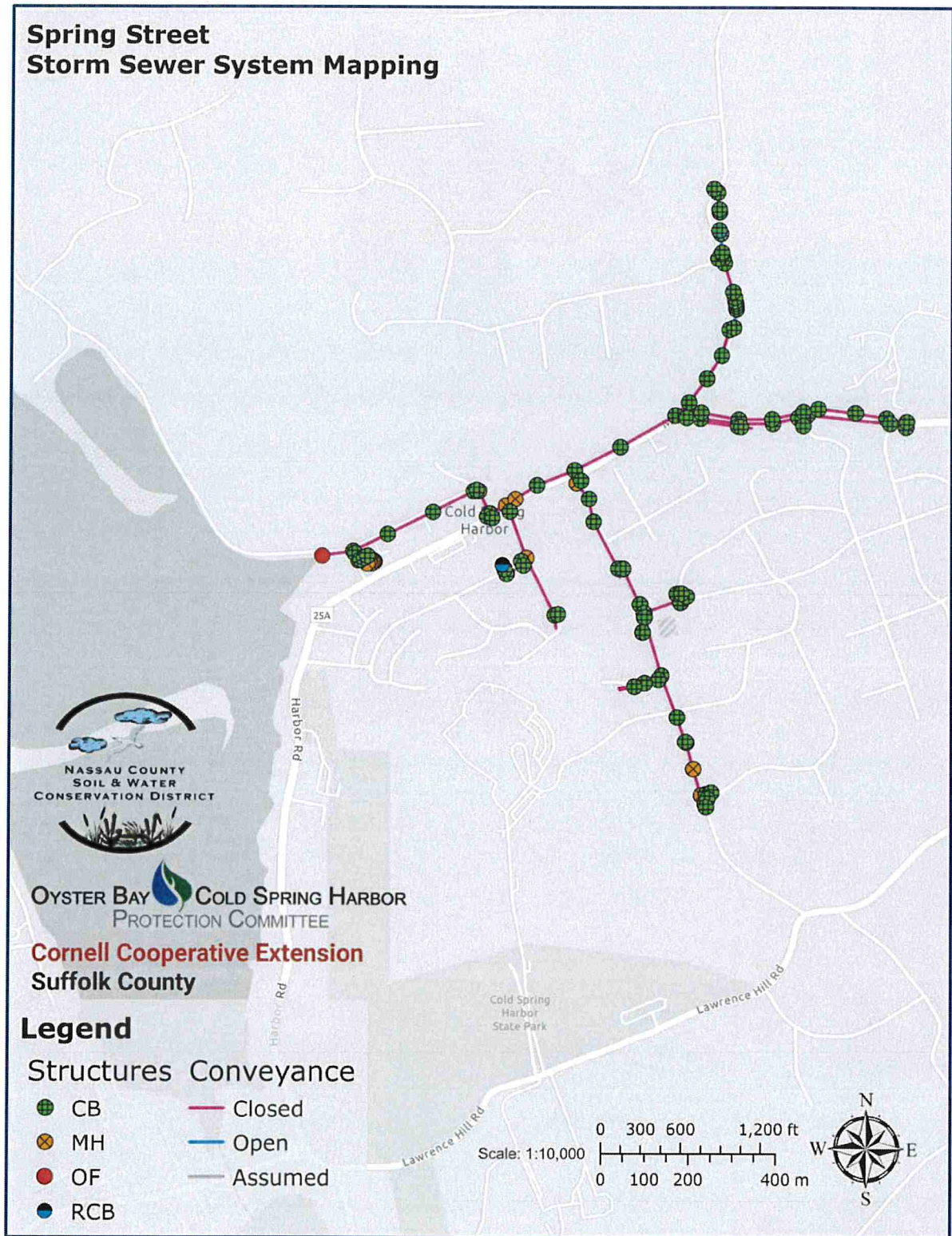


Figure 6. Spring Street Outfall # 273 storm sewer system conveyance mapping.

TASK II (NCSWCD): On-site Wastewater Treatment System Survey

In areas which have shallow depth to groundwater, an On-Site Wastewater Treatment System (OWTS) Parcel Survey was completed. Parcels were surveyed from municipal roads, without entering properties, to conduct a Surface Condition Analysis. Adjacent stormwater structures were also surveyed for illicit connections. Observations were made that could indicate parcels where OWTSs could be failing. The areas having shallow depth to groundwater based on USGS data are indicated in *Figure 7*. OWTS parcel surveys were conducted in the Laurel Hollow and Cold Spring Brook subwatersheds.

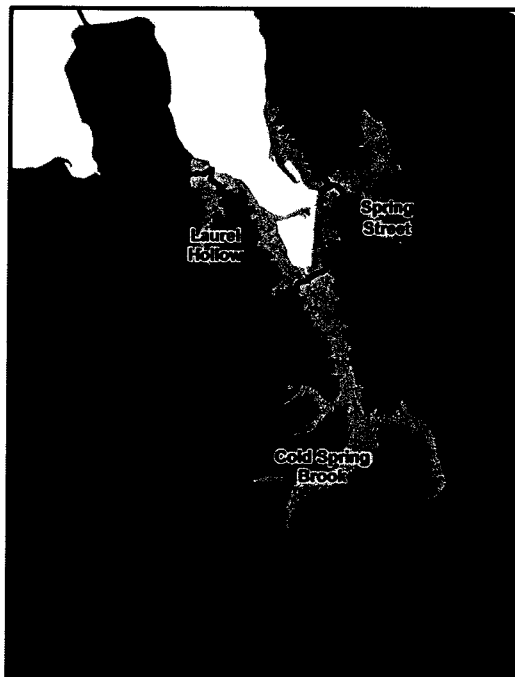


Figure 7. Cold Spring Harbor Watershed along with areas of shallow depth to groundwater indicated in tan

235 priority parcels were selected in areas of shallow ground water (less than 100ft) in the Laurel Hollow and Cold Spring Brook subwatersheds. Parcels were surveyed for indicators such as geometric patterns of burnt grass or lush plant growth, spongy ground, and discharges other than stormwater. *Figure 8* indicates parcel locations marked for surveys.

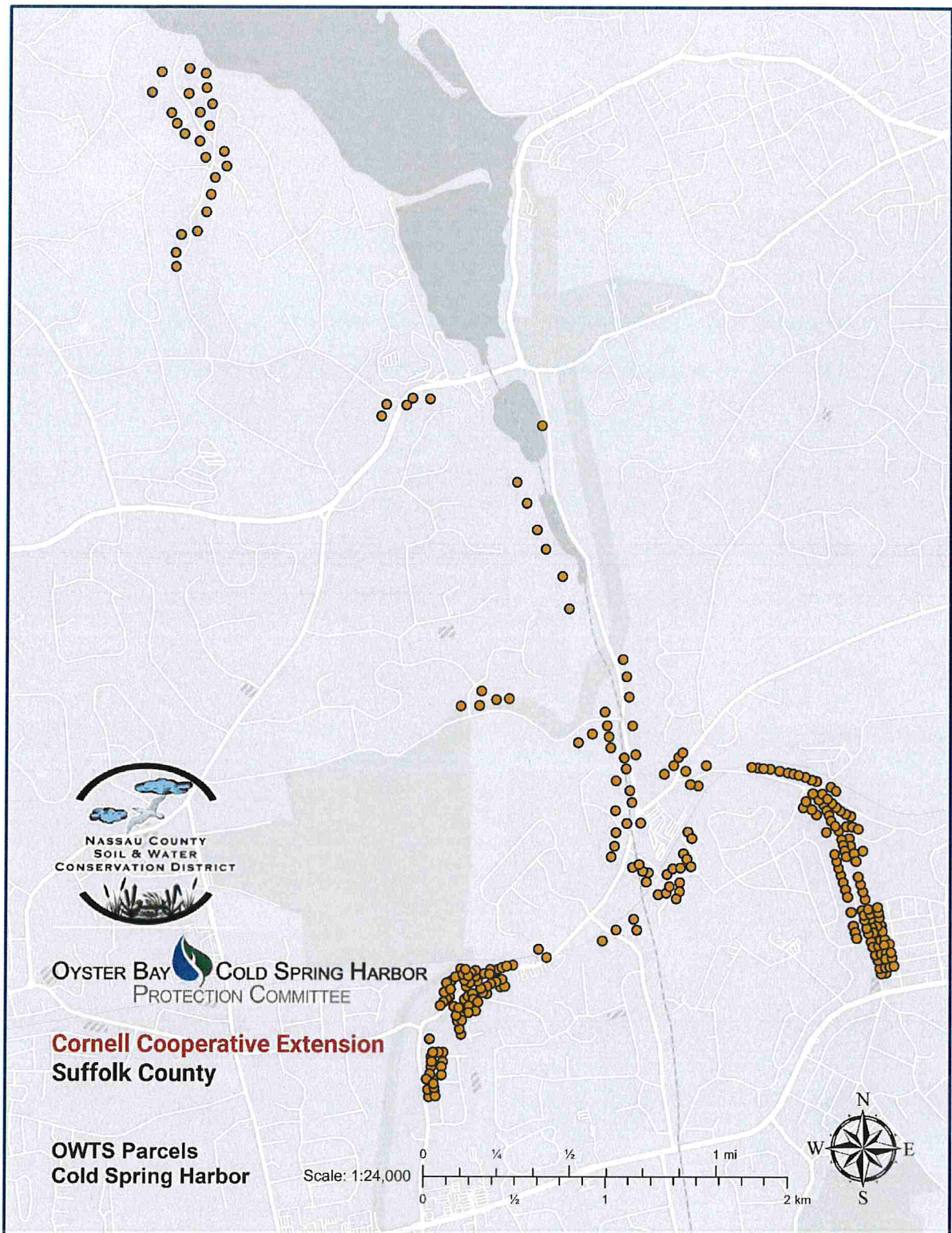


Figure 8: Priority parcels in areas of shallow ground water in the Laurel Hollow and Cold Spring Brook subwatersheds.

Stormwater structures at two parcel locations were selected to be sampled during a dry weather event as survey results showed more than one indicator of potential failing on-site systems at these locations. Both locations were south of the train tracks/Pulaski Road/Woodbury Road. A summary of these locations is provided, and it has been concluded that there is not likely to be failing septic systems at these sites.

NYS Real Property Tax Service Parcel ID # 472600311500

Visited on 7/21/2020 and 9/21/2020 which were both dry weather days with no rainfall in the 72 hours prior to survey. Excessive amount of weeds near curb box opening and some large rocks on front lawn were observed. Excessive plant growth can indicate higher than normal nutrient inputs to the storm sewer system. Heavy objects located in yards can crush underground OWTS piping leading to leaks. There were no signs of any illicit discharge during both visits so it is concluded that this location is not likely to have OWTS discharges into the storm sewer system or surrounding natural waters.

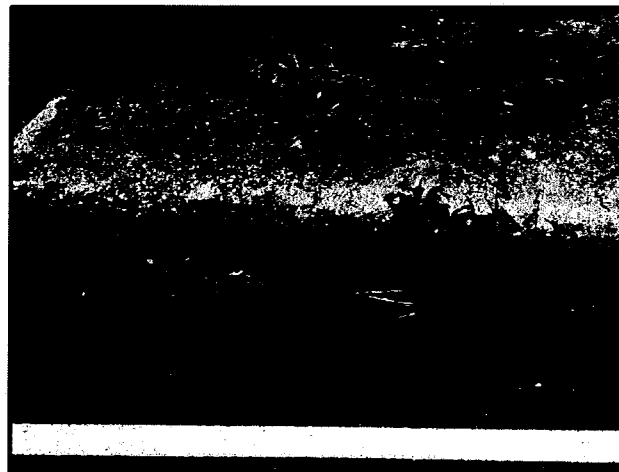


Photo of Parcel ID # 472600311500 on 7/21/2020

NYS Real Property Tax Service Parcel ID # 282400224630

Visited on 8/5/2020 where there had been significant rainfall in the last 48 hours and 9/21/2020 which was a dry weather day with no rainfall in the 72 hours prior to the survey. On 8/5/2020 it was observed that there is a pipe within the curb adjacent to this parcel that appears to drain towards an adjacent catch basin. Additionally, there was about a foot of standing water in the adjacent basin with temperature of 25.60°C and salinity of 0.20ppt. On 9/21/2020 the basin and surrounding area was completely dry. There were no other indicators of failing OWTS. It is concluded that this location is not likely to have OWTS discharges into the storm sewer system or surrounding natural waters.



Photo of Parcel ID # 282400224630 on 8/5/2020

Task II (OBCSHPC): Monitoring of the Spring Street Outfall #273 During Dry Weather Events

The Spring Street Outfall # 273 and associated conveyance system was monitored for illicit discharges during dry weather events. Dry weather events (48 hours without significant rainfall) allow for stormwater outfalls to be monitored for any discharges that may be occurring in the system that are not associated with stormwater and that may be illicit. The Spring Street Outfall #273 and associated system were monitored during a total of four (4) distinct dry weather events between August and September (8/10/2020, 8/24/2020, 8/26/2020, 9/21/2020).

Three separate catch basin locations along Spring Street were monitored for dry weather flow and can be seen in *Figure 9*. Sampling locations labeled 'LH' and 'CSB' are located in the Laurel Hollow and Cold Spring Brook subwatersheds respectively. Sampling locations labeled 'SS' are located in the Spring Street subwatershed.

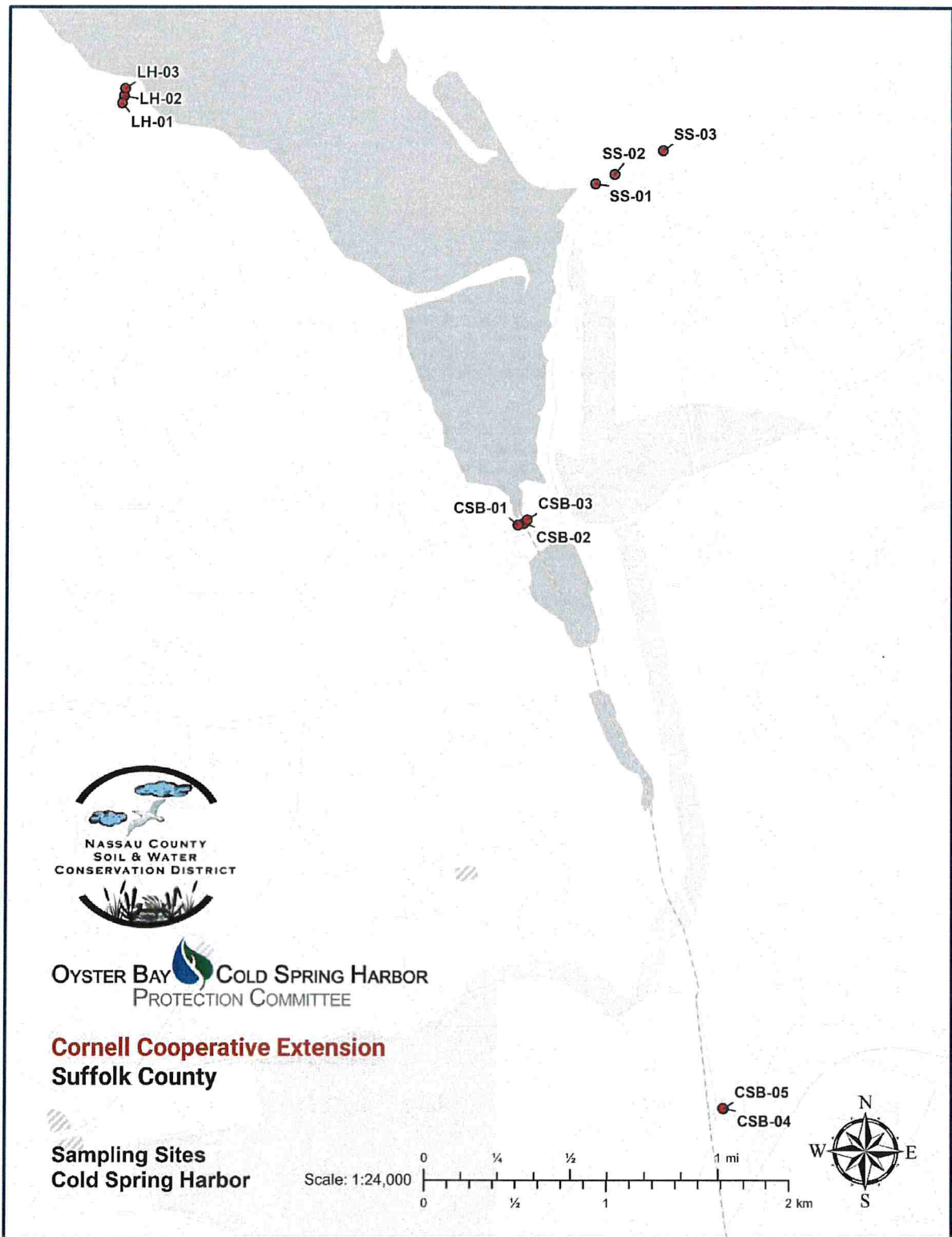


Figure 9: Monitoring and Sampling locations identified within the Laurel Hollow, Cold Spring Brook, and Spring Street subwatersheds

SS-03 was found to be dry on each event monitored, while SS-02 and SS-01 always had flow. The average temperature of flows in SS-01 and SS-02 in August was 19.86°C and dropped to 16.1°C in September. The salinity in both structures was under 0.5ppt for every event. There was no evidence of any illicit connections or of illicit discharges to these structures. Field observations noted that there were orange deposits in SS-01 and SS-02 that were submerged in the baseflow.

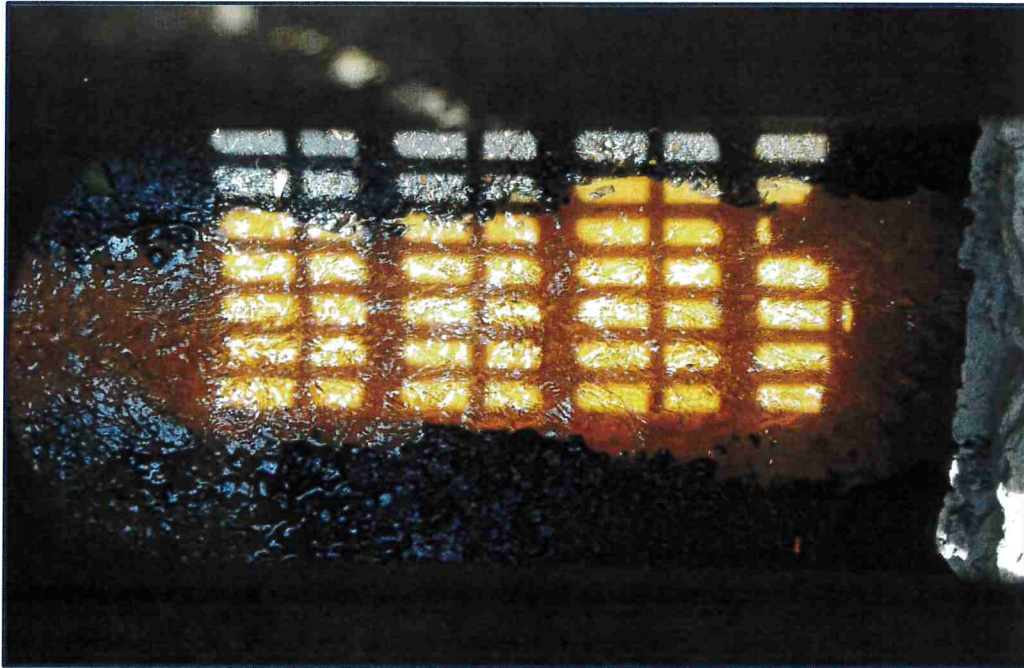


Photo of baseflow in SS-01 where orange deposits can be seen.

Orange deposits such as what can be seen in the photo above are an indicator of groundwater flow in the storm sewer system and are not an indicator of an illicit discharge or poor water quality. This along with the salinity and temperature of these flows indicates that the baseflow in this system is natural groundwater flow and there is no illicit discharge suspected.

Since SS-03 was dry during all visits, and there were no other indicators of illicit discharge, there is no illicit discharge suspected at this structure or in connecting structures. While SS-03 was dry on all visits during this study, flow in SS-03 may be observed depending on groundwater depth which can vary between years and seasons.

TASK III (OBCSHPC): Sampling of the Spring Street Outfall #273 During Dry Weather Events

Dry Weather Flow samples were collected along the conveyance system for the Spring Street Outfall #273. Four (4) distinct dry weather events were sampled at locations SS-01, SS-02, and SS-03 on the following dates: 8/10/20, 8/24/20, 8/26/20, 9/21/20. Samples were processed for temperature, salinity, chlorine, surfactants, ammonia, potassium, pH, turbidity, and fecal coliform enumeration. All samples have been preserved for potential future microbial source tracking.

There were no active illicit discharges detected during these dry events. SS-03 was found to be dry during all sampling events. SS-01 and SS-02 had flow during all events and samples were collected and processed. Water quality parameters measured did not detect any potential for presence of an illicit discharge. Fecal coliform enumerations were relatively low with an average of 184 FC/100mL across events and sample locations. There was no significant difference between water quality parameters measured and fecal coliform concentrations for SS-01 and SS-02 ($p = 0.2$). A data summary table for dry weather samples collected for the Spring Street Outfall #273 system can be viewed in Appendix B.

TASK IV (OBCSHPC): Sampling of the Spring Street Outfall #273 During Wet Weather Events

Wet Weather samples were collected along the conveyance system for the Spring Street Outfall #273. Four (4) distinct wet weather events were sampled at locations SS-01, SS-02, and SS-03 on the following dates: 8/19/20, 9/1/20, 9/10/20, 9/30/20. Samples were processed for temperature, salinity, and fecal coliform enumeration. All samples have been preserved for potential future microbial source tracking.

Fecal coliform enumeration for this system during wet weather had an average of 30,828 FC/100mL across events and sample locations. This is well within a reasonable range for wet weather fecal coliform concentrations and a greater analysis of wet weather fecal coliform loading for this system can be found in the next section. There was no significant difference between fecal coliform concentrations for SS-01 and SS-02 ($p = 0.69$). A data summary table for wet weather samples collected for the Spring Street Outfall #273 system can be viewed in Appendix C.

Average fecal coliform concentrations for the system per event ranged from 11,390 FC/100mL to 16,650 FC/100mL for all but one event. The average fecal coliform concentration for the system for the 9/1/20 event was 80,940 FC/100mL. Due to the variability of pathogen concentrations in stormwater runoff, this is not considered a statistically significant difference between events. Additional study and more intensive sampling would be required to make determinations on differences between dated wet weather events, as this was not the focus of this study.

TASK III (NCSWCD): Ranking of the Major Subwatershed Catchment Areas by Fecal Coliform Contribution During Baseflow and Storm Events

Fecal coliform and hydrological data was used to rank tributary contributions of fecal coliform to Cold Spring Harbor. The Cold Spring Harbor Watershed has three major subwatersheds contributing to the impaired segments of Cold Spring Harbor. The Laurel Hollow, Cold Spring Brook, and Spring Street subwatersheds were sampled at significant branches for fecal coliform concentrations. Sample stations can be viewed in *Figure 9* above. There were three sampling locations in the Spring Street subwatershed, three sampling locations in the Laurel Hollow subwatershed, and five sampling locations in the Cold Spring Brook subwatershed. An estimate of tributary flows was conducted during sampling. The Laurel Hollow, Cold Spring Brook, and Spring Street subwatersheds, which align with Friends of the Bay's Watershed Action Plan, were included in this study and can be seen in *Figure 10*. Sampling was conducted during four (4) distinct baseflow events (72 hours of no rainfall) and during four (4) distinct storm events from August through September. Baseflow, or 'dry' events can be used to characterize background inputs whereas storm events, or 'wet' events, can be used to estimate additional fecal coliform loadings that occur as a result of runoff. All samples were processed and preserved for potential future microbial source tracking (MST).

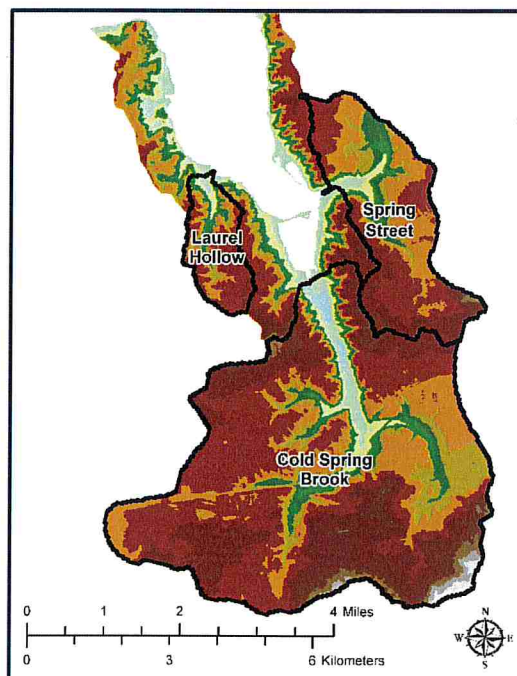


Figure 10. Cold Spring Harbor Watershed and major subwatersheds along with USGS depth to groundwater data.

Catchment areas were delineated for each of these significant branches within each subwatershed and can be seen in *Figure 11*. Flow estimates and fecal coliform enumeration results were used to evaluate fecal coliform loading for each surface water outfall located in the study watersheds. Sewershed areas were delineated in Esri ArcGIS Pro desktop software for each of the 11 surface water outfalls included in the study using the USGS National Hydrography Dataset High Resolution data.

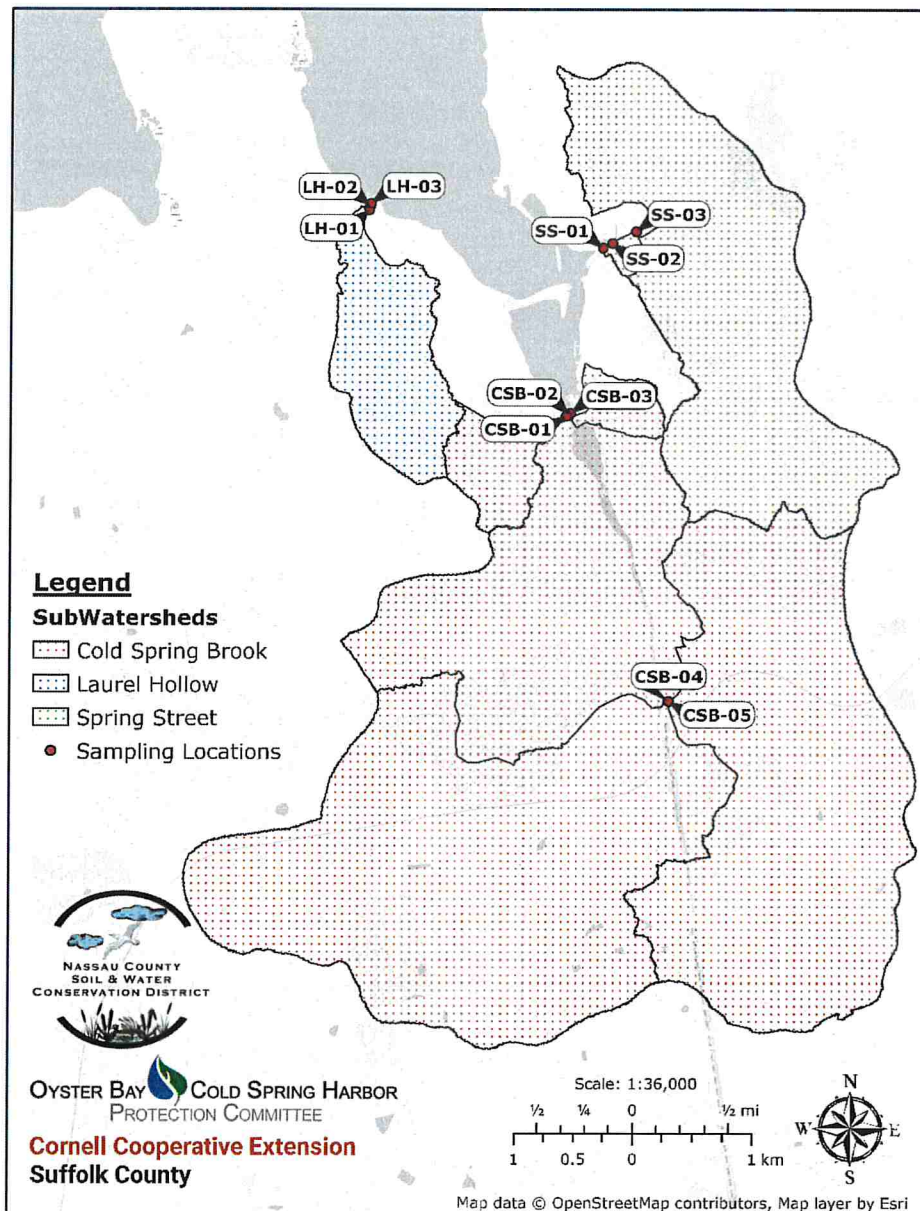


Figure 11. Catchment areas for each of the significant branches within the major subwatersheds of Cold Spring Harbor.

Baseflow events occurred on 8/10/20, 8/24/20, 8/26/20, and 9/21/20. Fecal coliform loading ranged from 1,010 FC/hr to 52.7 million FC/hr. A summary of dry weather sampling data can be found in Appendix D. The table summarizes the fecal coliform enumeration results as well as calculated hourly fecal coliform loading values for each sample. Each sample is ranked by hourly fecal coliform loading (Green dot indicates samples within the 50th percentile or at or below 544,000 FC/hr; Yellow dot indicates samples between 50th and 90th percentile; and Red dot indicates samples at or above the 90th percentile of 18.8 million FC/hr).

Wet weather events occurred on 8/19/20, 8/29/20, 9/01/20, 9/10/20, and 9/30/20. Fecal coliform loading ranged from 2.04 million FC/hr to 920 billion FC/hr. A summary of wet weather sampling data can be found in Appendix E. The table summarizes the catchment areas, precipitation data, and fecal coliform enumeration results as well as calculated hourly fecal coliform loading values for each sample. Each sample is ranked by hourly fecal coliform loading (Green dot indicates samples within the 50th percentile or at or below 926 million FC/hr; Yellow dot indicates samples between 50th and 90th percentile; and Red dot indicates samples at or above the 90th percentile of 29.5 billion FC/hr).

RECOMMENDATIONS

Data collected and presented here will allow for identification of problem areas and aid in future management planning. Based on fecal coliform loading calculated for catchments in this study, samples have been prioritized for future microbial source tracking (MST). Sources identified through processing of these samples may aid in management of these catchments. MST for human, dog, and goose biomarkers is suggested. Based on land use and that none of the 3 subwatersheds in this study are sewerred, it is suspected that human and dog would be the most significant sources in these systems. Nearby parks, trails, and public spaces as well as highly residential areas are likely to have a large number of dog walkers. Pet waste has a high concentration of fecal coliform and can easily contribute to a daily pathogen loading. Trails, in particular, may be where pet owners do not pick up after their pets. Additionally, all wastewater treatment within the study area is performed by on-site wastewater treatment systems. On-site wastewater treatment systems (OWTS) can contaminate surface waters with pathogens if they are failing, but also can contribute pathogens to shallow groundwater through leaching if conditions allow. The study area is not only a shallow groundwater area, but there are a few major stream inputs to Cold Spring Harbor. This study has also indicated that there is continual baseflow in storm sewer systems that discharge to surface water outfalls, particularly in the Spring Street and Cold Spring Brook subwatersheds. Therefore, it is possible that on-site septic systems could be leaching pathogens into shallow groundwater which has a number of routes available to make it to Cold Spring Harbor. Canada geese can be a significant source of pathogen pollution in areas where they congregate. Canada goose waste does not have as high of a concentration of fecal coliform as dog and human waste, however Canada geese tend to congregate in large flocks in areas that provide open water or fields that offer safety and a food source. Public feeding of Canada geese can also contribute to excess fecal coliform loading. Within the Spring Street subwatershed, there is a golf course as well as a school with ballfields that may offer a place for geese to congregate. Within the Cold Spring Brook subwatershed, it is believed that geese would likely only congregate in the catchment area associated with CSB-02, however there is a portion of Uplands Farm Field Station (Cold Spring Harbor Lab) located within the CSB-03 catchment that could provide a place for geese to congregate.

Fecal coliform loading values estimated for the baseflow and wet weather events, which can be viewed in Appendix D and Appendix E, allow for a ranking of the catchment areas delineated. Priority catchments that contributed the highest loading

on average during baseflows and wet weather events were identified and ranked as follows:

- 1) CSB-03: Discharges to the head of Cold Spring Harbor under State Road 25A from the east. The catchment area is about 75 acres and encompasses a portion of Cold Spring Harbor State Park, a portion of Uplands Farm Field Station (Cold Spring Harbor Lab), as well as the intersection of 25A/Harbor Rd/Lawrence Hill Road. For both dry and wet events, CSB-03 had the highest loading on average. This sample location had an average fecal coliform loading of 24.7 million FC/hr during dry events and a 238 billion FC per hour during wet events. For baseflow events, CSB-03 had three (3) out of four (4) events in the 90th percentile for hourly fecal coliform loading and one (1) out of four (4) events between the 50th and 90th percentile. For wet weather events, CSB-03 had two (2) out of four (4) events in the 90th percentile for hourly fecal coliform loading, one (1) out of four (4) events between the 50th and 90th percentiles, and one (1) out of four (4) events under the 50th percentile.
→ MST Suggestion: One or more baseflow events and one or more wet weather events are recommended for MST analysis for human, dog, and goose biomarkers.
- 2) SS-01: Discharges through Spring Street Outfall #273 directly into Cold Spring Harbor and is the first structure in line for this system. The catchment area is about 1,284 acres and encompasses predominantly residential areas, Cold Spring Harbor downtown, a portion of the Huntington Country Club Gold Course, and Goose Hill Primary School. For dry events SS-01 had the fourth highest loading on average and the second highest loading on average for wet events. This sample location had an average fecal coliform loading of 2.71 million FC/hr during dry events and a 38.2 billion FC/hr during wet events. For baseflow events, SS-01 had three (3) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading, and one (1) out of four (4) events below the 50th percentile. For wet weather events, SS-01 had two (2) out of four (4) events in the 90th percentile for hourly fecal coliform loading and two (2) out of four (4) events between the 50th and 90th percentile.
→ MST Suggestion: One or more baseflow events and one or more wet weather events are recommended for MST analysis for human and dog biomarkers. Since there is a golf course and school located within the catchment, processing samples for goose biomarker could also be considered.

- 3) CSB-02: Discharges to the head of Cold Spring Harbor under State Road 25A from the south. The catchment area is about 5,000 acres and encompasses large areas of natural undeveloped land as well as residential areas, St. Johns Pond, Cold Spring Country Club, Oheka Castle, and Town of Oyster Bay Golf Course. For dry events CSB-02 had the second (2) highest loading on average and for wet events it was not in the top four (4) highest loading on average. This sample location had an average fecal coliform loading of 18.3 million FC/hr during dry events and a 1.15 billion FC/hr during wet events. For baseflow events, CSB-02 had one (1) out of four (4) events in the 90th percentile and three (3) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading. For wet weather events, CSB-02 had two (2) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading and two (2) out of four (4) events under the 50th percentile.
➔ MST Suggestion: One or more baseflow events are recommended for MST analysis for human, dog, and goose biomarkers.

- 4) CSB-01: Discharges to the head of Cold Spring Harbor under State Road 25A from the west. The catchment area is about 150 acres and encompasses predominantly low density residential areas along the 25A corridor. For dry events CSB-01 had the third (3) highest loading on average and for wet events it was not in the top four (4) highest loading on average. This sample location had an average fecal coliform loading of 8.07 million FC/hr during dry events and a 3.58 billion FC/hr during wet events. For baseflow events, CSB-01 had four (4) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading. For wet weather events, CSB-01 had two (2) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading and two (2) out of four (4) events under the 50th percentile.
➔ MST Suggestion: One or more baseflow events are recommended for MST analysis for human and dog biomarkers. If resources allow, samples could be processed for goose biomarkers, however, it is not believed that geese frequent this catchment.

- 5) SS-02: Discharges through Spring Street Outfall #273 directly into Cold Spring Harbor, is the second structure in line up Spring Street, and is included in the catchment area for SS-01. On three sampling events (one dry and 2 wet) an alternate sampling site was used at the third structure in line due to inability to access the primary structure as it was blocked by a vehicle. For dry events SS-02 was not in the top four (4) highest loading on average and the third highest loading on average for wet events. This sample location had an

average fecal coliform loading of 303,000 FC/hr during dry events and a 15.9 billion FC/hr during wet events. For baseflow events, SS-02 had four (4) out of four (4) events under the 50th percentile for hourly fecal coliform loading. For wet weather events, SS-02 had one (1) out of four (4) events in the 90th percentile for hourly fecal coliform loading, two (2) out of four (4) events between the 50th and 90th percentile, and one (1) event under the 50th percentile.

→ MST Suggestion: Samples from SS-01 should be prioritized for MST analysis over SS-02. If resources allow, one or more wet events are recommended for MST analysis for human and dog biomarkers. Since there is a golf course and school located within the catchment, processing samples for goose biomarker could also be considered.

6) SS-03: Discharges through Spring Street Outfall #273 directly into Cold Spring Harbor, is the fourth structure in line up Spring Street, and is included in the catchment area for SS-01. For dry events SS-03 never had any baseflow and was dry and had the fourth highest loading on average for wet events. This sample location had an average fecal coliform loading of 9.94 billion FC/hr during wet events. For wet weather events, SS-03 had three (3) out of four (4) events between the 50th and 90th percentile, and one (1) event under the 50th percentile.

→ MST Suggestion: Samples from SS-01 should be prioritized for MST analysis over SS-03. If resources allow, one or more wet events are recommended for MST analysis for human and dog biomarkers. Since there is a golf course and school located within the catchment, processing samples for goose biomarker could also be considered.

7) CSB-04: Discharges to the headwaters of Cold Spring Brook from the Nassau County side of Woodbury Road. The catchment area is about 2,100 acres of the southwest reach of the catchment area for CSB-02. For dry and wet events CSB-04 was not in the top four (4) highest loading on average. This sample location had an average fecal coliform loading of 339,000 FC/hr during dry events and 4.27 billion FC/hr during wet events. For baseflow events, CSB-04 had one (1) out of four (4) events between the 50th and the 90th percentile and for hourly fecal coliform loading and three (3) out of four (4) events below the 50th percentile. For wet weather events, CSB-04 had two (2) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading and two (2) out of four (4) events under the 50th percentile.

- MST Suggestion: Samples from CSB-01, CSB-02, and CSB-03 should be prioritized for MST analysis over CSB-04. If resources allow, one or more baseflow and wet weather events are recommended for MST analysis for human, dog, and goose biomarkers.
- 8) CSB-05: Discharges to the headwaters of Cold Spring Brook from the Suffolk County side of Woodbury Road. The catchment area is about 1,700 acres of the southeast reach of the catchment area for CSB-02. For dry and wet events CSB-05 was not in the top four (4) highest loading on average. This sample location had an average fecal coliform loading of 348,000 FC/hr during dry events and 4.62 billion FC/hr during wet events. For baseflow events, CSB-05 had one (1) out of four (4) events between the 50th and the 90th percentile and for hourly fecal coliform loading and three (3) out of four (4) events below the 50th percentile. For wet weather events, CSB-05 had three (3) out of four (4) events between the 50th and the 90th percentile for hourly fecal coliform loading and one (1) out of four (4) events under the 50th percentile.
- MST Suggestion: Samples from CSB-01, CSB-02, and CSB-03 should be prioritized for MST analysis over CSB-05. If resources allow, one or more baseflow and wet weather events are recommended for MST analysis for human, dog, and goose biomarkers.
- 9) All Laurel Hollow (LH) catchments were not in the top four (4) highest loading on average for both dry and wet events. Typically, sample structures were either dry or had standing water and no measurable flow. In these instances of standing water, a flow of 0.01 cubic feet per second was used to assume there is a slow drainage of these structures into the stormwater treatment area. There is essentially no baseflow in these catchments and it is believed that much of the runoff is captured and held in the treatment area.
- MST Suggestion: Laurel Hollow catchments had relatively low fecal coliform loading on average compared to all other catchments so MST analysis is not recommended at this time unless alternative reasons beyond the findings of this study exist.

Due to the variable nature of pathogens in baseflow and wet weather flow it is always recommended to analyze a maximum amount of samples for MST as resources will allow. Based on the findings the most efficient use of resources would be to process the following six samples at a minimum:

- CSB-03 baseflow sample on 9/21/20 (Human, Dog, Goose)
- CSB-03 wet weather sample on 9/30/20 (Human, Dog, Goose)
- SS-01 baseflow sample on 8/24/20 (Human, Dog, Goose)
- SS-01 wet weather sample on 8/19/20 (Human, Dog, Goose)
- CSB-02 baseflow sample on 9/21/20 (Human, Dog, Goose)
- CSB-01 baseflow sample on 9/21/20 (Human, Dog, Goose)

CCE will present the results of the sampling conducted for the purpose of selecting certain samples for potential microbial source tracking (MST) at a future OBCSHPC meeting where members will discuss options for sample selection for MST. It should be noted that while MST is a powerful tool that may lead to actionable results and guide stormwater management, samples are being collected as a snapshot in time. These snapshot samples may not be wholly representative of sources of pathogens being discharged from the system.

APPENDIX

Appendix A
Sound Health Explorer (Save the Sound) Excerpts

A B C D F N/A
LEARN ABOUT GRADES

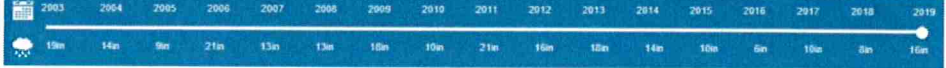
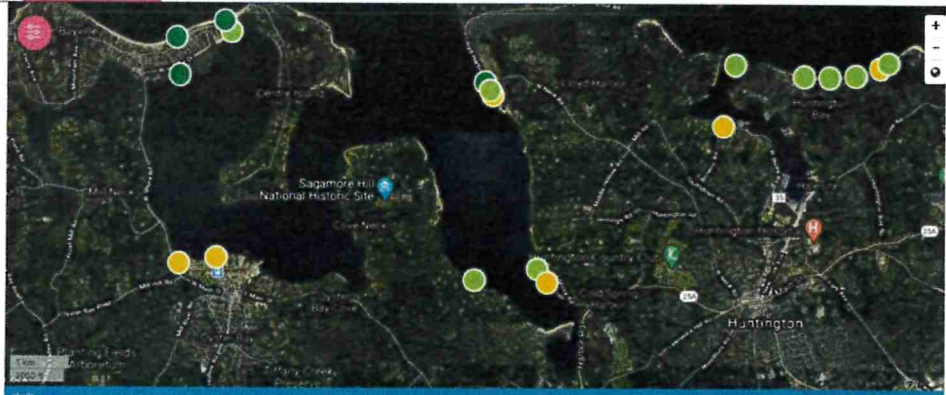
Search

MAP LAYERS

- Beaches
- Wastewater Treatment Plants
- Combined Sewer Outflows
- Boat Launches
- Kayak Launches
- Environmental Justice Areas
- Watershed
- Coastal Watersheds
- Impervious Surfaces
- Land Use

BEACH ACCESS

REPORT POLLUTION



How the Swimmable are Calculated

The beach grading system was created in consultation with scientists who study water quality in Long Island Sound. Our approach is designed to capture, for each beach, how frequently water quality was found to be unsafe for swimming (frequency) according to state water quality criteria, and a measure of how high the level of contamination is (magnitude) on the worst sampling day of the season. Because sources and concentration of contamination can vary with weather, the frequency and magnitude grades are provided for both dry and wet weather conditions.

The beach grades are a combination of four sub-category scores, equally weighted. Those sub-category scores are:

Frequency Dry (FD) = represents the percentage of samples, collected at the site during periods of prolonged dry weather, that meet the state water quality criteria for safe swimming (see above). This indicates how often a site is likely to be unsafe for recreation in dry weather. A high percentage of FD failure would indicate a consistent source of pollution that is unrelated to wet weather (e.g. groundwater discharge).

Frequency Wet (FW) = represents the percentage of samples, collected at the site after rain (greater than 1/4 inch of rain in prior 48 hours), that fail to meet the state water quality criteria for safe swimming. This indicates how often a site is likely to be unsafe for recreation in wet weather. A higher percentage of FW failure than FD failure would indicate the presence of pollution sources triggered by precipitation (e.g. CSO or urban stormwater).

Magnitude Dry (MD) = represents the highest concentration of fecal indicator bacteria measured in any sample collected at the site during periods of prolonged dry weather. Higher bacteria levels are associated with more risk of illness to swimmers, and therefore MD represents a measure of water quality on the worst dry weather sampling of the season.

Magnitude Wet (MW) = represents the highest concentration of fecal indicator bacteria measures in any sample collected at the site after rain (greater than 1/4 inch of rain in prior 48 hours). Higher bacteria levels are associated with more risk of illness to swimmers, and therefore MW represents a measure of water quality on the worst wet weather sampling of the season.

NY & CT State Water Quality Criteria

There are multiple sources of water quality concern for beachgoers (e.g. garbage, algae, pharmaceuticals, murkiness/turbidity), but the most common risk when swimming in polluted water is coming in contact with, or ingesting, disease-causing microorganisms such as bacteria, viruses, and protozoa associated with fecal pollution. Collectively, these agents are known as pathogens. This is why fecal bacteria concentration measured at beaches is used to determine if the water is safe for swimming.

Due to the wide variety of potential pathogens, it is not practical to test for them directly. Instead, beach water quality is assessed by testing for the bacteria Enterococci (Entero), which reliably indicates the presence of feces in water.. Following is the criteria used by the health departments in New York and Connecticut for coastal beach monitoring and management.*

Indicators

Marine Beach Criteria: Single Sample Maximum

Enterococcus ("Entero") = greater than or equal to 104 cfu/100mL

Any sample equal to or greater than 104 Entero colony-forming units per 100 milliliters (cfu) is considered unsafe for swimming and should result in a beach closure. Once closed, the beach should not be reopened until acceptably low bacterial counts have been restored.

Marine Beach Criteria: Geometric Mean

Enterococcus ("Entero") = greater than or equal to 35 cfu/100mL

A geometric mean is a weighted average used to track water quality overtime. Beach managers typically track a rolling geometric mean average for each beach (each new sample updates the average, which is based on 5 samples). When a geometric mean is equal to or greater than 35 Entero that beach is considered unsafe for swimming and should be closed until the average returns to acceptable levels.

The levels in the guidelines are based on an anticipated illness rate of 19 or more illnesses per 1,000 swimmers. This means that at concentrations of 104/100 ml *Enterococcus*, approximately 19 out of 1,000 swimmers can be reasonably expected to contract a waterborne illness. Therefore, below the acceptable level of 104/100 ml there is still a chance of contracting a waterborne illness, but the risk decreases with lower bacteria levels.

More on Waterborne Illnesses.

Terminology

Wet weather sample: cumulative rain fall equal to or greater than 1/4 inch in prior 48 hours.

Dry weather sample: cumulative rain fall of less than 1/4 inch in prior 48 hours.

Fecal contamination: water pollution that is the result of high concentration of fecal matter in the water. The source could be human or animal.

Pathogens: disease-producing agents including viruses, bacteria, and parasites.

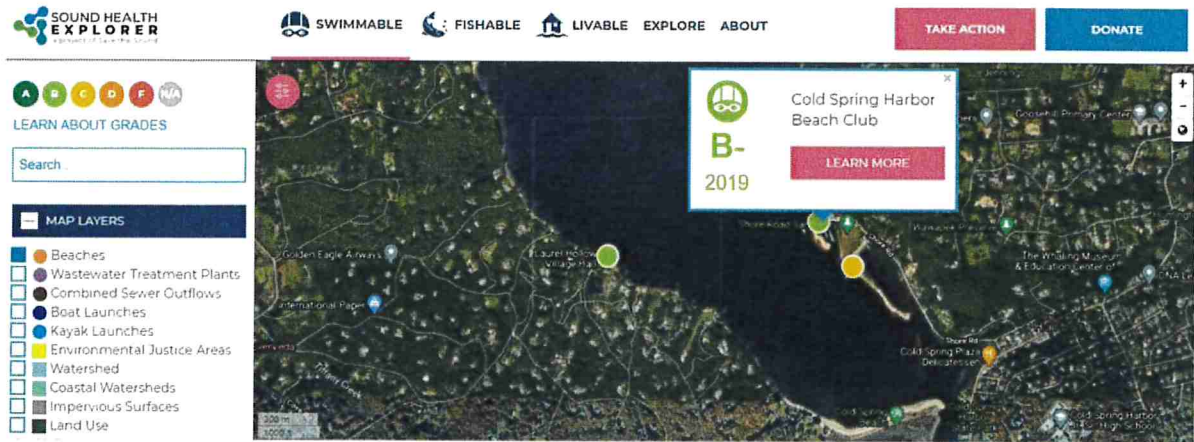
Enterococcus ("Entero"): fecal-indicating bacteria that lives in the intestines of warm-blooded animals.

Colony-forming unit (CFU): a unit used to estimate the number of viable bacteria in a sample. Usually measured as CFU per 100 milliliters of water when evaluating bacterial water quality.

* New York and Connecticut follow the federal guidelines for recreational water quality that EPA issued in 2004. In 2012, based on new scientific research, EPA updated and reissued their guidelines for beach monitoring and management practices (Recreational Water Quality Criteria). The 2012 federal guidelines have not yet been adopted by New York or Connecticut.



Cold Spring Harbor Beach Club



Cold Spring Harbor Beach Club is a private beach club in Cold Spring Harbor, New York. It is open to members and their guests only.

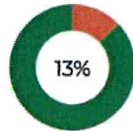
AMENITIES

BEACH ACCESS

CHALLENGES

- Marine Debris
- Sewer Discharges
- Algae Blooms / Excess Nitrogen

HELP US STAY UP TO DATE



In 2019, water quality samples at Cold Spring Harbor Beach Club failed 13% of the time.

Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

27% of samples failed after wet weather

4% of samples failed after dry weather

39 total samples were analyzed with 15 wet samples and 24 dry samples.

The most recent sample date was September 13, 2019.

Dry Weather

FRQ Consistently Passes

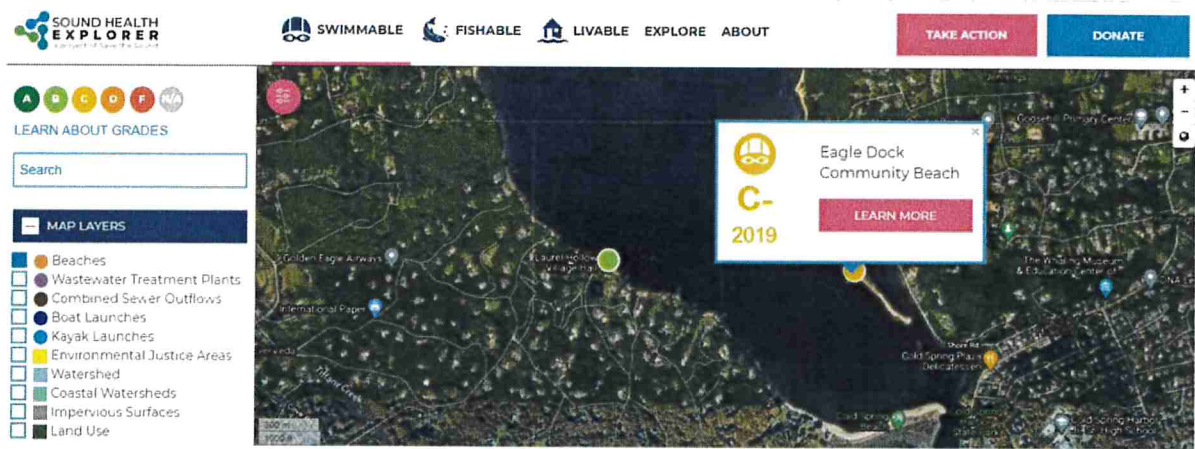
NIAC Low Intensity Failure

Wet Weather

FRQ Consistently Fails

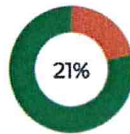
NIAC Low Intensity Failure

Eagle Dock Community Beach



Eagle Dock Community Beach is a resident-only beach in Cold Spring Harbor, York. The goal of this community beach is to promote a better understanding of the local marine environment.

- AMENITIES
- BEACH ACCESS
- CHALLENGES
 - Marine Debris
 - Algae Blooms / Excess Nitrogen
 - Stormwater Runoff
 - Climate Change
- HELP US STAY UP TO DATE



In 2019, water quality samples at Eagle Dock Community Beach failed 21% of the time.

Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

27% of samples failed after wet weather

17% of samples failed after dry weather

39 total samples were analyzed with 15 wet samples and 24 dry samples.

The most recent sample date was September 13, 2019.

Dry Weather

FRQ Sometimes Fails

MAG Low Intensity Failure

Wet Weather

FRQ Consistently Fails

MAG Medium Intensity Failure

Laurel Hollow Beach

Laurel Hollow Beach is a town operated beach in Laurel Hollow, New York. It is only open to residents of Laurel Hollow and their guests.

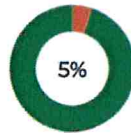
AMENITIES

BEACH ACCESS

CHALLENGES

- Marine Debris
- Algae Blooms / Excess Nitrogen
- Climate Change

HELP US STAY UP TO DATE



In 2019, water quality samples at Laurel Hollow Beach failed 5% of the time.

Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

7% of samples failed after wet weather

5% of samples failed after dry weather

55 total samples were analyzed with 14 wet samples and 41 dry samples.

The most recent sample date was September 18, 2019.

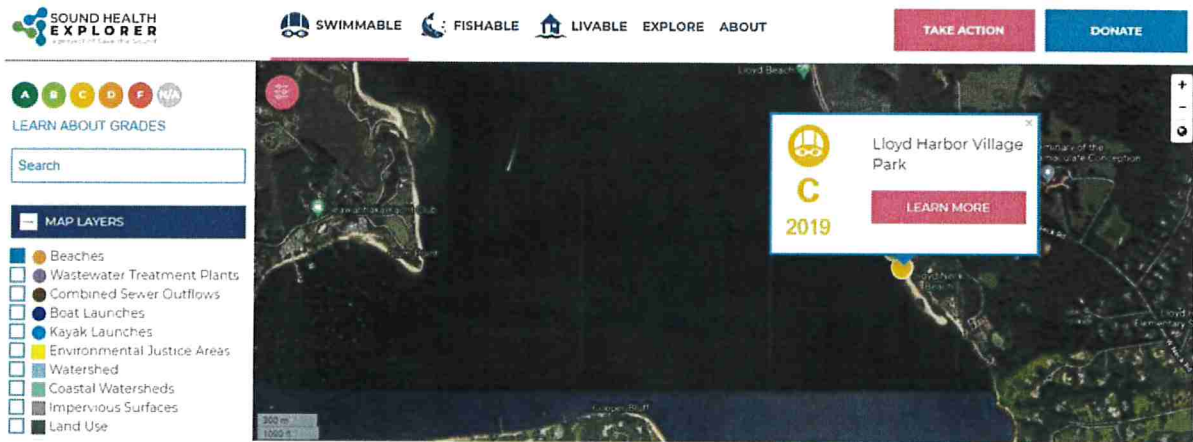
Dry Weather

- FRQ** Consistently Passes
- MAG** Medium Intensity Failure

Wet Weather

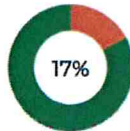
- FRQ** Rarely Fails
- MAG** Medium Intensity Failure

Lloyd Harbor Village Park



Lloyd Harbor Village Park is a town operated beach located in Lloyd Harbor, New York. Residents may purchase seasonal beach passes while there is an associated daily fee for non-residents.

- AMENITIES
- BEACH ACCESS
- CHALLENGES
 - Marine Debris
 - Climate Change
- HELP US STAY UP TO DATE



In 2019, water quality samples at Lloyd Harbor Village Park failed 17% of the time. Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

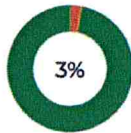
- 20% of samples failed after wet weather
- 15% of samples failed after dry weather
- 41 total samples were analyzed with 15 wet samples and 26 dry samples.
- The most recent sample date was September 13, 2019.

- Dry Weather**
- FRQ** Sometimes Fails
 - MAG** Low Intensity Failure
- Wet Weather**
- FRQ** Sometimes Fails
 - MAG** Medium Intensity Failure

Lloyd Neck Bath Club

Lloyd Neck Bath Club is a private beach club in Lloyd Neck, New York. It is open to members and their guests only.

- AMENITIES
- BEACH ACCESS
- CHALLENGES
 - Marine Debris
 - Climate Change
- HELP US STAY UP TO DATE



In 2019, water quality samples at Lloyd Neck Bath Club failed 3% of the time.

Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

☔ 0% of samples failed after wet weather

☀️ 5% of samples failed after dry weather

🧪 35 total samples were analyzed with 13 wet samples and 22 dry samples.

📅 The most recent sample date was September 13, 2019.

Dry Weather

FRQ Consistently Passes

MAG Low Intensity Failure

Wet Weather

FRQ Consistently Passes

MAG No Sample Failure

West Neck Beach



SWIMMABLE FISHABLE LIVABLE EXPLORE ABOUT

TAKE ACTION

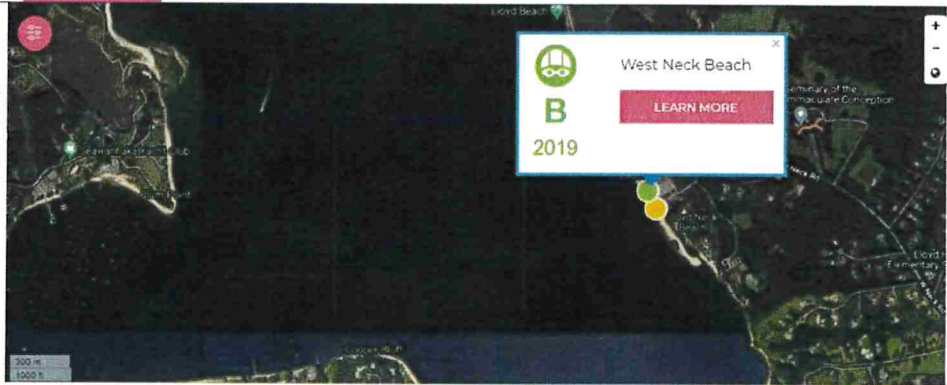
DONATE

LEARN ABOUT GRADES

Search

MAP LAYERS

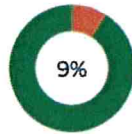
- Beaches
- Wastewater Treatment Plants
- Combined Sewer Outflows
- Boat Launches
- Kayak Launches
- Environmental Justice Areas
- Watershed
- Coastal Watersheds
- Impervious Surfaces
- Land Use



West Neck Beach is a town operated beach in Lloyd Neck, New York. It is open to the public, with a \$15 fee for non-residents.

8/18/2020 - Due to Covid-19, West Neck Beach is open only to residents of Huntington. Please check current conditions before visiting.

- AMENITIES
- BEACH ACCESS
- CHALLENGES
 - Marine Debris
- HELP US STAY UP TO DATE



In 2019, water quality samples at West Neck Beach failed 9% of the time.

Water quality samples fail when bacteria levels are ≥ 104 colony forming units (cfu) of *Enterococcus* per 100mL.

8% of samples failed after wet weather

9% of samples failed after dry weather

35 total samples were analyzed with 13 wet samples and 22 dry samples.

The most recent sample date was September 13, 2019.

Dry Weather

- FRQ Rarely Fails
- MAC Low Intensity Failure

Wet Weather

- FRQ Rarely Fails
- MAC Low Intensity Failure

Appendix B
Dry Weather Sample Data for Spring Street System

Sample Date	Sample Time	CCE_ID	Sample Temp (°C)	Salinity (ppt)	Comments	Chlorine (Free) mg/L	Chlorine (Total) mg/L	Surfactants (mg/L)	Ammonia (mg/L)	Potassium (mg/L)	Ammonia: Potassium Ratio	pH	Turbidity (FTU)	Fecal Coliform (MPN/100mL)
8/10/20	11:57	SS-01	20.3	0.3		0	0.02	0.123	3.11	6	0.518333	7.72	11.00	228
8/10/20	12:11	SS-02	19.4	0.3		0.1	0.03	0.181	3.28	5.7	0.575439	7.36	21.00	132
8/10/20	12:26	SS-03	NA	NA	Dry, no sample.	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/24/20	11:56	SS-01	20.2	0.3		0.01	0.01	0.216	3.22	5.6	0.575	7.8	10.00	148
8/24/20	12:09	SS-02	19.5	0.3		0.01	0.02	0.141	3.24	5.5	0.589091	7.43	13.00	75
8/24/20	12:14	SS-03	NA	NA	Dry, no sample.	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/26/20	11:47	SS-02	19.8	0.3	Alternate sampling site.	0	0.01	0.121	2.54	6.2	0.409677	7.63	5.00	10
8/26/20	11:55	SS-01	19.5	0.3		0.01	0.02	0.171	3.11	5.6	0.555357	7.8	10.00	754
8/26/20	11:58	SS-03	NA	NA	Dry, no sample.	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/21/20	10:40	SS-03	NA	NA	Dry, no sample.	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/21/20	10:48	SS-02	16.4	0.4		0.01	0.01	0.21	2.24	5.3	0.422642	7.59	23.00	63
9/21/20	10:58	SS-01	15.8	0.4		0.01	0.01	0.23	1.69	5.5	0.307273	7.47	31.00	63

Appendix C
Wet Weather Sample Data for Spring Street System

Sample Date	Sample Time	CCE_ID	Sample Temp (°C)	Salinity (ppt)	Fecal Coliform (MPN/100mL)
8/19/2020	11:10	SS-01	21.4	0	10860
8/19/2020	11:25	SS-02	22	0	10170
8/19/2020	11:32	SS-03	21.2	0	13140
9/1/2020	9:11	SS-01	21	0.1	57940
9/1/2020	9:17	SS-02	21.4	0.1	141360
9/1/2020	9:27	SS-03	22.4	0.1	43520
9/10/2020	9:30	SS-01	23	0	15150
9/10/2020	9:38	SS-02	23	0	14500
9/10/2020	9:48	SS-03	23.1	0	13340
9/30/2020	7:23	SS-01	19.7	0.1	17230
9/30/2020	7:36	SS-03	20.6	0	17890
9/30/2020	7:43	SS-02	20	0.1	14830

Appendix D
Baseflow Event Fecal Coliform Loading Sample Data

Sample Date	Sample Time	CCE_ID	Sample Temp (°C)	Salinity (ppt)	Comments	Fecal Coliform Concentration (MPN/100mL)	Fecal Coliform Loading (FC/hour)
8/10/20	10:40	CSB-01	20.1	0.1		31	● 5.29E+06
8/24/20	9:54	CSB-01	19.8	0.2		72	● 7.86E+06
8/26/20	12:14	CSB-01	18.3	0.1		31	● 7.15E+06
9/21/20	9:25	CSB-01	14	0.1		41	● 1.20E+07
8/10/20	10:52	CSB-02	22.1	0.1		31	● 7.66E+06
8/24/20	10:02	CSB-02	22.4	0.1		20	● 4.19E+06
8/26/20	12:24	CSB-02	21.6	0.1		41	● 8.59E+06
9/21/20	9:31	CSB-02	15.1	0.1		299	● 5.27E+07
8/10/20	11:03	CSB-03	15.9	0.1		216	● 2.85E+07
8/24/20	10:14	CSB-03	15	0.3		122	● 2.02E+07
8/26/20	12:32	CSB-03	15.7	0.1		122	● 1.74E+07
9/21/20	9:37	CSB-03	12.6	0.2		259	● 3.26E+07
8/10/20	9:59	CSB-04	19.5	0.2		41	● 7.14E+04
8/24/20	11:24	CSB-04	20.5	0.2		62	● 3.50E+05
8/26/20	10:35	CSB-04	19.1	0.2		97	● 5.48E+05
9/21/20	11:23	CSB-04	14.8	0.2		52	● 3.86E+05
8/10/20	10:03	CSB-05	20.1	0.1		275	● 2.12E+05
8/24/20	11:32	CSB-05	23.3	0.2		199	● 2.07E+05
8/26/20	10:41	CSB-05	21.2	0.2		399	● 2.02E+05
9/21/20	11:30	CSB-05	14.3	0.3		933	● 7.71E+05
8/10/20	11:42	LH-01	22.1	0.2	Standing water in manhole, no flow.	399	● 4.07E+05
8/24/20	10:56	LH-01	21.2	0.2	Standing water in manhole, no flow.	246	● 2.51E+05
8/26/20	11:31	LH-01	21.1	0.2	Standing water in manhole, no flow.	199	● 2.03E+05
9/21/20	10:28	LH-01	15.9	0.2		74	● 7.54E+04
8/10/20	11:25	LH-02	21.3	0.3	Standing water in manhole, no flow.	1842	● 1.88E+06
8/24/20	10:42	LH-02	21.4	0.2	Standing water in manhole, no flow.	161	● 1.64E+05
8/26/20	11:20	LH-02	22	0.1	Standing water in manhole, no flow.	20	● 2.04E+04
9/21/20	10:15	LH-02	17.7	0.1		0.99	● 1.01E+03
8/10/20	11:19	LH-03	NA	NA	Dry, no sample.	NA	ND
8/24/20	10:33	LH-03	NA	NA	Dry, no sample.	NA	ND
8/26/20	11:10	LH-03	NA	NA	Dry, no sample.	NA	ND
9/21/20	10:02	LH-03	NA	NA	Dry, no sample.	NA	ND
8/10/20	11:57	SS-01	20.3	0.3		228	● 5.40E+05
8/24/20	11:56	SS-01	20.2	0.3		148	● 5.94E+06
8/26/20	11:55	SS-01	19.5	0.3		754	● 3.36E+06
9/21/20	10:58	SS-01	15.8	0.4		63	● 9.95E+05
8/10/20	12:11	SS-02	19.4	0.3		132	● 2.13E+05
8/24/20	12:09	SS-02	19.5	0.3		75	● 5.02E+05
8/26/20	11:47	SS-02	19.8	0.3	Alternate sampling site.	10	● 5.57E+03
9/21/20	10:48	SS-02	16.4	0.4		63	● 4.92E+05
8/10/20	12:26	SS-03	NA	NA	Dry, no sample.	NA	ND
8/24/20	12:14	SS-03	NA	NA	Dry, no sample.	NA	ND
8/26/20	11:58	SS-03	NA	NA	Dry, no sample.	NA	ND
9/21/20	10:40	SS-03	NA	NA	Dry, no sample.	NA	ND

Appendix E
Storm Event Fecal Coliform Loading Sample Data

Sample Date	Sample Time	CCE_ID	Sample Temp (°C)	Salinity (ppt)	Comments	Fecal Coliform Concentration (MPN/100mL)	Fecal Coliform Loading FC/hour	Cumulative Rainfall 72 hours prior to sampling (inches)	Catchment Area (ac)
8/19/2020	3:13	CSB-01	18.4	0.3		100	1.43E+08	0.77	148.29
8/29/2020	3:16	CSB-01	17.3	0.1		100	3.66E+08	0.19	148.29
9/10/2020	10:27	CSB-01	17.9	0.1		1890	4.86E+09	0.92	148.29
9/30/2020	6:09	CSB-01	17.1	0.2		3690	8.94E+09	0.93	148.29
8/19/2020	3:23	CSB-02	21.6	0.1		100	2.47E+08	0.73	5000.60
8/29/2020	3:21	CSB-02	23.3	0.1		99	2.25E+08	0.19	5000.60
9/10/2020	10:31	CSB-02	20.9	0.1		510	1.26E+09	0.92	5000.60
9/30/2020	6:12	CSB-02	18.2	0.1		2180	2.88E+09	0.93	5000.60
8/19/2020	3:36	CSB-03	15.1	0.6		300	1.01E+09	0.66	75.49
8/29/2020	3:26	CSB-03	15.2	0.1		310	5.06E+08	0.19	75.49
9/10/2020	10:35	CSB-03	15.9	0.4		11690	3.07E+10	0.93	75.49
9/30/2020	6:17	CSB-03	15	0.4		435200	9.20E+11	0.93	75.49
8/19/2020	12:23	CSB-04	20	0.1		6970	7.34E+09	1.23	2093.57
8/29/2020	1:33	CSB-04	19	0.2		1210	8.54E+07	0.19	2093.57
9/10/2020	10:04	CSB-04	22.8	0		12740	8.81E+09	0.92	2093.57
9/30/2020	8:07	CSB-04	18.7	0.1		8200	8.38E+08	0.93	2093.57
8/19/2020	12:33	CSB-05	19.8	0.1		7170	3.54E+09	1.22	1734.74
8/29/2020	1:39	CSB-05	23.6	0.2		9060	9.51E+07	0.19	1734.74
9/10/2020	10:06	CSB-05	21.1	0.1		27550	1.03E+10	0.92	1734.74
9/30/2020	8:11	CSB-05	18.8	0.1		24890	4.53E+09	0.93	1734.74
8/19/2020	12:07	LH-01	19.9	27.9	Tidal water in CB, sample taken from curb. No flow.	2920	2.98E+07	1.23	379.66
8/29/2020	2:18	LH-01	22.6	0.1	Standing water in CB, no flow.	200	2.04E+06	0.19	379.66
9/10/2020	11:16	LH-01	22.9	0	Standing water in CB, no visible flow between structures	3230	3.29E+07	0.93	379.66
9/30/2020	7:08	LH-01	20.4	0		7940	8.09E+07	0.93	379.66
8/19/2020	12:00	LH-02	20.7	20.9	Tidal water in CB, sample taken from curb. No flow.	1830	1.87E+07	1.24	0.37
8/29/2020	2:06	LH-02	23.5	0.2	Standing water in CB, no flow.	8600	8.77E+07	0.19	0.37
9/10/2020	11:10	LH-02	23.3	0	Standing water in CB, no visible flow between structures	1320	1.35E+07	0.93	0.37
9/30/2020	7:02	LH-02	20.5	0		43520	4.44E+08	0.93	0.37
8/19/2020	11:48	LH-03	22.1	0	Standing water in CB, no flow.	14670	1.50E+08	1.25	0.12
9/1/2020	9:47	LH-03	22	0.1		12540	3.36E+07	0.11	0.12
9/10/2020	11:02	LH-03	24.7	0	Standing water in CB, no visible flow between structures	200	2.04E+06	0.93	0.12
9/30/2020	6:55	LH-03	21	0		200	2.04E+06	0.93	0.12
8/19/2020	11:10	SS-01	21.4	0		10860	8.72E+10	1.26	1283.90
9/1/2020	9:11	SS-01	21	0.1		57940	3.66E+10	0.11	1283.90
9/10/2020	9:30	SS-01	23	0		15150	2.66E+10	0.9	1283.90
9/30/2020	7:23	SS-01	19.7	0.1		17230	2.43E+09	0.93	1283.90
8/19/2020	11:25	SS-02	22	0	Alternate sampling site.	10170	3.63E+10	1.27	1276.42
9/1/2020	9:17	SS-02	21.4	0.1		141360	2.10E+10	0.11	1276.42
9/10/2020	9:38	SS-02	23	0		14500	5.66E+09	0.9	1276.42
9/30/2020	7:43	SS-02	20	0.1	Alternative structure sampled, car parked on top of primary.	14830	7.44E+08	0.93	1276.42
8/19/2020	11:32	SS-03	21.2	0		13140	2.11E+10	1.26	1266.89
9/1/2020	9:27	SS-03	22.4	0.1		43520	3.64E+09	0.11	1266.89
9/10/2020	9:48	SS-03	23.1	0		13340	1.49E+10	0.91	1266.89
9/30/2020	7:36	SS-03	20.6	0		17890	1.66E+08	0.93	1266.89

MS4 Municipal Compliance Certification (MCC) Form

MCC form for period ending March 9, 2021

Name of MS4

SPDES ID

N	Y	R	2	0	A		
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Section 3 - Partner Information

Did your MS4 work with partners/coalition to complete some or all permit requirements during this reporting period? Yes No

If Yes, complete information below.

Submit a separate sheet for each partner. Information provided in other formats will not be accepted. If your MS4 cooperated with a coalition, submit one sheet with the name of the coalition. It is not necessary to include a separate sheet for each MS4 in the coalition.

If No, proceed to Section 4 - Certification Statement.

Partner/Coalition Name

Hempstead Harbor Protection																			
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Partner/Coalition Name (cont.)

Committee																			
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SPDES Partner ID - If applicable

N	Y	R	2	0			
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Address

29 Spring Street																			
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City

Oyster Bay																			
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State Zip

NY	11771	-		
----	-------	---	--	--

eMail

E.Swenson@HempsteadHarbor.org																			
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Phone

(516)	677	-	5921
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Legally Binding Agreement in accordance with GP-0-08-002 Part IV.G.? Yes No

What tasks/responsibilities are shared with this partner (e.g. MM1 School Programs or Multiple Tasks)?

- MM1 Multiple Tasks
- MM2 Multiple Tasks
- MM3 Water Monitoring, Other Tasks
- MM4 Monitoring for Runoff, Training
- MM5 Monitoring for Runoff, Training
- MM6 Education, Training, Research

Additional tasks/responsibilities

- Watershed Improvement Strategy Best Management Practices required for MS4s in impaired watersheds included in GP-0-08-002 Part IX.

Education and literature on pathogens, pet waste, waterfowl, rain gardens, and septic system inspection and maintenance

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID
N Y R 2 0

Minimum Control Measure 1. Public Education and Outreach

The information in this section is being reported (check one):

- On behalf of an individual MS4
On behalf of a coalition

How many MS4s contributed to this report?

1. Targeted Public Education and Outreach Best Management Practices

Check all topics that were included in Education and Outreach during this reporting period:

- Construction Sites
General Stormwater Management Information
Household Hazardous Waste Disposal
Illicit Discharge Detection and Elimination
Infrastructure Maintenance
Smart Growth
Storm Drain Marking
Green Infrastructure/Better Site Design/Low Impact Development
Other:
Pesticide and Fertilizer Application
Pet Waste Management
Recycling
Riparian Corridor Protection/Restoration
Trash Management
Vehicle Washing
Water Conservation
Wetland Protection
None

Septic Maintenance
Other

2. Specific audiences targeted during this reporting period:

- Public Employees
Contractors
Residential
Developers
Businesses
General Public
Restaurants
Industries
Other:
Agricultural

Students
Other

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID									
N	Y	R	2	0					

3. What strategies did your MS4/Coalition use to achieve education and outreach goals during this reporting period? Check all that apply:

- Construction Site Operators Trained # Trained
- Direct Mailings # Mailings
- Kiosks or Other Displays # Locations 14
- List-Serves # In List
- Mailing List # In List 77
- Newspaper Ads or Articles # Days Run 18
- Public Events/Presentations # Attendees
- School Program # Attendees
- TV Spot/Program # Days Run
- Printed Materials: Total # Distributed

Locations (e.g. libraries, town offices, kiosks)

Village Halls																			
Town Halls																			

Other:

Facebook, E-mails

Web Page: Provide specific web addresses - not home page. Continue on next page if additional space is needed.

URL	www.HempsteadHarbor.org /																		
	Documents > Articles & Editorial																		

URL	www.HempsteadHarbor.org /																		
	Documents > Meeting Minutes																		
	2020 & 2021																		

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

[Empty text box for Name of MS4/Coalition]

SPDES ID

N Y R 2 0 [Empty cells]

3. Web Page cont.: Provide specific web addresses - not home page.

URL

www.HempsteadHarbor.org / Blog

[Empty grid]

[Empty grid]

URL

www.HempsteadHarbor.org /

DOCUMENTS > BROCHURES + FLYERS

[Empty grid]

URL

www.HempsteadHarbor.org /

DOCUMENTS > WATER QUALITY REPORTS

2020 + 2021

[Empty grid]

URL

[Empty grid]

[Empty grid]

URL

[Empty grid]

[Empty grid]

URL

[Empty grid]

[Empty grid]

URL

[Empty grid]

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HEMPSTEAD HARBOR PROTECTION COMMITTEE

Phase II Activities Undertaken
On Behalf of Member Municipalities
March 10, 2020 to March 9, 2021 Permit Year

General Note: On March 11, 2020 (the second day of this permit year), the World Health Organization declared the novel coronavirus disease (Covid-19) a global pandemic. As a result, this permit year was unlike any other in the past. Many activities normally undertaken were required to be suspended.

MCM # 1 – Public Education and Outreach

- Continued participation with the Manhasset Bay Protection Committee, Oyster Bay Cold Spring Harbor Protection Committee, Town of Oyster Bay, the Coalition to Save Hempstead Harbor and Friends of the Bay in C.E.S.S.P.O.O.L. grant to raise public awareness of impact of onsite waste treatment systems. (C.E.S.S.P.O.O.L.= Coordinated Environmental Solutions to Septic Problems Occurring On Long Island). This included distributing a series of fact sheets to homeowners and maintaining a website and Facebook page.
- On December 11, 2020, helped organize and sponsor a webinar for municipal officials to explain Nassau County's upcoming S.E.P.T.I.C. Program grant program for the installation of nitrogen-reducing septic systems. (S.E.P.T.I.C. = Septic Environmental Program to Improve Cleanliness). Also assisted in the development of a brochure, website, online application, and agreement to facilitate the program.
- HHPC's Executive Director helped organize the Long Island Envirothon which was held on April 29, 2020 which had to be canceled.
- Maintained and updated the Hempstead Harbor website: (www.HempsteadHarbor.org) including its blog page.
- Published 4 articles in the *Sea Cliff Village Bulletin*: one on April 13, 2020 on Earth Day and the Caronavirus; one on October 13, 2020 on New York State's plastic bag ban, one on February 10, 2021 on invasive plants; and one on July 15, 2020 on safe weed killing.
- Published 5 blog articles: one on April 13, 2020 on A Caronavirus / Earth Day 50 Reboot, one on April 24, 2020 on Drones with Infrared Cameras Can Help Us Find Illicit Discharges; one on April 27, 2020 on What and Environmental Bond Act Will Do for New York State, one on June 29, 2020 entitled Can Seaweed Help Water Quality? and one on July 15, 2020 on safe weed killing,
- Copied and distributed 9 articles in weekly and daily papers to municipal representatives and others on water quality issues.

- Maintained and updated a Facebook site with relevant articles on water quality.
- Updated a list of media outlets.
- Monitored Nassau County sewage spill reports for the Glen Cove and Port Washington Wastewater Treatment Facilities and posted information on Facebook and e-mailed to Committee members and others.
- Distributed brochures on shellfishing in Hempstead Harbor.
- Distributed brochures on understanding beach closures and on the problems associated with feeding of wildfowl.
- Posted water quality monitoring results for Hempstead Harbor on website and Facebook.
- Published and distributed an Annual Water Quality Report on water quality in Hempstead Harbor in hard copy and disk formats and posted it on a website.
- Participated in a virtual meeting on March 24, 2020 with Congressional Representatives Suozzi and Zeldin to promote increased funding for Long Island Sound and its embayments needed to fund stormwater efforts. These efforts were successful.
- HHPC's Executive Director continued pursuing an Environmental Sustainability Certificate at Hofstra University in conjunction with the Governor's Office of Storm Recovery. He attended seven courses.
- Revised and distributed HHPC's member list.

MCM #2 – Public Participation

- Held seven HHPC meetings (open to the public). These were held on March 11, 2020, May 15, 2020, June 3, 2020, September 9, 2020, October 14, 2020, November 18, 2020, and January 6, 2021.
- Conducted a citizen's science water monitoring program with local citizen's group (Coalition to Save Hempstead Harbor) and volunteers. This consisted of a weekly program during the summer for 24 weeks and a bi-weekly program during the winter for another 24 weeks.
- HHPC's Executive Director continued to serve on a consortium with universities and others to help plan the use of the Town of Hempstead's

restored Shellfish Laboratory. It's use is intended to provide a means for students to conduct research on shellfish pathogens, Bioextraction, etc.

- Continued networking with local citizens groups (Coalition to Save Hempstead Harbor, Glenwood / Glen Head Civic Association, North Shore Land Alliance, and United Civic Council of Glen Head and Glenwood Landing).
- Organized a boat tour of Hempstead Harbor for local officials for April 15th, but it had to be canceled due to the pandemic.
- Continued to provide representation to the Long Island Sound Study Citizens Advisory Committee, the Nassau County Soil and Water Conservation District, the Long Island Nitrogen Action Plan Advisory Committee, the LINAP Fertilizer Workgroup, the NYS DEC TMDL Workgroup, the NYS DEC MS4 Workgroup, the NYS DEC Dredge Material Subcommittee, and the New York Marine Sciences Consortium.
- Continued to provide advice, as requested to the Town of North Hempstead in the development of a Blueway Trail from Little Neck Bay to Hempstead Harbor and to the Town of Oyster Bay in its development of a Blueway trail from Hempstead Harbor to Oyster Bay and Cold Spring Harbor.
- Promoted area beach cleanups and invasive removal projects.
- Assisted with the planning and conducting of two volunteer removals of invasive plants and planting of native plants, trees, shrubs and other plants at Nassau County's historic Cedarmere site on Hempstead Harbor on August 25, 2020 and September 22, 2020.
- Partnered with the Nassau County Soil and Water Conservation District and the Friends of Cedarmere along with volunteers to maintain the rain gardens installed at Cedarmere in Roslyn Harbor.
- Continued to work with the Long Island Sound Study Citizens Advisory Committee to educate Congressional representatives about water quality improvements and the need for additional federal funding. This effort resulted in a record level of federal funding for Long Island Sound environmental programs in FY 2020. Many of the projects funded include public participation.
- Assisted the Village of Sea Cliff in making repairs to the Scudder's Pond weir on July 7, 2020 and July, 2020 along with the Nassau County Soil and Water Conservation District, the Coalition to Save Hempstead Harbor, and local residents. The weir had collapsed and rendered the pond less effective as a biofilter for stormwater runoff.

MCM # 3 – Illicit Discharge Detection and Elimination

- Tested water quality weekly from May to October and biweekly at selected locations between November and April and checked results to see if any unusual readings or trends occurred which might indicate illicit discharges.
- Continued to monitor unidentified discharges in Glen Cove Creek and continued to work with various agencies to try to determine their origin. A meeting was held on September 8, 2020 with City of Glen Cove, Nassau County, and Suez Environmental officials to investigate these discharges.
- Continued to implement a multi-year C.E.S.S.P.O.O.L. public education program to raise awareness about the impact of discharges from onsite septic systems and the need to conduct regular maintenance. Proper maintenance of septic systems may reduce the incentive for homeowners and others to install illicit discharges to handle overflows.
- Assisted the City of Glen Cove with identifying remedial measures to mitigate sources of contamination to Crescent Beach.
- Met with Fabco (manufacturer of storm drain filters) and the Coalition to Save Hempstead Harbor on September 21, 2020 to assist in determining the source of consistent excessive bacteria levels discharged through the Glenwood Road / Powerhouse Drain outfall.
- Participated in a webinar on March 31, 2020 on using drones with infrared cameras to detect illicit discharges and sent information to member municipalities.

MCM # 4 – Construction Site Runoff Control

- Monitored changes in regulations and advised member municipalities as necessary. HHPC's Executive Director served as the official NYS DEC representative for all of Long Island's MS4 Operators to participate in discussions regarding revised MS4 Stormwater permit.
- Observed for unusual discharges or conditions while conducting weekly water quality monitoring (late spring to fall) that might indicate inadequate erosion and sediment control from construction sites.

MC # 5 – Post Construction Runoff Control

- Assisted the Nassau County Soil and Water Conservation District in planning and holding two NYS DEC certification and training sessions for municipal officials and contractors in sediment and erosion control on

August 13, 2019 and on December 10, 2019. A total of 164 persons were trained and certified.

- Monitored changes in regulations and advised member municipalities as necessary. HHPC's Executive Director served as the official NYS DEC representative for all of Long Island's MS4 Operators to participate in discussions regarding revised MS4 Stormwater permit.
- Observed for unusual discharges or conditions while conducting weekly water quality monitoring (late spring to fall) that might indicate inadequate erosion and sediment control from construction sites.

MCM # 6 – Good Housekeeping

- Monitored the effectiveness of the Town of Oyster Bay's installed nitrogen and bacteria catch basin filtration devices in the Powerhouse Drain subwatershed. These were installed in February of 2020.
- Assisted the Long Island Native Plant Initiative with offering low-cost native plants to municipalities and residents.
- Continued to work with the Town of Oyster Bay, the Village of Sea Cliff and the City of Glen Cove to maintain pet waste stations provided by HHPC.
- Assisted with the planning and removal of invasive plants at Scudder's Pond in Sea Cliff. This will help the native plants that were installed in 2012 to continue to thrive and provide natural filtration for stormwater pollutants.
- Assisted the Nassau County Soil and Water Conservation District with providing funding to local governments and not-for-profit organizations for conservation and water-quality projects.
- Helped organize and participate in three events to eliminate invasive plants at Nassau County's Cedarmere historic site on Hempstead Harbor on June 15, 2020, June 23rd, 2020, and July 1, 2020.
- Organized an inter-municipal harbor cleanup for May 8, 2020, but it had to be canceled due to the pandemic.
- Assisted the Village of Sea Cliff in making repairs to the Scudder's Pond weir on July 7, 2020 and July, 2020 along with the Nassau County Soil and Water Conservation District, the Coalition to Save Hempstead Harbor, and local residents. The weir had collapsed and rendered the pond less effective as a biofilter for stormwater runoff.

- Participated in a webinar on municipal-supported private Best Management Practices for stormwater management on February 18, 2021 held by Storm Water Solutions.

OTHER

- Continued to serve as a member of the Long Island Nitrogen Action Plan's Nassau County Subwatershed Planning Advisory Workgroup.
- Assisted Nassau County with the design of its Nine Element Plan to reduce nitrogen impacts in Hempstead Harbor and other waterbodies.
- Participated in a conference call with NYS Assemblyman Steve Englebright to discuss pending legislation to limit the amount of nitrogen in fertilizer on April 7, 2020 and participated in a follow-up Zoom meeting on April 21st on the same subject.
- Participated in a webinar on invasive species management on June 9th and shared the information with the public.
- Participated in a webinar on marsh planning on November 30, 2020 and relayed the information to member municipalities.

**HEMPSTEAD HARBOR PROTECTION COMMITTEE
THIRD PARTY CERTIFICATION STATEMENT
MARCH 10, 2020 TO MARCH 9, 2021 PERMIT PERIOD**

*Pursuant to
Permit # GP-0-08-002 pg. 12 Part IV.G MS4 Annual Report*

In furtherance of the purposes set forth in the Hempstead Harbor Protection Committee ("COMMITTEE") Inter-Municipal Agreement dated May 14, 2008, the COMMITTEE shall undertake, to the extent practicable, the following activities on behalf of its member municipalities within their collective jurisdictions in order to assist in the fulfillment of NYS Phase II regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-08-002) provided that annual member dues and applied for grant funds (where applicable) are received:

Scope of Work:

Activities and Deliverables **may include but are not limited to** the following:

Minimum Control Measure # 1 (Public Education and Outreach):

Prepare and conduct a public education and outreach program including the preparation and distribution of brochures, videos, refrigerator magnets, presentations to community and/or stakeholder organizations and/or schools, targeted electronic mailings, use of portable displays, training sessions, press conferences, press releases and/or letters to the editor, informational meetings, and articles for publication, an informational website, social media postings, promotional give-aways and coastal interpretive signage.

Minimum Control Measure # 2 (Public Involvement and Education):

Conduct public meetings for members of the public and stakeholders at critical junctures on major projects, develop and maintain e-mailing and postal mailing lists to keep the public apprised and involved in projects undertaken by the COMMITTEE, assist in beach cleanups and wetland plantings to the extent possible, conduct citizen science water monitoring programs, conduct attitude and awareness surveys as appropriate, maintain and foster inter-relationships with community organizations, business organizations, recreation organizations, educational institutions, environmental organizations and various levels of government.

Minimum Control Measure # 3 (Illicit Discharge Detection and Elimination):

Conduct water quality monitoring to detect unexpected changes in water quality, record and report observations of identified or suspected illicit discharges to appropriate agencies, assist in and help coordinate responses to identified or suspected illicit discharges, and assist in the maintenance and updating of the county's storm drain GIS mapping system.

Minimum Control Measure # 4 (Construction Site Stormwater Runoff Control):

Assist member municipalities in identifying available construction site stormwater runoff control measures, requirements and procedures, and report any observed instances of stormwater runoff from construction sites to the member municipality and/or appropriate agency or agencies; assist in organizing training courses in erosion and sediment control; conduct water quality monitoring to assist in the detection of unusual discharges or conditions that might indicate inadequate erosion and sediment control from construction sites.

Minimum Control Measure # 5 (Post Construction Stormwater Management):

Assist member municipalities in identifying available post construction stormwater management control measures, requirements and procedures, and report any observed instances of post construction stormwater runoff to the member municipality and/or appropriate agency or agencies; assist in organizing training courses in erosion and sediment control; conduct water quality monitoring to assist in the detection of unusual discharges or conditions that might indicate inadequate erosion and sediment control from construction sites.

Minimum Control Measure # 6 (Pollution Prevention / Good Housekeeping):

Assist member municipalities in identifying available pollution prevention / good housekeeping practices including but not limited to information on pet waste management, Canada Goose control, household hazardous waste programs, and recycling programs. Participate in applicable webinars and meetings and report back to member municipalities.

Contracted Entity Certification Statement:

The Hempstead Harbor Protection Committee understands that its member municipalities must comply with the requirements of New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (GP-0-08-002) and any successor permit, and that it is unlawful for any person to directly or indirectly cause or contribute to a violation of water quality standards. The Committee agrees to provide, to the extent practicable, the above-described services on behalf of its member municipalities in order to assist them in the fulfillment of New York State Municipal Phase II requirements provided that annual member dues and applied for grant funds (where applicable) are received.



Signature

Eric Swenson

Name

Executive Director

Title

March 29, 2021

Date

Outreach Report Nassau County SWCD (3-22-2020 to 3-21-2021)

Who	What	Where	When	Attendance	Adults Outreached	Children Outreached
Olivia Calandra	Water Chestnut Removal	Mill Pond, Wantagh	6/18/2021	25	25	0
David, Sergiy	Invasive Removal	Hempstead Plains, Gardes	6/18/2021	10	10	0
David, Sergiy, Olivia	Invasive Removal	Hempstead Plains, Gardes	6/25/2021	7	7	0
David, Sergiy, Olivia	Invasive Removal	Hempstead Plains, Gardes	6/30/2021	5	5	0
David, Sergiy, Olivia	Aquatic Invasive Removal	Cedarmere Park, Roslyn Ha	7/14/2021	12	12	0
Olivia Calandra	Invasive Species Presentati	Online	8/6/2021	46	46	0
Sergiy, Olivia	Invasive Removal	Hempstead Plains, Gardes	9/3/2021	7	7	0
David, Sergiy, Olivia	Aquatic Invasive Removal	Cedarmere Park, Roslyn Ha	9/22/2021	10	10	0
David, Olivia	Shoreline Planting	Baxter's Pond, Port Washin	9/25/2021	18	18	0
David, Sergiy, Olivia	Floatable Debris Cleanup	Twin Lakes, Wantagh	10/20/2021	16	16	0
Olivia Calandra	Invasive Species Presentati	Online	11/17/2021	48	48	0
				204	204	0

Facebook/Social Media (3/22/2020 to 3/21/2021)

Educational Posts/Article	Post/Page Views	Direct Page Interactions
36	21,196	2,982

Film: Stormwater Pollution and Green Infrastructure Solutions (3/22/2020 to 3/21/2021) on YouTube

Views	Minutes Watched	Where user Found Video	Shares	Device	Likes	Average Watch Time
10,511	88,842	Suggested Video (43.1%)	173	Computer	69.1%	7:15

MS4 Municipal Compliance Certification (MCC) Form

MCC form for period ending March 9,

2	0	2	1
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Name of MS4

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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Section 3 - Partner Information

Did your MS4 work with partners/coalition to complete some or all permit requirements during this reporting period? Yes No

If Yes, complete information below.

Submit a separate sheet for each partner. Information provided in other formats will not be accepted. If your MS4 cooperated with a coalition, submit one sheet with the name of the coalition. It is not necessary to include a separate sheet for each MS4 in the coalition.

If No, proceed to Section 4 - Certification Statement.

Partner/Coalition Name

S o u t h S h o r e E s t u a r y

Partner/Coalition Name (con't.)

R e s e r v e C o u n c i l

SPDES Partner ID - If applicable

N Y R 2 0

Address

3 0 0 W o o d c l e f t A v e n u e

City

F r e e p o r t

State

N Y

Zip

1 1 5 2 0

eMail

s s e r @ d o s . s t a t e . n y . u s

Phone

(5 1 6) 4 7 0 - 2 2 9 7

Legally Binding Agreement in accordance with GP-0-08-002 Part IV.G? Yes No

What tasks/responsibilities are shared with this partner (e.g. MM1 School Programs or Multiple Tasks)?

- MM1 M u l t i p l e T a s k s
- MM2 M u l t i p l e T a s k s
- MM3 M u l t i p l e T a s k s
- MM4
- MM5
- MM6 M u l t i p l e T a s k s

Additional tasks/responsibilities

- Watershed Improvement Strategy Best Management Practices* required for MS4s in impaired watersheds included in GP-0-08-002 Part IX.

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MS4 Municipal Compliance Certification(MCC) Form

MCC form for period ending March 9, 2021

Name of MS4

SPDES ID
N Y R 2 0 A 0 2 2

Section 4 - Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

This form must be signed by either a principal executive officer or ranking elected official, or duly authorized representative of that person as described in GP-0-08-002 Part VI.J.

First Name MI Last Name

Title (Clearly print title of individual signing report)

Signature

Date / /

Send completed form and any attachments to the DEC Central Office at:

MS4 Permit Coordinator
Division of Water
4th Floor
625 Broadway
Albany, New York 12233-3505

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9, 2021

If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

SPDES ID
N Y R 2 0 A 0 2 2

3. Web Page cont.: Provide specific web addresses - not home page.

URL

o y s t e r b a y c o l d s p r i n g h a r b o r . o r g

URL

h e m p s t e a d h a r b o r . o r g

URL

n a s s a u c o u n t y n y . g o v / a g e n c i e s / d p w /
p u b l i c e d u c a t i o n

URL

n a s s a u c o u n t y s w c d . o r g

URL

n a s s a u c o u n t y n y . g o v / a g e n c i e s / D P W /
d o c u m e n t s / B r o c h u r e - G e n e r a l P u b l i
c . p d f

URL

n a s s a u c o u n t y n y . g o v / a g e n c i e s / D P W /
d o c u m e n t s / b r o c h u r e s / l a n d s c a p e r s .
p d f

URL

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau									
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SPDES ID

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4. Evaluating Progress Toward Measurable Goals MCM 1

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Due to the COVID-19 Pandemic all festivals/Fairs were cancelled during the reporting year. Additionally our Sediment and Erosion Workshops were cancelled for the reporting year. Invasive species removal occurred at Mill Pond in Wantagh, Hempstead Plains, Cedaremere Park in Roslyn, Twin Lakes in Wantagh, Baxter Pond Park, Online Invasive Species Presentation. Additional MCM 1 goals listed in the attached protection committee "Phase II Activities Undertaken".

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

Distribution of a storm water pollution and green infrastructure film via Youtube through our Nassau County Soil and Water Conservation District that generated 10,511 views, 173 shares, and an average watch time of 7:15 minutes. Our NCSWCD Facebook/Social Media page had 21,196 page views and 2982 post interactions.

C. How many times was this observation measured or evaluated in this reporting period?

			1
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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this Measurable Goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

It is Pandemic dependent however it is our intention to re-start the Erosion and Sediment Control training courses through the upcoming reporting year. It is also our intention to attend Festival/Fairs if possible and continue our online educational presence through the storm water pollution and green infrastructure film throughout the reporting year. Continue volunteer weed pulls at various Nassau County Lakes/Ponds, and start our Nassau County S.E.P.T.I.C Program.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

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4.a. If this report was made available on the internet, what date was it posted?

Leave blank if this report was not posted on the internet.

0	
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 /

0	
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 /

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4.b. For how many days was/will this report be posted?

	3	0
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If submitting a report for single MS4, answer 5.a.. If submitting a joint report, answer 5.b..

5.a. Was an Annual Report public meeting held in this reporting period?

Yes No

If Yes, what was the date of the meeting?

0	
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0	
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If No, is one planned?

Yes No

5.b. Was an Annual Report public meeting held for all MS4s contributing to this report during this reporting period?

Yes No

If No, is one planned for each?

Yes No

6. Were comments received during this reporting period?

Yes No

If Yes, attach comments, responses and changes made to SWMP in response to comments to this report.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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7. Evaluating Progress Toward Measurable Goals MCM 2

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Attended stakeholder meetings (all online) with the Manhasset Bay Protection Committee, Hempstead Harbor Protection Committee, Oyster Bay Cold Spring Harbor Protection Committee, NCSWCD, South Shore Estuary Reserve Council, the Nassau County Nine Element Stakeholder Group for reducing nitrogen, Long Island Nitrogen Action Plan (LINAP) online meetings.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

Updated Nassau County Storm Water Management Program Plan is online. The funding of committee partners to include Manhasset Bay Protection Committee, Hempstead Harbor Protection Committee, Oyster Bay Cold Spring Harbor Protection Committee, Nassau County Soil and Water Conservation District.

C. How many times was this observation measured or evaluated in this reporting period?

			1
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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

Continue to participate and fund the Manhasset Bay Protection Committee, Hempstead Harbor Protection Committee, Oyster Bay Cold Spring Harbor Protection Committee, Nassau County Soil and Water Conservation District. Continue to update NC Storm Water Management website as needed with any pertinent updated information. Continue to work towards completing the Nassau County Nine Element Nitrogen Reduction Plan and Implement the Nassau County S.E.P.T.I.C. program.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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12. Evaluating Progress Toward Measurable Goals MCM 3

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Completed ORI inspections for 31 stream sheds to include Tiffany Creek, Mill River, Francis Pond, Whites Creek, Kentuck Brook, Bailey Arboretum, Carmens Creek, Unqua Creek, Massapequa Creek, Seaford Creek, Seamans Creek, Bellmore Creek, Clements Brook, Newbridge Creek, Milburn Creek, Elmont Drain. See attached full list. Included tidal areas within these areas as well. Conducted Video Pipe surveillance of potential illicit connection in Glen Cove from Glen Cove STP to Glen Cove Creek. Investigation completed. No remarkable findings.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

ORI investigation evaluated 1431 outfalls along stream corridors as well as tidal areas. Final reports were received. 70 of the outfall locations were identified as suspect. The locations were investigated by in-house staff via photographic review or field visits. Illicit discharges were not confirmed as per the review. As an example many locations are flagged when there is orange staining in the vicinity of the outfall. Based upon review it is determined to be naturally occurring Iron

C. How many times was this observation measured or evaluated in this reporting period?

			1
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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

For upcoming reporting cycle the County is anticipating to prepare a list of other locations in order to prepare to conduct additional ORI's. We will review the five year requirement relative to what has been completed within previous five years.

ORI's Completed during this reporting period

Bailey Arboretum
Baldwin Drain
Bedell Creek
Bellmore Creek
Cammans Creek
Carmans Creek
Clear Stream
Clements Brook
Doxey Brook
East Meadow Brook
Elmont Drain
Fosters Brook
Francis Pond
Horse Brook
Kentuck Brook
Macy Channel
Massapequa Creek
Milburn Creek
Mill Creek
Mill River
Mott Creek
Parsonage Creek
Pines Brook
Powells Creek
Seaford Creek
Seamans Creek
Tiffany Brook
Unqua Creek
Valley Stream
Whites Creek
Newbridge Creek

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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Minimum Control Measures 4 and 5.
Construction Site and Post-Construction Control

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

		1
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1a. Has each MS4 contributing to this report adopted a law, ordinance or other regulatory mechanism that provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities? Yes No

1b. Has each Town, City and/or Village contributing to this report documented that the law is equivalent to a NYSDEC Sample Local Law for Stormwater Management and Erosion and Sediment Control through either an attorney certification or using the NYSDEC Gap Analysis Workbook? Yes No NT

If Yes, Towns, Cities and Villages provide date of equivalent NYS Sample Local Law. 09/2004 03/2006 NT

2. Does your MS4/Coalition have a SWPPP review procedure in place? Yes No

3. How many Construction Stormwater Pollution Prevention Plans (SWPPPs) have been reviewed in this reporting period?

		3
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4. Does your MS4/Coalition have a mechanism for receipt and consideration of public comments related to construction SWPPPs? Yes No NT

If Yes, how many public comments were received during this reporting period?

		0
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5. Does your MS4/Coalition provide education and training for contractors about the local SWPPP process? Yes No

6. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

<input type="radio"/> Notices of Violation	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Stop Work Orders	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Criminal Actions	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Termination of Contracts	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Administrative Fines	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Civil Penalties	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Administrative Orders	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Enforcement Actions or Sanctions	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority
<input type="radio"/> Other	#	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>							<input checked="" type="radio"/> No Authority

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau									
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SPDES ID

N	Y	R	2	0	A	0	2	2
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Minimum Control Measure 4. Construction Site Stormwater Runoff Control

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

		1
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1. How many construction projects have been authorized for disturbances of one acre or more during this reporting period?

		3
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 2. How many construction projects disturbing at least one acre were active in your jurisdiction during this reporting period?

		3
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 3. What percent of active construction sites were inspected during this reporting period? NT

1	0	0
---	---	---

 %

 4. What percent of active construction sites were inspected more than once? NT

	5	0
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 %

 5. Do all inspectors working on behalf of the MS4s contributing to this report use the NYS Construction Stormwater Inspection Manual? Yes No NT

 6. Does your MS4/Coalition provide public access to Stormwater Pollution Prevention Plans (SWPPPs) of construction projects that are subject to MS4 review and approval? Yes No NT
- If your MS4 is Non-Traditional, are SWPPPs of construction projects made available for public review? Yes No

If Yes, use the following page to identify location(s) where SWPPPs can be accessed.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

2	0	2	1
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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau									
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SPDES ID

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7. Evaluating Progress Toward Measurable Goals MCM 4

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Normally we coordinate with the Nassau County Soil and Water Conservation District to implement sediment and erosion control trainings required for construction operators as per GP-0-08-002, Part VIII.A.4.a.vii. SWPPP Inspector training. However due to the COVID-19 pandemic trainings were canceled this reporting year as per guidelines.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

Due to the COVID-19 Pandemic and subsequent guidance procedures trainings were not given during this reporting period.

C. How many times was this observation measured or evaluated in this reporting period?

			1
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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

Depending upon the COVID-19 pandemic outcome/and guidance procedures we will anticipate re-starting erosion and sediment control training sessions for the upcoming reporting year.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

2	0	2	1
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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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Minimum Control Measure 5. Post-Construction Stormwater Management

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

		1
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1. How many and what type of post-construction stormwater management practices has your MS4/Coalition inventoried, inspected and maintained in this reporting period?

	# Inventoried	# Inspections	# Times Maintained									
<input type="radio"/> Alternative Practices	<table border="1"><tr><td> </td><td>2</td><td>1</td></tr></table>		2	1	<table border="1"><tr><td> </td><td>2</td><td>1</td></tr></table>		2	1	<table border="1"><tr><td> </td><td>2</td><td>1</td></tr></table>		2	1
	2	1										
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<input type="radio"/> Filter Systems	<table border="1"><tr><td>3</td><td>6</td><td>6</td></tr></table>	3	6	6	<table border="1"><tr><td>1</td><td>5</td><td>5</td></tr></table>	1	5	5	<table border="1"><tr><td>1</td><td>5</td><td>5</td></tr></table>	1	5	5
3	6	6										
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1	5	5										
<input type="radio"/> Infiltration Basins	<table border="1"><tr><td>6</td><td>3</td><td>8</td></tr></table>	6	3	8	<table border="1"><tr><td>3</td><td>0</td><td>0</td></tr></table>	3	0	0	<table border="1"><tr><td>3</td><td>0</td><td>0</td></tr></table>	3	0	0
6	3	8										
3	0	0										
3	0	0										
<input type="radio"/> Open Channels	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>			
<input type="radio"/> Ponds	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>			
<input type="radio"/> Wetlands	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>			
<input type="radio"/> Other	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>			

2. Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance?

- Yes
- No

3. What types of non-structural practices have been used to implement Low Impact Development/Better Site Design/Green Infrastructure principles?

- Building Codes
- Municipal Comprehensive Plans
- Overlay Districts
- Open Space Preservation Program
- Zoning
- Local Law or Ordinance
- None
- Land Use Regulation/Zoning
- Watershed Plans
- Other Comprehensive Plan

Other:

R	e	q	.	t	o	s	t	o	r	e	a	n	8	"	r	a	i	n	f	a	l	l
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

2	0	2	1
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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau									
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SPDES ID

N	Y	R	2	0	A	0	2	2
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4a. Are the MS4s contributing to this report involved in a regional/watershed wide planning effort?

Yes No

4b. Does the MS4 have a banking and credit system for stormwater management practices?

Yes No

4c. Do the SWMP Plans for each MS4 contributing to this report include a protocol for evaluation and approval of banking and credit of alternative siting of a stormwater management practice?

Yes No

4d. How many stormwater management practices have been implemented as part of this system in this reporting period?

		0
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5. What percent of municipal officials/MS4 staff responsible for program implementation attended training on Low Impace Development (LID), Better Site Design (BSD) and other Green Infrastructure principles in this reporting period?

		0
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 %

MS4 Annual Report Form

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Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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6. Evaluating Progress Toward Measurable Goals MCM 5

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Used our storm water BMP facilities checklist and inspected each existing BMP. Recommended maintenance where required. Continue to Evaluate our Storm Water Basin Inventory to isolate basins with overflows.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

The Department continues to evaluate our Storm Water Basin inventory to only include basins that have overflow capability and that may connect to waters of the United States.

C. How many times was this observation measured or evaluated in this reporting period?

			1
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(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

Continue to search and apply for grant opportunities to install additional storm water treatment devices. Continue to check and maintain our existing devices using our BMP checklist. Continue to fine tune our Storm Water Basin inventory list to only include basins that have overflows and connect to waters of the United States.

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

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Name of MS4/Coalition

County of Nassau																			
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SPDES ID

N	Y	R	2	0	A	0	2	2
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Minimum Control Measure 6. Stormwater Management for Municipal Operations

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

		1
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1. Choose/list each municipal operation/facility that contributes or may potentially contribute Pollutants of Concern to the MS4 system. For each operation/facility indicate whether the operation/facility has been addressed in the MS4's/Coalition's Stormwater Management Program(SWMP) Plan and whether a self-assessment has been performed during the reporting period. A self-assessment is performed to: 1) determine the sources of pollutants potentially generated by the permittee's operations and facilities; 2) evaluate the effectiveness of existing programs and 3) identify the municipal operations and facilities that will be addressed by the pollution prevention and good housekeeping program, if it's not done already.

<u>Operation/Activity/Facility</u>	<u>Addressed in SWMP?</u>		<u>Self-Assessment Operation/Activity/Facility performed within the past 3 years?</u>	
	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Street Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Bridge Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Winter Road Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Salt Storage.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Solid Waste Management.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
New Municipal Construction and Land Disturbance..	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Right of Way Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Marine Operations.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Hydrologic Habitat Modification.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Parks and Open Space.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Municipal Building.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Stormwater System Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Vehicle and Fleet Maintenance.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

2	0	2	1
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If submitting this form as part of a joint report on behalf of a coalition leave SPDES ID blank.

Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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2. Provide the following information about municipal operations good housekeeping programs:

- Parking Lots Swept (Number of acres X Number of times swept) # Acres

		4	5	5
--	--	---	---	---
- Streets Swept (Number of miles X Number of times swept) # Miles

2	4	3	5
---	---	---	---
- Catch Basins Inspected and Cleaned Where Necessary #

1	9	0	8	3
---	---	---	---	---
- Post Construction Control Stormwater Management Practices Inspected and Cleaned Where Necessary #

			2	1
--	--	--	---	---
- Phosphorus Applied In Chemical Fertilizer # Lbs.

--	--	--	--	--
- Nitrogen Applied In Chemical Fertilizer # Lbs.

--	--	--	--	--
- Pesticide/Herbicide Applied (Number of acres to which pesticide/herbicide was applied X Number of times applied to the nearest tenth.) # Acres

0					.	
---	--	--	--	--	---	--

3. How many stormwater management trainings have been provided to municipal employees during this reporting period? Note: Goal Impacted by COVID-19****

				0
--	--	--	--	---

4. What was the date of the last training?

0	
---	--

 /

0	
---	--

 /

--	--	--	--

5. How many municipal employees have been trained in this reporting period?

		0
--	--	---

6. What percent of municipal employees in relevant positions and departments receive stormwater management training?

	5	6
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 %

MS4 Annual Report Form

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2	0	2	1
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Name of MS4/Coalition

County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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7. Evaluating Progress Toward Measurable Goals MCM 6

Use this page to report on your progress and project plans toward achieving measurable goals identified in your Stormwater Management Program Plan (SWMPP), including requirements in Part III.C.1. Submit additional pages as needed.

A. Briefly summarize the Measurable Goal identified in the SWMPP in this reporting period.

Continue municipal employee training for good housekeeping practices and storm water pollution prevention at county facilities via a video training manual that includes an examination and certificate of completion with a date and a tracking mechanism to see which employees have been trained. Completion of online facilities checklists at various county facilities. Both of these goals were reduced this reporting period due to the COVID-19 Pandemic.

B. Briefly summarize the observations that indicated the overall effectiveness of this Measurable Goal.

Through monitoring our employee tracking mechanism. The goals were impacted this reporting period due to the COVID-19 Pandemic.

C. How many times was this observation measured or evaluated in this reporting period?

			1
--	--	--	---

(ex.: samples/participants/events)

D. Has your MS4 made progress toward this measurable goal during this reporting period?

Yes No

E. Is your MS4 on schedule to meet the deadline set forth in the SWMPP?

Yes No

F. Briefly summarize the stormwater activities planned to meet the goals of this MCM during the next reporting cycle (including an implementation schedule).

Continue to expand the educational training program to additional Nassau County employees. Continue to inspect our county garages/maintenance facilities through our online facilities checklist program. The Department will expand this online training module to additional Road Maintenance and facilities management personnel over the next reporting period.

MS4 Annual Report Form

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Name of MS4/Coalition

County of Nassau									
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SPDES ID

N	Y	R	2	0	A	0	2	2
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Additional Watershed Improvement Strategy Best Management Practices

The information in this section is being reported (check one):

- On behalf of an individual MS4
- On behalf of a coalition

How many MS4s contributed to this report?

		1
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MS4s must answer the questions or check NA as indicated in the table below.

MS4 Description	Answer	Check NA	(POC)
NYC EOH Watershed			
Traditional Land Use	1,2,3,4,5,6,7a-d,8a,8b,9	10,11,12	Phosphorus
Traditional Non-Land Use	1,2,3,4,7a-d,8a,8b,9	5,10,11,12	Phosphorus
Non-Traditional	1,2,77a-d,8a,8b,9	3,4,5,10,11,12	Phosphorus
Onondaga Lake Watershed			
Traditional Land Use	1,6,7a-d,8a,9	2,3,4,5,8b,10,11,12	Phosphorus
Traditional Non-Land Use	1,6,7a-d,8a,9	2,3,4,5,8b,10,11,12	Phosphorus
Non-Traditional	1,6,7a-d,8a,9	2,3,4,5,8b,10,11,12	Phosphorus
Greenwood Lake Watershed			
Traditional Land Use	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
Traditional Non-Land Use	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
Non-Traditional	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
Oyster Bay			
Traditional Land Use	1,4,7a-d,9,10,11,12	2,3,5,6,8a,8b	Pathogens
Traditional Non-Land Use	1,4,7a-d,9,10,11,12	2,3,5,6,8a,8b	Pathogens
Non-Traditional	1,4,7a-d,9	2,3,4,5,8a,8b,10,11,12	Pathogens
Peconic Estuary			
Traditional Land Use	1,4,7a-d,8a,9,10,11,12	2,3,5,6,8b	Pathogens and Nitrogen
Traditional Non-Land Use	1,4,7a-d,8a,9,10,11,12	2,3,5,6,8b	Pathogens and Nitrogen
Non-Traditional	1,4,7a-d,8a,9	2,3,4,5,8b,10,11,12	Pathogens and Nitrogen
Oscawana Lake Watershed			
Traditional Land Use	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
Traditional Non-Land Use	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
Non-Traditional	1,4,6,7a-d,8a,9	2,3,5,8b,10,11,12	Phosphorus
LI 27 Embayments			
Traditional Land Use	1,2,3,4,7a-d,9,10,11,12	5,6,8a,8b	Pathogens
Traditional Non-Land Use	1,2,3,4,7a-d,9,10,11,12	5,6,8a,8b	Pathogens
Non-Traditional	1,2,3,4,7a-d,9	5,6,8a,8b,10,11,12	Pathogens

1. Does your MS4/Coalition have an education program addressing impacts of phosphorus/nitrogen/pathogens on waterbodies? Yes No N/A

2. Has 100% of the MS4/Coalition conveyance system been mapped in GIS? Yes No N/A

If N/A, go to question 3.

If No, estimate what percentage of the conveyance system has been mapped so far.

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 %

Estimate what percentage was mapped in this reporting period.

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 %

MS4 Annual Report Form

This report is being submitted for the reporting period ending March 9,

2	0	2	1
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Name of MS4/Coalition

County of Nassau									
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SPDES ID

N	Y	R	2	0	A	0	2	2
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3. Does your MS4/Coalition have a Stormwater Conveyance System (infrastructure) Inspection and Maintenance Plan Program? Yes No N/A

4. Estimate the percentage of on-site wastewater treatment systems that have been inspected and maintained or rehabilitated as necessary in this reporting period?

		0
--	--	---

 %

5. Has your MS4/Coalition developed a program that provides protection equivalent to the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-08-001) to reduce pollutants in stormwater runoff from construction activities that disturb five thousand square feet or more? Yes No N/A

6. Has your MS4/Coalition developed a program to address post-construction stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre that provides equivalent protection to the NYS DEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-08-001), including the New York State Stormwater Design Manual Enhanced Phosphorus Removal Standards? Yes No N/A

7a. Does your MS4/Coalition have a retrofitting program to reduce erosion or phosphorus/nitrogen/pathogen loading? Yes No N/A

7b. How many projects have been sited in this reporting period?

		0
--	--	---

7c. What percent of the projects included in 7b have been completed in this reporting period?

		0
--	--	---

 %

7d. What percent of projects planned in previous years have been completed?

		0
--	--	---

 %
 No Projects Planned

8a. Has your MS4/Coalition developed and implemented a turf management practices and procedures policy that addresses proper fertilizer application on municipally owned lands? Yes No N/A

8b. Has your MS4/Coalition developed and implemented a turf management practices and procedures policy that addresses proper disposal of grass clippings and leaves from municipally owned lands? Yes No N/A

MS4 Annual Report Form

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County of Nassau

SPDES ID

N	Y	R	2	0	A	0	2	2
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- 9. **Has your MS4/Coalition developed and implemented a program of native planting?**
 Yes No N/A

- 10. **Has your MS4/Coalition enacted a local law prohibiting pet waste on municipal properties and prohibiting goose feeding?**
 Yes No N/A

- 11. **Does your MS4/Coalition have a pet waste bag program?**
 Yes No N/A

- 12. **Does your MS4/Coalition have a program to manage goose populations?**
 Yes No N/A