

NEW YORK CITY

2020

BEACH SURVEILLANCE AND MONITORING PROGRAM



Photo by DOHMH Beach Program Staff

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SECTION 1

INTRODUCTION

In accordance with the New York City Administrative Code §18-131(c)(4), this annual report summarizes the 2020 New York City Beach Surveillance and Monitoring Program for beaches permitted by the Department of Health and Mental Hygiene (DOHMH or the “Department”). This law requires that the Health Commissioner “forward a combined report of the dates and results of all inspections of all beaches and the dates and reasons for any warning advisory or closure, and such other information deemed appropriate by the Commissioner of Health and Mental Hygiene, for the Friday proceeding the last Monday of May until the Friday after the first Monday of September of each year, to the mayor, the public advocate and the speaker of the council.”

With the principal goal of protecting ocean beachgoers from potential health and safety hazards, the Department closely monitors and conducts surveillance of permitted beaches in New York City. Under the regulatory directive and authority of both Article 167 of the New York City Health Code (Article 167) and Subpart 6-2 of the New York State Sanitary Code (Subpart 6-2), the Department administers the Beach Surveillance and Monitoring Program for all beaches operating within the city limits and with a permit issued by the Department. The Program responsibilities include: 1) beach monitoring and surveillance, 2) public notification and communication and 3) safety inspections.

The city’s beaches function as an important recreational resource for city residents and neighboring communities. As shown in Figure 1 (page 2) and Table 1 (page 3), there are eight public beaches operated by the Department of Parks and Recreations (the Parks Department) and 17 privately operated beaches permitted within New York City limits.

This year, due to the COVID-19 public health emergency, the bathing beach season was limited from July 1 to September 7, 2020.

FIGURE 1: NEW YORK CITY PERMITTED BEACHES



 = Public Beach (NYC Dept. Parks and Recreation)

TABLE 1: NEW YORK CITY PERMITTED BEACHES AND WATER BODY IDENTIFICATION

Borough	Beaches	Water Body
Brooklyn	<i>Public:</i> Coney Island, Manhattan <i>Private:</i> Seagate, Kiddie Gerritsen, Kingsborough	Lower New York Harbor
Bronx	<i>Public:</i> Orchard Beach <i>Private:</i> American Turner, Danish American, Manhem, White Cross Fishing, Morris Yacht Club, Schuyler Hill, Trinity Danish, Locust Point Yacht Club, West Fordham Street	Eastchester Bay, Western Long Island Sound
Queens	<i>Public:</i> Rockaway <i>Private:</i> Breezy Point	Atlantic Ocean
	<i>Private:</i> Douglaston Manor, Whitestone Booster Civic Association	Western Long Island Sound
Staten Island	<i>Public:</i> South Beach, Midland, Cedar Grove, Wolfe’s Pond Park <i>Private:</i> Staten Island YMCA	Lower New York Bay

1.1 Public Risk Communication

The Department continued its efforts to improve public notification and risk communication during the beach season. Easy-to-interpret signs shown in Figure 2 were used for beach closures and warnings in 2020.

FIGURE 2: BEACH WARNING AND CLOSED SIGNS



“Know Before You Go”, a free texting service introduced in 2014, was continued for the 2020 beach season. The service enables subscribers to make informed decisions before they go to a public beach by checking if the beach is open or closed or if there are any warnings due to wet weather conditions or water quality concerns. Subscribers simply text “BEACH” to 877-877 to learn the status of any of the eight public beaches in New York City. This tool also can be used by the Department to deliver notifications of high priority water quality warnings or closures, as well as safety-related messages such as warnings for high rip currents, closures for extreme weather and when beaches open and close for the season. For example, in preparation for beach openings with special COVID-19 operating rules, DOHMH issued the following notification to all enrolled users:

Beaches will open for swimming on 7/1. Stay home if sick, stay at least 6 feet away from other groups, wear a face covering when not in water, wash hands often or use hand sanitizer.

Beach capacity has been reduced, and only swim when lifeguards are present. Check nyc.gov/beaches for more info.

In 2020, because of the public health emergency, the Department did not promote “Know Before You Go” through its social media channels. Still, there were modest increases in enrollment. At the beginning of the season, the texting service had 12,574 English-language subscribers and 574 Spanish-language subscribers. By the close of the beach season, there were 14,313 English-language subscribers (12% increase) and 605 Spanish-language subscribers (5% increase).

FIGURE 3: KNOW BEFORE YOU GO TEXTING PROGRAM



SECTION 2

BACKGROUND INFORMATION

This chapter provides background information on the New York City Beach Surveillance and Monitoring Program.

2.1 Water Quality Criteria

Under the New York State Sanitary Code §6-2.15, Article §167.13 of the New York City Health Code and the Federal Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH), enterococcus is the indicator organism mandated for evaluating the microbiological quality of marine (saline) recreational beach water.

Under the New York State Sanitary Code and the New York City Health Code, enterococci concentrations for a single sample shall not exceed 104 Colony Forming Units (CFUs) per 100 mL (61 CFUs per 100 ml for fresh water), and the enterococci geometric mean shall not exceed 35 CFUs per 100 mL (33 CFUs per 100 ml for fresh water) for a series of five or more samples collected during a 30-day period. The geometric mean and single sample maximum are determined by analyzing samples for the presence and quantification of enterococci using membrane-filtration, EPA method 1600.

In November 2012, the Environmental Protection Agency (EPA) released revised Recreational Water Quality Criteria (RWQC). The revised criteria use a geometric mean and a statistical threshold value to indicate whether waters designated for primary contact recreation use are protective of human health. The 2012 revised criteria for marine waters are a 30-day geometric mean of 35 enterococci (CFU/100 mL) and a statistical threshold value of 130 enterococci (CFU/100 mL); the statistical threshold value is calculated as no more than 10% of samples within 30 days shall exceed the criteria. The EPA also introduced a Beach Action Value (BAV) of 70 enterococci (CFU/100 mL) to be used as a precautionary notification threshold for beach management, replacing earlier guidance that provided single sample maximum values. These water quality criteria have been adopted at the State level by the New York Department of Environmental Conservation (DEC) and became effective November 1, 2019. The New York State Department of Health (NYSDOH) plans to also promulgate equivalent bathing beach water quality standards in the State Sanitary Code, which may then be implemented by local beach programs in future seasons.

Also in the revised 2012 RWQC, EPA published criteria and standards for molecular analysis to detect and quantify *Enterococcus* spp. with rapid Polymerase Chain Reaction (qPCR) (EPA Methods 1609 and 1611). These are not required standards but are optional methods of analysis which may be used by beach managers to potentially inform same-day decision making. In 2019, the Department initiated a pilot project to assess qPCR sampling and analysis implementation for

New York City beach surveillance and monitoring. The pilot continued in 2020, and the Department collected additional, paired samples from a selection of sites from July through September. These additional samples will be analyzed with qPCR method 1609, as well as Droplet Digital PCR (ddPCR) analysis with use of Bio Rad’s QX 200 system), for comparison with the currently utilized EPA 1600 culture method. Analysis is ongoing and DOHMH intends to continue this project to advance sampling protocols and assess feasibility of implementation in future seasons.

2.2 Rainfall Events

Preemptive rainfall thresholds have been developed for New York City beaches through statistical modeling of historical precipitation and water quality data. These preemptive thresholds are used as a management tool to provide a quick and reliable indication of water quality conditions. Because the majority of the city has combined stormwater and sewer conveyance systems, high levels of precipitation may result in combined sewage and stormwater runoff bypassing the treatment system and overflowing into local waterbodies. This phenomenon, known as Combined Sewer Overflow (CSO), poses a public health threat to nearby beaches. When preemptive rainfall thresholds are met, as defined in Table 2, a public notification or warning takes effect for the predetermined duration.

TABLE 2: NEW YORK CITY PREEMPTIVE RAINFALL THRESHOLDS

Beach (Borough)	Rainfall Threshold (within 24 hrs)	Duration of Warning
South Beach, Midland Beach, Cedar Grove, Staten Island YMCA (Staten Island), Manhattan Beach, Kingsborough Community College (Brooklyn)	1.5 – 2.5 inches	12 hours
	> 2.5 inches	24 hours
Orchard Beach (Brooklyn)	> 2.5 inches	24 hours
Coney Island (Brooklyn)	> 2.5 inches	12 hours
Gerritsen/Kiddie Beach (Brooklyn) Whitestone Booster (Queens)	0.3 - 0.6 inches	18 hours
	> 0.6 inches	40 hours
American Turner, Danish American, Manhem, White Cross, Morris Yacht, Schuyler Hill, Trinity Danish, Locust Point Yacht Club, West Fordham Street Association (Bronx)	0.6 – 2.5 inches	36 hours
	> 2.5 inches	48 hours
Douglaston Manor (Queens)	0.3 – 0.6 inches	30 hours
	> 0.6 – 2.5 inches	60 hours
	> 2.5 inches	72 hours

2.3 Beach Classifications

There are three swimming classifications for New York City beaches which are determined by assessing water quality, rainfall and pollution events, on-site sanitary surveys, and/or historical information. Beaches, except those specifically restricted under Article §167.05, are classified as follows:

Class A: Open for Swimming and Wading. Beaches may be classified as open and approved for swimming and wading when *all* of the following conditions are met:

1. Beach water quality is in accordance with standards defined under Article §167.13;
2. Sanitary and safety surveys are satisfactory in accordance with Article §167.25; and
3. The epidemiological history is satisfactory to the Department, i.e., no repeated complaints or reports of illness/injury received from the public or from owners/operators of city beaches.

Class B: Warning – Not Recommended for Swimming and Wading. Beaches may be classified as “Not Recommended for Swimming and Wading,” resulting in notifications to the public that swimming should be avoided to prevent contracting a swimming-related illness, when *one or more* of the following conditions exists:

1. Rainfall events exceed the preemptive rainfall thresholds; and/or
2. A water quality sample exceeds the water quality standard or a beach notification threshold. The notification should remain in effect until resampling indicates that the beach water quality standard and/or notification thresholds are being met; and/or
3. An on-site sanitary survey or investigation reveals the presence of floatable debris, medical/infectious waste or toxic contaminants, petroleum products and/or other contamination on the beach; or evidence of sewage and wastewater discharge.

Class C: Closed – Temporarily Restricted for Swimming and Wading: Beaches may be classified as “Temporarily Restricted for Swimming and Wading” when *one or more* of the following conditions exists:

1. Sampling by bacteriological testing that finds beach water quality exceeding the statutory water quality standard for marine water beaches; and/or
2. Epidemiological data indicates a significant incidence of related illnesses or repeated complaints/reports of illness/injury received from beach patrons; and/or
3. A sanitary and safety survey or an investigation reveals the presence of potentially hazardous amounts of floatable debris, medical/infectious waste, toxic contaminants, petroleum products or other contaminants on the beach, or there is evidence of sewage and wastewater discharges in sufficient quantities that will adversely affect the quality of the beach water; and/or

4. Any other environmental factors determined to be a public health or safety hazard by the Department are present.

2.4 Beach Monitoring and Surveillance

Starting one month before the beach season, the Department monitors and samples each beach on a weekly basis with the exception of the Rockaway and Breezy Point beaches, which are sampled biweekly. In addition to routine water quality monitoring, the Department monitors on a daily basis the regional wet weather conditions and occasional Waste Water Treatment Plant (WWTP) bypasses, operational upsets and spills through interagency communication and cooperation. This information can be used to assess and make beach status determinations.

During a sample event, a routine on-site sanitary survey inspection is performed to identify any existing and/or potential sources of pollution that are likely to affect beach water quality. Water samples are collected at knee depth (18 inches) in three feet of water, from the center, left and right of the beach. At larger beaches, such as Coney Island and Rockaway, samples are taken from multiple locations to ensure adequate representation and reliable results. The collected samples are delivered to the Department's Public Health Laboratory for analysis. The analytical turnaround time for enterococci is 24 hours.

The water quality of the samples analyzed is reviewed and assessed for conformance to applicable standards. If the regulatory limit for enterococci is exceeded or conditions exist that may pose a threat to the health and/or safety of the public, the Department initiates one of the following actions: conducts immediate re-sampling; issues a warning and conducts re-sampling; and/or closes the beach and conducts re-sampling. The determining factors for additional sampling may include: proximity to suspected pollution sources; extent of pollution; beach use; historical water quality data; and other health risk factors.

2.5 Public Notification and Risk Communication

When beach status changes based upon evaluation and assessment of beach water quality as specified above, the Department notifies the public through on-site beach signage, website postings, 311 non-emergency government service hotline, Notify NYC (via Twitter, RSS feed, e-mail, and SMS), "Know Before You Go" texting service, and Department press releases when necessary. Beach operators are notified by phone, email and/or text as to the necessary on-site postings. The specific notification procedures and requirements for each of the above conditions are as follows:

On-Site Signage: When notified by the Department, the permittee is required to post or remove the warning or closure signs in designated areas visible to beach users, such as beach entrances, bulletin boards, comfort stations or the general vicinity of the common swimming areas.

“Know Before You Go” Texting Service: Subscribers text “BEACH” to 877-877 to learn the beach status for any of the eight public beaches in New York City.

Website Postings: The Department has developed an easily accessible website with up-to-date information for all permitted beaches: www.nyc.gov/health/beach. The website contains background information on the beach program, explains the causes and sources of surface water pollution, and summarizes the beach classification system, including the different types of warnings. A list of city beaches by borough, along with their respective status (Open, Closed, or Warning) and sample results are promptly updated on the website.

Notify NYC: When notified by the Department of status changes relating to public beaches, the Office of Emergency Management will share this information with members of the public who have signed up for Notify NYC status information via Twitter, RSS feed, e-mail and SMS.

311: The 311 telephone operators monitor the Department’s website for updates on warning or closure information, as described above, and convey that information to 311 callers. The public can also report a swimming-related illness via 311.

NYC Press Release: Press releases are disseminated to various types of media (newspaper, radio, website, television), as well as elected officials.

2.6 Inspections

The Department conducts annual safety inspections and complaint inspections at bathing beaches to assure that (1) all staff, especially lifeguards and supervisors, have proper certificates and coverage, including CPR certification; (2) all required life-saving equipment is available, including rescue tubes, spine boards, first aid kits, and resuscitation equipment; and (3) there is proper signage posted on site. Direct observations of conditions are supplemented by interviews with lifeguards and other personnel. The inspections also evaluate beach facility hygiene.

SECTION 3

FINDINGS

3.1 Water Quality and Illness Reporting

Routine water quality monitoring and sample collection was performed at all 25 permitted beaches. Over 300 samples were collected and analyzed from these beaches between April and September 2020. In 2020, the Department received two complaints in July regarding a potential illness caused by beach recreation activity at the Bronx private beach, Schuyler Hill Civic Association. These complaints were referred to the Bureau of Communicable Disease epidemiologists for follow-up investigation. After multiple attempts the complainants could not be contacted, and as a result, the exposure and/or cause could not be verified.

Due to the shortened bathing season and modified beach monitoring plan, DOHMH collected fewer total samples than during a normal beach season. A normal beach season would have run from May 25, 2020 to September 13, 2020, with some pre-season sampling occurring too. The shortened season ran from July 1, 2020 to September 7, 2020, with some variable and extended pre-season sampling occurring due to the uncertainty around COVID-19 timelines. Additionally, DOHMH reduced the frequency of sampling events at certain beaches from weekly to biweekly. Further, DOHMH reduced the number of sampling locations per beach sampling event, resulting in fewer samples collected per monitoring period. These changes were made due to COVID-19 staffing precautions and safety measures. In 2020 DOHMH collected roughly 300 samples, compared to over 1,000 samples in a normal beach season. Given the limitations of this beach season, DOHMH interpreted sample results conservatively, and in most cases did not initiate resampling events to use resample information to reduce notification periods.

Water quality sample results, including 30-day geometric mean and daily averages and any associated criteria exceedances can be found in Appendix A (pages 12 to 17). Warnings and closures issued by the Department throughout the season are summarized in Appendix B (pages 18 to 20).

In general, for private beaches, Douglaston Manor had the highest daily exceedance rate (22.2%), while most other private beaches had no exceedances. Among public beaches, South and Manhattan had the highest daily exceedance rates (6.3%), while most other public beaches had no exceedances.

3.2 Public Notification for Warnings and Closures

There are 8 public beaches, all of which were issued at least one swimming advisory warning notice during the 2020 bathing season. However, there were only two warnings issued as a result of water quality exceedances. Fourteen notification days were a result of preemptive wet weather or tropical storm conditions. The length of notification ranged from 1 to 2 days.

Of the 17 private beaches in NYC, 13 were open in 2020. Nine were issued at least one swimming advisory warning notice during the bathing season. Of the private beaches that exceeded water quality standards, there were 139 warning days, 72 of which were a result of a contamination advisory on Douglaston Manor beach only. The other 67 warning days were a result of wet weather conditions, where the length of the notifications ranged from 1 to 2 days. Appendix B can be found on pages 18 to 20.

Due to storm warnings from the National Weather Service, all eight public beaches were preemptively closed to swimming on Tuesday, August 4, ahead of the landfall of Tropical Storm Isaias. All public beaches were closed on September 7 (Labor Day) for the 2020 season.

3.3 Inspections

During the 2020 beach season, inspections of all open 21 public and private beaches were successfully conducted by the Department. One facility was cited for violations at the time of inspection (during a Coney Island inspection, minor disrepair of parts of the boardwalk was observed), as indicated in Appendix C.

APPENDIX A: 2020 WATER QUALITY RESULTS AND EXCEEDANCE

Table A1-1: Brooklyn Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards: 30 day geomean limit: 35cfu/100ml, Daily average limit: 104cfu/100ml

Date of Week Ending	CONEY ISLAND BEACH (public)		MANHATTAN BEACH* (public)		GERRITSEN/ KIDDIE BEACH (private)		KINGSBOROUGH COMMUNITY COLLEGE (private)		SEA GATE 42 ND (private)		SEA GATE BEACH CLUB (private)	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2020					40	40	4	4	4	4	4	4
5/30/2020					38	36	4	4	8	16	4	4
6/6/2020					36	32	4	4	6	4	4	4
6/13/2020	9	19	60	60								
6/20/2020	6	4	15	4								
6/27/2020	6	5	14	12								
7/4/2020	6	24	22	88	82	210	9	20	4	4	4	4
7/11/2020	7	13	16	4								
7/18/2020	7	7	11	12	29	4	18	16	4	4	4	4
7/25/2020*	10	27	18	13								
8/1/2020	10	8	15	4	15	4	22	32	4	4	4	4
8/8/2020	11	24	14	52								
8/15/2020	9	5	14	4	4	4	28	24	4	4	4	4
8/22/2020	11	21	14	8								
8/29/2020	8	4	13	48	4	4	14	4	5	8	5	8
9/5/2020	8	8	19	36								

* mid-week sample result on 7/25/2020 at Manhattan Beach resulted in water quality concerns, see appendix B for description.

Values highlighted in red indicate exceedance of recreational water quality criteria.

Table A1-2: Bronx Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards: 30 day geomean limit: 35cfu/100ml, Daily average limit: 104cfu/100ml

Date of Week Ending	ORCHARD BEACH (public)		AMERICAN TURNER (private)		DANISH AMERICAN BEACH CLUB (private)		LOCUST POINT YACHT CLUB (private)		MANHEM CLUB (private)		MORRIS YACHT AND BEACH CLUB (private)		SCHUYLER HILL CIVIC ASSOC. (private)		TRINITY DANISH (private)		WEST FORDHAM STREET ASSOC. (private)		WHITE CROSS FISHING CLUB (private)	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2020			4	4	4	4	4	4	4	4	4	4	4	4	4	4	8	8	4	4
5/30/2020			4	4	4	4	4	4	4	4	4	4	6	8	4	4	6	4	4	4
6/6/2020			5	8	5	8	5	8	10	60	7	24	5	4	4	4	5	4	6	12
6/13/2020	268	270																		
6/20/2020	47	15																		
6/27/2020	20	5																		
7/4/2020	16	15	19	44	13	20	6	4	15	4	10	4	10	24	6	8	8	16	17	24
7/11/2020	12	5																		
7/18/2020	7	4	13	4	9	4	4	4	7	12	4	4	10	4	6	4	8	4	14	8
7/25/2020	6	8																		
8/1/2020	5	4	23	72	7	4	4	4	6	4	4	4	7	4	6	8	6	4	9	4
8/8/2020	6	25																		
8/15/2020	6	4	10	4	4	4	5	8	6	4	4	4	5	8	6	8	4	4	6	8
8/22/2020	7	15																		
8/29/2020	6	4	10	4	7	20	7	12	4	4	4	4	5	4	6	4	4	4	5	4
9/5/2020	7	15																		
9/12/2020			4	4	9	8					4	4	5	4			4	4		

Values highlighted in red indicate exceedance of recreational water quality criteria.

Table A1-3: Queens Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards- 30 day geomean limit: 35cfu/100ml, Daily Average limit: 104cfu/100ml

Date of Week Ending	ROCKAWAY BEACH (public)		BREEZY POINT 219 (private)		BREEZY POINT Reid Ave (private)		WHITESTONE BOOSTER CIVIC ASSOCIATION (private)		DOUGLSTON MANOR ASSOCIATION (private)	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2020			4	4	4	4	4	4	4	4
5/30/2020							4	4	4	4
6/6/2020			4	4	4	4	6	12	18	360
6/20/2020	5	5								
7/4/2020	6	20	4	4	4	4	14	16	216	130
7/18/2020	6	5	4	4	7	12	28	48	72	40
8/1/2020	5	4	4	4	6	4	33	48	75	80
8/15/2020	5	10	4	4	6	4	21	4	43	24
8/29/2020	5	4	5	8	4	4	33	200	57	96
9/12/2020									30	12

Values highlighted in red indicate exceedance of recreational water quality criteria.

Table A1-4: Staten Island Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards- 30 day Geomean limit: 35cfu/100ml, Daily Average limit: 104cfu/100ml

Fresh Water Standards- 30 day Geomean limit: 33cfu/100ml, Daily Average limit: 61cfu/100ml

Date of Week Ending	SOUTH BEACH* (public)		MIDLAND BEACH (public)		CEDAR GROVE BEACH (public)		WOLFE'S POND BEACH (public)	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
6/13/2020	4	4	12	12	12	12	4	4
6/20/2020	7	12	7	4	7	4	6	8
6/27/2020	6	4	6	4	6	4	5	4
7/4/2020	5	4	5	4	5	4	5	4
7/11/2020	5	4	6	8	5	4	5	4
7/18/2020	7	28	5	8	4	4	5	4
7/25/2020	7	8	6	8	5	8	5	12
8/1/2020	7	4	6	4	5	4	5	4
8/8/2020	9	20	8	12	6	16	5	4
8/15/2020	9	4	7	4	6	4	5	4
8/22/2020*	15	19	7	16	9	32	6	8
8/29/2020	13	4	6	4	8	4	5	4
9/5/2020	13	4	7	8	8	4	6	16

* mid-week sample result on 8/22/2020 at South Beach resulted in water quality concerns, see appendix B for description.

Table A2-1: 2020 Summary of Beach Samples and Single-Sample Exceedances

Beach	Sample Location	Total # of Samples	# of Sample exceed 104	% of Sample exceed 104
ALL Beaches TOTAL		312	8	2.6%
Public Beaches TOTAL		172	4	2.3%
Private Beaches TOTAL		140	4	2.9%

Table A2-2: 2019 Public Beaches Samples and Single-Sample Exceedances

Beach	Sample Location		Total # of Samples	# of Sample exceed 104	% of Sample exceed 104 (Location)	% of Sample exceed 104 (Beach)
CEDAR GROVE	CEDAR GROVE	Center	13	0	0.0%	0.0%
CONEY ISLAND	CONEY ISLAND BR. 15TH - 6TH	Center	13	0	0.0%	0.0%
	CONEY ISLAND OCEAN PKWY - WEST 8TH	Center	13	0	0.0%	
	CONEY ISLAND WEST 28TH - WEST 37TH	Center	13	0	0.0%	
MANHATTAN BEACH	MANHATTAN BEACH	Left	1	0	0.0%	6.3%
	MANHATTAN BEACH	Center	14	1	7.1%	
	MANHATTAN BEACH	Right	1	0	0.0%	
MIDLAND BEACH	MIDLAND BEACH	Center	13	0	0.0%	0.0%
ORCHARD BEACH	ORCHARD BEACH	Left	13	1	7.7%	5.3%
	ORCHARD BEACH	Center	12	0	0.0%	
	ORCHARD BEACH	Right	13	1	7.7%	
ROCKAWAY BEACH	ROCKAWAY BEACH 9TH - 13TH	Center	3	0	0.0%	0.0%
	ROCKAWAY BEACH 15TH - 22TH	Center	3	0	0.0%	
	ROCKAWAY BEACH 23RD - 59TH	Center	3	0	0.0%	
	ROCKAWAY BEACH 59TH - 80TH	Center	3	0	0.0%	
	ROCKAWAY BEACH 80TH - 95TH	Center	3	0	0.0%	
	ROCKAWAY BEACH 95TH - 116TH	Center	3	0	0.0%	
	ROCKAWAY BEACH 116TH - 126TH	Center	3	0	0.0%	
SOUTH BEACH	SOUTH BEACH	Left	1	0	0.0%	6.3%
	SOUTH BEACH	Center	14	1	7.1%	
	SOUTH BEACH	Right	1	0	0.0%	
WOLFE'S POND BEACH	WOLFE'S POND BEACH	Center	13	0	0.0%	0.0%
Public Beaches (Locations) Total			172	4	2.3%	

Table A2-3: 2020 Private Beaches Samples and Single-Sample Exceedances

Beach	Sample Location		Total # of Samples	# of Sample exceed 104	% of Sample exceed 104 (Location)	% of Sample exceed 104 (Beach)
AMERICAN TURNER	AMERICAN TURNER	Center	9	0	0.0%	0.0%
BREEZY POINT 219	BREEZY POINT 219	Center	7	0	0.0%	0.0%
BREEZY POINT Reid	BREEZY POINT Reid Ave	Center	7	0	0.0%	0.0%
DANISH AMERICAN BEACH CLUB	DANISH AMERICAN BEACH CLUB	Center	9	0	0.0%	0.0%
DOUGLASTON MANOR ASSOCIATION	DOUGLASTON MANOR ASSOCIATION	Center	9	2	22.2%	22.2%
GERRITSEN/KIDDIE BEACH	GERRITSEN/KIDDIE BEACH	Center	8	1	12.5%	12.5%
KINGSBOROUGH COMMUNITY COLLEGE	KINGSBOROUGH COMMUNITY COLLEGE	Center	8	0	0.0%	0.0%
LOCUST POINT YACHT CLUB	LOCUST POINT YACHT CLUB	Center	8	0	0.0%	0.0%
MANHEM CLUB	MANHEM CLUB	Center	8	0	0.0%	0.0%
MORRIS YACHT AND BEACH CLUB	MORRIS YACHT AND BEACH CLUB	Center	9	0	0.0%	0.0%
SCHUYLER HILL CIVIC ASSOCIATION	SCHUYLER HILL CIVIC ASSOCIATION	Center	9	0	0.0%	0.0%
SEA GATE 42ND	SEA GATE 42ND	Center	8	0	0.0%	0.0%
SEA GATE BEACH CLUB	SEA GATE BEACH CLUB	Center	8	0	0.0%	0.0%
TRINITY DANISH	TRINITY DANISH	Center	8	0	0.0%	0.0%
WEST FORDHAM STREET ASSOCIATION	WEST FORDHAM STREET ASSOCIATION	Center	9	0	0.0%	0.0%
WHITE CROSS FISHING CLUB	WHITE CROSS FISHING CLUB	Center	8	0	0.0%	0.0%
WHITESTONE BOOSTER CIVIC ASSOCIATION	WHITESTONE BOOSTER CIVIC ASSOCIATION	Center	8	1	12.5%	12.5%
Private Beaches (Locations) Total			140	4	2.9%	

APPENDIX B: 2020 WARNINGS AND CLOSURES

Table B-1: Summary of Beach Warnings and Closure

Beach	Types	Reason	Start Date	End Date	Beach Open Days	# of Beach-Specific Days	Notification (Beach Specific Days)		
							Warning	Closure	Total
NYC ALL Beaches (N=21*)	Warning or Closure	Enterococci Exceedance or Rainfall Event	7/1/2020	9/13/2020	1172	155	147	8	155

*Four private beaches did not open for 2020 season.

Table B-2 Public Beaches Warnings and Closures

Beach	Types	Reason	Start Date	End Date	Beach Open Days	# of Beach-Specific Days	Notification (Beach Specific Days)		
							Warning	Closure	Total
CEDAR GROVE	Warning	Rainfall Event	7/11/2020	7/11/2020	67	1	1	1	2
	Closure	Tropical Storm	8/4/2020	8/4/2020		1			
CONEY ISLAND	Closure	Tropical Storm	8/4/2020	8/4/2020	68	1	0	1	1
MANHATTAN BEACH	Warning	Rainfall Event	7/11/2020	7/11/2020	65	2	3	1	4
	Warning	Enterococci Exceedance	7/22/2020	7/23/2020		1			
	Closure	Tropical Storm	8/4/2020	8/4/2020		2			
MIDLAND BEACH	Warning	Rainfall Event	7/11/2020	7/11/2020	67	1	1	1	2
	Closure	Tropical Storm	8/4/2020	8/4/2020		1			
ROCKAWAY BEACH	Closure	Tropical Storm	8/4/2020	8/4/2020	68	1	0	1	1
ORCHARD BEACH	Closure	Tropical Storm	8/4/2020	8/4/2020	68	1	0	1	1
SOUTH BEACH	Warning	Rainfall Event	7/11/2020	7/11/2020	65	1	3	1	4
	Closure	Tropical Storm	8/4/2020	8/4/2020		1			
	Warning	Enterococci Exceedance	8/19/2020	8/20/2020		2			
WOLFE'S POND PARK	Closure	Tropical Storm	8/4/2020	8/4/2020	68	1	0	1	1
Public Beaches TOTAL					536	16	8	8	16

Table B-3 Private Beaches Warnings and Closures

Beach	Types	Reason	Start Date	End Date	Beach Open Days	# of Beach- Specific Days	Notification (Beach Specific Days)		
							Warning	Closure	Total
AMERICAN TURNER		(not open)			0				
BREEZY POINT 219					69	0	0	0	0
BREEZY POINT REID					69	0	0	0	0
DANISH AMERICAN BEACH CLUB	Warning	Rainfall Event	7/11/2020	7/11/2020	65	1	10	0	10
	Warning	Rainfall Event	7/23/2020	7/23/2020		1			
	Warning	Rainfall Event	8/4/2020	8/5/2020		2			
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
DOUGLSTON MANOR ASSOCIATION	Warning	Enterococci Exceedance	7/1/2020	9/10/2020	1	72	74	0	74
	Warning	Rainfall Event	9/11/2020	9/12/2020		2			
GERRITSEN/ 	Warning	Rainfall Event	8/4/2020	8/4/2020	32	1	6	0	6
	Warning	Rainfall Event	8/8/2020	8/8/2020		1			
	Warning	Rainfall Event	8/12/2020	8/12/2020		1			
	Warning	Rainfall Event	8/19/2020	8/19/2020		1			
	Warning	Rainfall Event	8/28/2020	8/28/2020		1			
	Warning	Rainfall Event	9/4/2020	9/4/2020		1			
KINGSBOROUGH COMMUNITY COLLEGE		(not open)			0				
LOCUST POINT YACHT CLUB		(not open)			0				
MANHEM BEACH CLUB	Warning	Rainfall Event	8/4/2020	8/5/2020	34	2	7	0	7
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
MORRIS YACHT AND BEACH CLUB	Warning	Rainfall Event	7/11/2020	7/11/2020	65	1	10	0	10
	Warning	Rainfall Event	7/23/2020	7/23/2020		1			
	Warning	Rainfall Event	8/4/2020	8/5/2020		2			
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
	Warning	Rainfall Event	9/11/2020	9/11/2020		1			
SCHUYLER HILL CIVIC ASSOCIATION	Warning	Rainfall Event	8/4/2020	8/5/2020	36	2	8	0	8
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
	Warning	Rainfall Event	9/11/2020	9/11/2020		1			

Table B-3 Private Beaches Warnings and Closures (continued)

Beach	Types	Reason	Start Date	End Date	Beach	# of Beach-Specific Days	Notification (Beach Specific Days)		
					Open Days		Warning	Closure	Total
SEAGATE 42nd					69	0	0	0	0
SEAGATE BEACH CLUB					69	0	0	0	0
TRINITY DANISH YOUNG PEOPLE'S SOCIETY	Warning	Rainfall Event	8/4/2020	8/5/2020	31	2	7	0	7
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
WEST FORDHAM STREET ASSOCIATION	Warning	Rainfall Event	7/11/2020	7/11/2020	65	1	10	0	10
	Warning	Rainfall Event	7/23/2020	7/23/2020		1			
	Warning	Rainfall Event	8/4/2020	8/5/2020		2			
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
	Warning	Rainfall Event	9/11/2020	9/11/2020		1			
WHITE CROSS FISHING CLUB	Warning	Rainfall Event	8/4/2020	8/5/2020	31	2	7	0	7
	Warning	Rainfall Event	8/13/2020	8/13/2020		1			
	Warning	Rainfall Event	8/18/2020	8/19/2020		2			
	Warning	Rainfall Event	9/4/2020	9/5/2020		2			
WHITESTONE BOOSTER CIVIC ASSOCIATION		(not open)			0				
Private Beaches TOTAL					636	139	139	0	139

APPENDIX C: 2020 INSPECTION SUMMARY

Table C-1: Inspection Non-Compliance Summary *

Beach Name	General Violations**
	167.09 (13)
CONEY ISLAND BEACH	√

* All other beaches were in full compliance of the regulations at the time of inspection.

**** General Violations:**

§167.09(13)

Any other condition determined to be a Public Health Hazard by the department (e.g. Boardwalk in disrepair).