**CONNECTICUT DEPARTMENT OF PUBLIC HEALTH**

**RECREATION PROGRAM**

**ANNUAL BEACH GRANT REPORT**

***2020 Season***

**Submitted May, 2021**



*Lighthouse Point Park, New Haven*



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# Introduction

The Recreation Program of the Connecticut Department of Public Health (CT DPH) has completed Connecticut's 2020 Annual Report for the US Environmental Protection Agency (US EPA) Beach Grant CU-00A00351-0. This report describes the monitoring of regulated marine bathing areas and how the 2017 Quality Assurance Project Plan (QAPP) is being implemented. It also provides information on public notification and water quality monitoring efforts. As part of the Beach Grant work plan, Connecticut provides US EPA with seasonal data for marine recreational water quality monitoring and information on the times and duration of interventions. Much of these data are summarized within this report.

Furthermore, it describes how 24 shoreline towns, 18 local health agencies, CT DPH, and Connecticut’s Department of Energy and Environmental Protection (CT DEEP) work together to monitor the shoreline marine beaches.

# A: Elements of the Beach Monitoring and Notification Program

The Beach Grant includes specific goals for both US EPA and Connecticut. The goals for Connecticut are achieved by following a carefully developed work plan. The work plan addresses the twelve specific identified activities described below.

**A1: CT DEEP Beach Monitoring.** CT DEEP performs weekly or more frequent beach monitoring at 4 coastal state beaches. The coastal State beaches include the following: Sherwood Island State Park, Westport; Silver Sands State Park, Milford; Hammonasett State Park, Madison; and Rocky Neck State Park, East Lyme. Beach sampling will begin the week before Memorial Day and ends prior to Labor Day. This activity proceeds according to the beach QAPP. The beach monitoring that is conducted at the coastal state beaches is partial funded under an agreement executed with the CT DEEP. This funding is used to hire seasonal personnel who are responsible for the collection of the water samples and the transport of samples to the CT DPH Microbiology Laboratory. In 2020, the CT DPH Laboratory analyzed 264 samples collected at the coastal State Park beaches.

**A2: CT DPH Microbiology Laboratory.** CT DPH provides indicator bacteria analysis services for beach samples at no cost to CT DEEP and local health agencies. The courier service has regional drop off locations where local officials may transfer beach samples to a courier for delivery of samples to the CT DPH Microbiology Laboratory in Rocky Hill. The DPH Recreation Program partially funds the hiring of seasonal personnel by the CT DPH Microbiology Laboratory, vehicle rental, and the purchase of laboratory supplies associated with the monitoring process. The seasonal employees provide the courier services to local health agencies and perform the laboratory services associated with the analysis of water samples. In 2020, the CT DPH Laboratory analyzed 1445 samples collected at all beaches along the Connecticut coastline. This represents approximately 79% of all 1835 enterococci samples collected on Connecticut marine beaches and sent to US EPA for the 2020 season. All other enterococci samples were tested by State-certified laboratories, specifically; Eastern Analytical Laboratory, Norwalk Health Department Laboratory, and Stamford Health Department Laboratory. These data were forwarded to CT DPH and they were added to our database and to EPA’s Beacon 2 web site.

**A3: Methods and Quality Control.** Sampling design and methods are described in the *QAPP*. The established bacterial indicator for designated marine bathing water in Connecticut is *Enterococci*. The benchmark single sample criterion is 104 Colony Forming Units (CFU) or Most Probable Number (MPN)), with a five-sample geometric mean benchmark of 35.

According to Criterion 10 of the National Beach Guidance and Required Performance Criteria for Grants, 2014 Edition, states and tribes receiving beach grants under the CWA section 406 are expected to select a beach notification threshold, i.e.; the Beach Action Value (BAV), that is based on the 75th percentile value of the illness rate in EPA’s 2012 Recreational Water Quality Criteria. However, states and tribes have the option to submit a written justification to use an alternative value. The CT DPH has submitted to EPA its justification for maintaining the current threshold values for 2020 instead of the EPA-preferred BAV value. EPA’s response is included as Appendix C.

**A4: Coastal Recreational Waters List.** CT DPH provides US EPA with a list of regulated marine bathing areas and monitoring site locations where data are collected. In 2020 there were 74 beaches on this list. This list also includes one dormant beach that is being monitored (Fort Hale-New Haven). As noted in the DPH database, and on Beacon 2, Fort Hale Beach in New Haven is permanently closed and has been so since listed in 2011. The swimming beach at this city park remains dormant at least until a major redevelopment and repair project is complete. In the interim, the City continues to evaluate the water quality at Fort Hale because it is a popular site for fishing. In January 2020 this beach was classified as “Historic” in EPA’s PRAWN registry. Constraints and obligations related to the pandemic of 2020 forced one municipality (Bridgeport) to close one public beach (Pleasure Beach – Bridgeport) for the entire 2020 season.

**A5: Local Beach Monitoring and Notification.** Local public beaches are managed by municipal health department officials or regional health district personnel. The Connecticut General Statutes outlines enforcement authority under Chapter 98, Municipal Powers. Section 7-148 states that municipalities have the power to “control and operate” recreation places, public beaches and beach facilities. They also have the power to “regulate and prohibit swimming or bathing in the public or exposed places within the municipality”. (See <https://www.cga.ct.gov/current/pub/chap_098.htm#sec_7-148>.) The monitoring and closure/advisory practices at such coastal beaches are the responsibility of the local health authorities under the guidance of the CT DPH. Protocols for managing the opening and closing of municipal beaches are outlined in the QAPP and The State of Connecticut Guidelines for Monitoring Swimming Water and Closure Protocol (April, 2017).

**A6: Communicating Beach Location, Closure/Advisory, Notification, Potential Pollution Sources, and Monitoring Information.** The CT DPH Recreation Program uses an annual US EPA Beach Survey to collect organization, beach contact, location updates, closure, advisory, public notification, and known potential pollution source data for the regulated marine bathing areas under the authority of shoreline towns and CT DEEP. The 2020 Annual Review of Marine Beach Monitoring and Notification Data report was distributed to municipalities and CT DEEP on March 31st, 2021. These monitoring and survey data are validated, stored electronically in a local Access database developed and maintained by the CT DPH Recreation Program. The data are subsequently reformatted, translated and parsed for upload to US EPA. The monitoring data was compiled and accepted into EPA databases on February 22, 2021 while the notification data was last compiled and accepted into EPA databases on March 18, 2021. Monitoring data for the CT DEEP state park coastal bathing areas are provided to US EPA directly by CT DEEP, in accordance with the Memorandum of Agreement. Constraints and obligations related to the pandemic of 2020 forced one municipality (Greenwich) to not submit monitoring data for the four public beaches which they manage.

**A7: Measures that Inform the Public of Potential Risks**.  Each year prior to the opening of Connecticut’s beach season, the CT DEEP and CT DPH collaboratively issue a press release that discusses the state beach monitoring program and informs the public of potential risks associated with swimming in contaminated waters. The CT DPH provides the risk information on the CT DPH Recreation Program Web site (www.ct.gov/dph/publicbeaches). The site contains a listing of all municipal and state park regulated marine bathing areas and their tiered classification. It contains links to local health agencies and CT DEEP for the most up-to-date information about beach status. The site also contains links to beach related topics on US EPA and US Center for Disease Control and Prevention web sites. Communicating the status of state park beaches is accomplished by updating both the CT DEEP web site, and the State Beach “hotline”. Updates are accomplished the same day (Monday through Friday) as results are received from the CT DPH laboratory. Notifications procedures for CT municipalities compiled from closure data for years 2003 2020 are shown in Table A1 and Figure A1. Many municipalities utilize more than one means to notify the public of beach advisories and closures.

**Table A1:** Public Notification Procedures Listed by current State or municipal agencies (2003-2020). This list includes all current regulating agencies with a history of issuing a closing or advisory event at beaches. Counts of closing events are listed in Part A, advisory event in Part B. Second column is the count of closing (Part A) or advisory events (Part B). Subsequent columns show the notification count by method. "NULL" indicates no history of events.

PART A: CLOSING EVENTS

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEPARTMENT** | **COUNT OF EVENTS** | **AT BEACH** | **ON INTERNET** | **IN NEWSPAPER** | **VIA PHONE MSG** | **ISOLATE AFFECTED AREA** | **VIA LOCAL RADIO STATION** | **VIA LOCAL TV STATION** |
|  |  |  |  |  |  |  |  |  |
| Connecticut Department of Energy & Environmental Protection | **34** | 34 | 34 | 6 | 34 | 5 | 13 | 30 |
| Ledge Light Health District | **2** | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| East Shore District Health Department | **14** | 14 | 0 | 0 | 9 | 0 | 0 | 0 |
| Guilford Health Department | **6** | 6 | 0 | 0 | 2 | 0 | 0 | 0 |
| Madison Health Department | **4** | 4 | 4 | 0 | 4 | 0 | 0 | 0 |
| Milford Health Department | **21** | 21 | 6 | 21 | 16 | 0 | 21 | 21 |
| Connecticut River Area Health District | **29** | 29 | 3 | 0 | 9 | 0 | 0 | 0 |
| Westbrook Health Department | **2** | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| West Haven Health Department | **19** | 10 | 9 | 9 | 0 | 2 | 0 | 0 |
| New Haven Health Department | **11** | 11 | 1 | 0 | 0 | 5 | 0 | 0 |
| Bridgeport Health Department | **10** | 8 | 5 | 3 | 0 | 2 | 2 | 1 |
| Stratford Health Department | **41** | 41 | 22 | 0 | 6 | 0 | 30 | 15 |
| Darien Health Department | **34** | 34 | 16 | 0 | 34 | 0 | 0 | 0 |
| Fairfield Health Department | **56** | 56 | 32 | 20 | 25 | 31 | 35 | 35 |
| Greenwich Department of Health | **49** | 49 | 47 | 21 | 45 | 8 | 16 | 0 |
| Norwalk Health Department | **42** | 42 | 42 | 34 | 40 | 0 | 0 | 0 |
| Westport Weston Health District | **14** | 14 | 14 | 6 | 0 | 2 | 4 | 4 |
| Stamford Health Department | **68** | 68 | 56 | 32 | 67 | 9 | 31 | 0 |
| **SUMS** | **456** | **445** | **294** | **152** | **291** | **64** | **152** | **106** |

PART B: ADVISORY EVENTS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEPARTMENT** | **COUNT OF EVENTS** | **AT BEACH** | **ON INTERNET** | **IN NEWSPAPER** | **VIA PHONE MSG** | **ISOLATE AFFECTED AREA** | **VIA LOCAL RADIO STATION** | **VIA LOCAL TV STATION** | |
|  |  |  |  |  |  |  |  |  | |
| Connecticut Department of Energy & Environmental Protection | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Ledge Light Health District | **16** | 11 | 2 | 4 | 0 | 0 | 0 | | 0 |
| East Shore District Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Guilford Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Madison Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Milford Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Connecticut River Area Health District | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Westbrook Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| West Haven Health Department | **24** | 21 | 0 | 0 | 3 | 0 | 0 | | 0 |
| New Haven Health Department | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Bridgeport Health Department | **3** | 0 | 3 | 0 | 1 | 2 | 1 | | 0 |
| Stratford Health Department | **3** | 3 | 0 | 0 | 0 | 0 | 3 | | 0 |
| Darien Health Department | **4** | 2 | 0 | 2 | 0 | 0 | 0 | | 0 |
| Fairfield Health Department | **9** | 9 | 0 | 0 | 0 | 0 | 0 | | 0 |
| Greenwich Department of Health | **NULL** | NULL | NULL | NULL | NULL | NULL | NULL | | NULL |
| Norwalk Health Department | **2** | 2 | 0 | 0 | 0 | 0 | 0 | | 0 |
| Westport Weston Health District | **1** | 1 | 0 | 0 | 1 | 0 | 0 | | 0 |
| Stamford Health Department | **20** | 4 | 8 | 19 | 0 | 8 | 0 | | 0 |
| **SUMS** | **82** | **53** | **13** | **25** | **5** | **10** | **4** | **0** | |

**Figure A1:** Notification Procedures for CT Marine Beaches (2003-2020). This figure presents the sums from Table A1.



**A8: Coastal Beach Monitoring Meetings with Public Health Officials.**CT DPH hosts a spring meeting for coastal Public Health Officials to review the current status of the Beach Grant in Connecticut. Speakers at the meeting have previously included representatives from US EPA Region 1, CT DPH State Laboratory, and the Aquaculture Division of the Department of Agriculture, the National Oceanic and Atmospheric Association (NOAA), municipal government officials, Yale and CT DPH. The agenda includes a review of protocols for collecting beach closure and advisory information during the bathing season plus guidance/training for collecting and transporting samples. Usually held in May of each year, constraints related to the pandemic forced a delay until the Fall of 2020. The agenda for the September, 2020 meeting is found in Appendix A.

**A9: Providing Beach Grant Generated Data upon Request.** At various times throughout the year, the CT DPH Recreation Program receives requests from conservation organizations and other interested parties for the notification and monitoring data. In 2019 the DPH Recreation Program responded to a request from the CT Council on Environmental Quality. The CT Council on Environmental Quality publishes their annual report in mid-April. The summary data for the 2020 beach closures will be available on Council’s internet site (http://www.ct.gov/ceq/cwp/view.asp?a=986&q=248850). The Council reports event incidence relative to the prior year. When the report is issued, it should thus show a large decrease in closures for 2020 relative to 2019. The CT DPH Beach Program has also incorporated monitoring and notification data to the "Our Environment" Chapter of CT DPH’s Strategic Health Action Plan. Furthermore, the CT DPH Beach Program has been continuing its collaboration with the East Shore Department of Health, and Yale University on research related to the effects of storm water intrusion on beaches and shellfish beds in mid-coastal Connecticut.

**A10: US EPA Annual Report.** CT DPH prepares and submits an annual Beach Grant report to US EPA Region 1 using a format that was developed jointly between US EPA Region 1 and CT DPH. The annual report includes descriptions of beach data collection and management along with performance criteria and beach data summaries.

**A11: Education and Outreach****.** When CT DPH is invited to explain or review Connecticut’s beach monitoring effort, presentations describe the history of beach monitoring in Connecticut, current beach monitoring guidelines, and implementation programs. Connecticut’s beach monitoring effort is presented in the annual Environmental Health Training offered at Southern Connecticut State University by the grant’s Data Coordinator.

**A12: Assorted Office Supplies and Related Equipment.**Implementing the Beach Grant generates assorted office supply and related equipment ordering activity. Supplies include paper, color toner cartridges, binders, audio visual and computer equipment ordered to support daily operations and the semi-annual meeting for coastal Public Health officials.

# B: CT DPH Staff and Responsibilities

Of the four CT DPH staff positions described on this page, the Beach Grant serves to partially fund the Beach Grant coordinator positions.

**The Beach Grant coordinator** (Stewart Chute) is responsible for; working cooperatively with the EPA Region 1 Grant Manager (Alicia Grimaldi) in preparing the grant application and budget, work plan development and implementation, grant coordination with CT DEEP and the CT DPH State Laboratory, providing interpretive guidance to shoreline local health departments and CT DEEP for beach closures, and integrating Beach Grant related activities with public health issues in Connecticut.

**The Beach Grant data coordinator** (Stewart Chute) is responsible for; providing custom beach data sets upon request and analytic/technical assistance to support beach monitoring, preparing Connecticut’s annual US EPA Beach Survey used to collect notification and pollution source data, assembling beach monitoring and notification data, organizing and presenting at the shoreline meeting for Public Health Officials, processing and packaging beach data for transmittal to US EPA, writing Connecticut’s Annual Report for the US EPA Beach Grant, maintaining/updating the local custom database that CT DPH uses to hold and manage Beach Grant and related data, and participating in biweekly conference calls with EPA technical staff as needed.

**The Supervising Microbiologist** (Kim Holmes-Talbot) oversees the CT DPH Microbiology Laboratory where marine recreational water samples are tested for Enterococci. Additionally, she hires seasonal staff for the courier sample pick up service and trains them to help perform indicator bacteria testing conducted during the summer. Sample results data are provided by the Laboratory to CT DPH, local health departments and CT DEEP.

**The Quality Assurance Program Plan (QAPP) developer** (Jeff Curran) was responsible for authorizing the Quality Assurance Project Plan for the Beach Monitoring and Notification Program for Connecticut Coastal Beaches. This required experience in writing and reviewing quality assurance project plans for various types of environmental programs and projects.

# C: Performance Criteria and Attainment of Grant Criteria

The Federal Clean Water Act section 406(a) and Section 406(b) authorizes the US Environmental Protection Agency (US EPA) to award grants to implement monitoring and notification programs, but only if the programs meet certain requirements. One of these requirements is that the monitoring and notification programs be consistent with EPA’s performance criteria. These performance criteria provide the basis for US EPA’s evaluation of Connecticut’s 406(b) grant award. The general requirements US EPA’s nine performance criteria are summarized in Table C1. While the quality of CT’s beaches has been regularly evaluated by outside agencies such as the Connecticut Council for the Environment and the National Resources Defense Council, the author knows of no other government agency, outside the US EPA, that has formally evaluated the effectiveness of CT DPH’s Beach Program.

**Table C1:** Generalized Description of US EPA’s Nine Performance Criteria for Grant Recipients.

|  |  |  |
| --- | --- | --- |
| **Category** | **Performance Criterion** | **Criterion General Requirements** |
| Evaluation and Classification | 1 | Develop risk-based beach evaluation and classification plan |
| Monitoring | 2 | Develop tiered monitoring plan |
| 3 | Monitoring report submission and delegation |
| 4 | Methods and assessment procedures |
| Public Notification and Prompt Risk Communication | 5 | Public notification and risk communication plan |
| 6 | Measures to notify EPA and local governments |
| 7 | Measures to notify the public |
| 8 | Notification report submission and delegation |
| Public Evaluation | 9 | Public evaluation of program |

CT DPH maintains a beach monitoring and notification program in compliance with the nine performance criteria listed above. In brief, using custom software CT DPH receives, manages, maintains and uses marine beach data supplied to it by the state laboratory, local health departments and CT DEEP. Beach data sets are interrelated and include: a roster of beach managers and regulated marine bathing areas; current geospatial location data for these beaches and their sampling stations; a beach tier list that is updated annually; date and time stamped water quality monitoring results; beach closure and advisory events including extent of beach, duration and cause; and ways the public is notified of beach closures and advisories. CT DPH’s custom software is enabled for both incoming and outgoing electronic data interchange and includes utilities to cross check and validate beach data. This monitoring and notification system and its associated database have been used, adapted, and improved since 2003.

The purpose of this Section is to describe CT DPH’s beach monitoring and notification program within the context of the nine criteria shown in TableC1. To this end, a brief sequential summary of each criterion is presented below.

**C1: Performance Criterion 1: Develop Risk-Based Beach Evaluation & Classification Plan:**

The US EPA beach grant requires funds to be prioritized based on water usage and risk to human health. To fulfill this requirement, CT DPH has developed a risk-based beach evaluation and classification procedure for coastal recreational waters. This plan is part of the “Beach Monitoring and Notification Program for Connecticut Coastal Beaches”, (Quality Assurance Project Plan - RFA11178). The 2017 Quality Assurance Project Plan was signed by EPA’s QA/QC officer on May 5th, 2017.

**C2: Performance Criterion 2: Develop Tiered Monitoring Plan:**

The Tiered Monitoring Plan (TMP) addresses monitoring frequency, location and assessment of coastal waters. The TMP is based on the Risk-Based Beach Evaluation and Classification. The TMP is reviewed and revised on an annual basis. The evaluation and classification plan considers factors of beach usage, historical environmental conditions, past test results, and if a beach is listed by CT DEEP as impaired according to Federal 305(b)/303(d) methodology. Coastal beaches are evaluated weekly during the season and classified annually on the potential threat public health visitors might face (Table C2).

Connecticut beaches are ranked in three tiers with a classification scheme as follows:

* Tier I beaches had no more than one closure occurrence during the season.
* Tier II beaches had no more than three closure occurrences during the season.
* Tier III beaches do not meet minimum recommended sampling requirements, or had more than three closure events during the season.

**Table C2:** Tier Rank. CT regulated beaches are listed by Town along with rank and change in rank relative to the previous season. Last column denotes the change in Tier Rank in 2020 relative to the previous season.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TOWN | BEACH\_NAME | 2020 | 2019 | Change |
| BRANFORD | BRANFORD POINT BEACH | tier 1 | tier 1 | no change |
| BRANFORD | CLARK AVENUE BEACH | tier 1 | tier 1 | no change |
| BRANFORD | STONY CREEK BEACH | tier 1 | tier 1 | no change |
| BRIDGEPORT | PLEASURE BEACH-BRIDGEPORT | tier 3 | tier 1 | decrease |
| BRIDGEPORT | SEABRIGHT BEACH | tier 1 | no data | new beach |
| BRIDGEPORT | SEASIDE PARK BEACH | tier 1 | tier 2 | increase |
| CLINTON | TOWN BEACH (CLINTON) | tier 1 | tier 1 | no change |
| DARIEN | PEAR TREE POINT BEACH | tier 2 | tier 2 | no change |
| DARIEN | WEED BEACH | tier 2 | tier 2 | no change |
| EAST HAVEN | EAST HAVEN TOWN BEACH | tier 1 | tier 1 | no change |
| EAST LYME | HOLE-IN-THE-WALL BEACH | tier 1 | tier 1 | no change |
| EAST LYME | MCCOOK POINT BEACH | tier 1 | tier 1 | no change |
| EAST LYME | ROCKY NECK STATE PARK BEACH | tier 2 | tier 1 | decrease |
| FAIRFIELD | JENNINGS BEACH | tier 1 | tier 2 | increase |
| FAIRFIELD | PENFIELD BEACH | tier 1 | tier 2 | increase |
| FAIRFIELD | SASCO BEACH | tier 1 | tier 2 | increase |
| FAIRFIELD | SOUTH PINE CREEK BEACH | tier 1 | tier 2 | increase |
| FAIRFIELD | SOUTHPORT BEACH | tier 1 | tier 2 | increase |
| GREENWICH | BYRAM BEACH | tier 3 | tier 3 | no change |
| GREENWICH | GREAT CAPTAIN'S ISLAND BEACH | tier 2 | tier 2 | no change |
| GREENWICH | GREENWICH POINT BEACH | tier 1 | tier 3 | increase |
| GREENWICH | ISLAND BEACH | tier 1 | tier 1 | no change |
| GROTON | EASTERN POINT BEACH | tier 1 | tier 1 | no change |
| GROTON | ESKER POINT BEACH | tier 1 | tier 1 | no change |
| GROTON | NOANK DOCK | tier 1 | tier 1 | no change |
| GUILFORD | JACOBS BEACH (TOWN BEACH) | tier 1 | tier 1 | no change |
| MADISON | EAST WHARF BEACH | tier 1 | tier 1 | no change |
| MADISON | HAMMONASSET BEACH STATE PARK BEACH | tier 1 | tier 1 | no change |
| MADISON | PENT ROAD BEACH | tier 1 | tier 1 | no change |
| MADISON | SURF CLUB BEACH | tier 1 | tier 1 | no change |
| MADISON | WEST WHARF BEACH | tier 1 | tier 1 | no change |
| MILFORD | ANCHOR BEACH (MERWIN POINT) #1 | tier 1 | tier 1 | no change |
| MILFORD | ANCHOR BEACH (MERWIN POINT) #2 | tier 1 | tier 1 | no change |
| MILFORD | GULF BEACH | tier 1 | tier 1 | no change |
| MILFORD | SILVER SANDS STATE PARK BEACH | tier 2 | tier 1 | decrease |
| MILFORD | WALNUT BEACH | tier 1 | tier 1 | no change |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TOWN | BEACH\_NAME | 2020 | 2019 | Change |
| MILFORD | WOODMONT BEACH | tier 1 | tier 1 | no change |
| NEW HAVEN | FORT HALE PARK BEACH | tier 1 | tier 1 | no change |
| NEW HAVEN | LIGHTHOUSE POINT BEACH | tier 1 | tier 1 | no change |
| NEW LONDON | GREEN HARBOR BEACH | tier 1 | tier 1 | no change |
| NEW LONDON | OCEAN BEACH PARK | tier 1 | tier 1 | no change |
| NORWALK | BELL ISLAND BEACH | tier 1 | tier 2 | increase |
| NORWALK | CALF PASTURE BEACH | tier 1 | tier 3 | increase |
| NORWALK | HICKORY BLUFF BEACH | tier 1 | tier 2 | increase |
| NORWALK | MARVIN BEACH | tier 1 | tier 2 | increase |
| NORWALK | ROWAYTON BEACH | tier 1 | tier 2 | increase |
| NORWALK | SHADY BEACH | tier 1 | tier 3 | increase |
| OLD LYME | SOUNDVIEW BEACH | tier 1 | tier 1 | no change |
| OLD LYME | WHITE SANDS BEACH | tier 1 | tier 1 | no change |
| OLD SAYBROOK | HARVEY'S BEACH | tier 1 | tier 1 | decrease |
| OLD SAYBROOK | TOWN BEACH (OLD SAYBROOK) | tier 1 | tier 1 | decrease |
| STAMFORD | CUMMINGS BEACH | tier 2 | tier 3 | increase |
| STAMFORD | EAST (COVE ISLAND) BEACH | tier 2 | tier 3 | increase |
| STAMFORD | QUIGLEY BEACH | tier 2 | tier 3 | increase |
| STAMFORD | WEST BEACH | tier 2 | tier 3 | increase |
| STONINGTON | DUBOIS BEACH | tier 1 | tier 1 | no change |
| STRATFORD | LONG BEACH (MARNICK'S) | tier 1 | tier 2 | increase |
| STRATFORD | LONG BEACH (PROPER) | tier 1 | tier 1 | no change |
| STRATFORD | SHORT BEACH | tier 1 | tier 2 | increase |
| WATERFORD | PLEASURE BEACH-WATERFORD | tier 1 | tier 1 | no change |
| WATERFORD | WATERFORD TOWN BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | ALTSCHULER BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | DAWSON BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | MORSE BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | OAK STREET A BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | OAK STREET B BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | ROCK STREET BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | SEABLUFF BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | SEAVIEW BEACH | tier 1 | tier 1 | no change |
| WEST HAVEN | SOUTH STREET BEACH | tier 1 | tier 1 | no change |
| WESTBROOK | WESTBROOK TOWN BEACH/WEST BEACH | tier 1 | tier 1 | no change |
| WESTPORT | BURYING HILL BEACH | tier 1 | tier 2 | increase |
| WESTPORT | COMPO BEACH | tier 1 | tier 2 | no change |
| WESTPORT | SHERWOOD ISLAND STATE PARK BEACH | tier 1 | tier 1 | no change |

**C3: Performance Criterion 3: Monitoring Report Submission and Delegation:**

The CT DPH beach database is a stand-alone Access database. The module was completed and fully operational in October 2003 and has been constantly improved and adapted to changing needs. The database contains monitoring data on the beaches and information on associated contacts, advisories, pollution sources, and reported illnesses. Beaches are related to monitoring data in the core of the database. The module meets the XML data sharing protocols specified by US EPA. The complete monitoring data set for the 2019 season was submitted to US EPA on February 22nd, 2021 and is available from their Beacon 2 website (http://watersgeo.epa.gov/beacon2).

**C4: Performance Criterion 4: Methods and Assessment Procedures:**

All methods for assessing ambient waters and for making decisions concerning the protection of human health at beaches were established in accordance with EPA recommended standard methods. The current QAPP includes sample collection techniques, analytical procedures, and data verification and validation processes. As outlined in the QAPP, coastal waters are analyzed for Enterococci bacteria. While the majority of samples are analyzed at CT DPH’s Katherine Kelly Laboratory, some towns use their own State-certified environmental testing laboratories. Each laboratory utilizes analytical methods approved by EPA. In general, results are assessed in comparison to the state standard of 104 (CFU or MPN)/100 ml water and advisories are issued when appropriate. In addition, the director of health will consider 24-hour rainfall data and other local factors (e.g.; storm sewer overflow, sewage overflow, waterfowl, seaweed drift, etc.) when deciding on bathing beach closures.

**C5: Performance Criterion 5: Public Notification and Risk Communication Plan:**

CT DPH has developed a comprehensive “Beach Closure and Notification” plan. This plan describes how the public will be notified of potential risks associated with water contact activities in coastal recreational waters, and describes the advisory process for issuing, re-sampling and removing advisories. Notification protocols are described within current QAPP. In summary, beach advisories are issued as soon as elevated results are received by CT DEEP staff or local Health Directors. Advisory information is relayed to beach managers who are asked to post signs at beach entrances. The advisory is also listed on the managing authority’s telephone hot-line or web site. Once re-sample results are below state standards, the advisory is removed and the public is notified through the same channels as with the posting of the advisory.

**C6: Performance Criterion 6: Measures to Notify EPA and Local Governments:**

CT DPH has developed a mechanism for prompt notification of the EPA and local governments of the occurrence, nature, location, and pollutants involved when a violation of water quality standards for public beaches occurs. These methods also communicate the extent of exceedance or the likelihood of exceeding applicable state water quality standards for pathogen indicators. CT DPH works closely with 24 municipalities along the Long Island Sound shoreline and their 17 local health departments plus the CT DEEP to support the consistent use of statewide beach monitoring guidelines and beach closure protocol. CT DPH hosts meetings for public health officials to: promote standardized beach monitoring practices; provide updates; to review marine beach tracking data for the state; and provide a forum for US EPA and public health officials to discuss beach issues. The spring 2020 meeting with shoreline public health officials was held virtually on September 24th, 2020 Presentations were given by Dr. Stewart Chute of the CT DPH Recreation Program, Kimberly Holmes-Talbot of the CT DPH Public Health Laboratory, staff from the CT DEEP, Kristin DeRosia-Banick of the CT Department of Agriculture, Emily Van Gulick of the CT Department of Agriculture, and Sarah Esenther of Yale University. A copy of the meeting agenda is found in Appendix A.

**C7: Performance Criterion 7: Measures to Notify the Public:**

If it is necessary to close a State Beach, the CT DEEP Project Manager or designee contacts the CT DEEP Parks Division and CT DEEP Communications Office by telephone and email. They take appropriate actions to close state beaches and initiate the public notification process. Municipalities have their own notification procedures. (See Table A1). Communication of closure status at State beaches to the general public is presently accomplished by updating the CT DEEP web site and amending the State Beach “Hotline”. Updates are the responsibility of CT DEEP Parks or Office of Communications personnel on the same day significant sample results are received from the CT DPH laboratory. The CT DEEP also issues press releases on the same day the laboratory results are received that are carried by area radio and television stations, and newspapers. Finally, the CT DPH immediately communicates the closure status of any State Beach with appropriate local health officials by telephone or email. A voice-mail message is recorded if direct contact is not made at any point in the above sequence. If the caller does not receive a call back within an hour to acknowledge the voice-mail, subsequent calls are made to alternative staff according to a predetermined sequence until an appropriate person is contacted directly. In addition, CT DEEP maintains a web site for public notification of State beach status ([www.**ct**.**gov**/**deep**/beachstatus](http://www.ct.gov/deep/beachstatus)). CT DEEP is also using social media including Facebook and Twitter to provide updated information for selected facilities.

If the local director of health deems it necessary to close a bathing beach, the CT DPH is to be advised of such closure by telephone or fax as soon after the closure as possible but not later than 4-hours. The local health district/department is responsible for the notification of the general public by posting on a local municipality’s website and/or via a press release to the local media.

**C8: Performance Criterion 8: Notification Report Submission and Delegation:**

States are required to report on activities taken to notify the public in the case of water quality standard exceedances, promptly report notification data to the public, and submit annual notification data elements to the US EPA. Despite pandemic-related constraints on local health staffing, all beach notification data were entered into CT DPH’s Access database before late Winter 2021. CT DPH submitted the 2020 notification data to US EPA on March 18th,2021. This data is available from US EPA’s Beacon 2 website (http://watersgeo.epa.gov/beacon2).

**C9: Performance Criterion 9: Public Evaluation of the Program:**

The public has been provided with an opportunity to review the list of coastal recreational waters and associated public beaches, the tier designation of coastal public beaches, and yearly reports. All documents are displayed on the CT DPH website ([www.ct.gov/dph/publicbeaches](http://www.ct.gov/dph/publicbeaches)), and comments are requested. CT DPH also sends monitoring and notification data to selected public non-governmental organizations and other interested parties upon request.

# D: Performance Measures

Connecticut’s monitored beaches were safe for swimming 99.5% of the 2020 swim season. Within the 74 monitored beaches, there were 63 closure days and 6 advisory days during the 105-day season. These totals are derived from 37 closure and 2 advisory events. Thirty percent of all closures were due to elevated indicator bacteria, while preemptive closures were predominantly due to heavy rainfall. A significant break in a sewage line in the Mill River (New Haven) was the reason for 5 of the closure events. Table D1 shows these results along with other indices.

**Table D1:** Summary Counts for Key Parameters from the 2020 Marine Beach Season.

|  |  |
| --- | --- |
| ***Parameter*** | ***Count*** |
| Marine beaches tracked for the US EPA Beach Grant | 74 |
| Beaches reporting marine recreational water quality monitoring samples | 69 |
| Reported marine beach Advisory Events | 2 |
| Reported marine beach Advisory Days | 6 |
| Reported marine beach Closure Events | 37 |
| Reported marine beach Closure Days | 63 |
| Total reported marine beach events (closure events and advisory events) | 39 |
| Total reported marine beach event days (closure days and advisory days) | 80 |
| Tier 1 marine beaches | 63 |
| Tier 2 marine beaches | 9 |
| Tier 3 marine beaches | 2 |
| Reported marine beach closure events due to elevated indicator bacteria | 10 |
| Reported marine beach closure events preemptive due to heavy rainfall | 23 |
| Reported marine beach recreational water quality monitoring samples | 1835 |
| Marine beach recreational water quality monitoring samples that exceeded 104 CFU/100ml | 85 |
| Marine beaches with one or more marine recreational water quality samples that exceeded 104 CFU/100ml | 33 |

# E: Beach Advisories and Outside Appraisal

CT DPH collects information on notification events from each of the eighteen State and municipal agencies charged with monitoring marine beaches. CT DPH generates the survey forms and distributed them in November 2020. Survey forms were returned to CT DPH by the end of February 2021. Information on the survey was reviewed and compiled into a custom database. Notification data was then formatted and initially submitted to US EPA on March 18th, 2021. The 2020 Annual Review of Marine Beach Monitoring and Notification Data report was distributed to municipalities and CT DEEP on March 31st, 2021. During the sampling season 36 coastal notification events were recorded (TableE1). These data can be distributed to outside agencies upon request.

**Table E1:** Connecticut Beach Advisories and Closures for the 2020 Swim Season. Notification data as reported to CT DPH by shoreline local health departments and CT DEEP. Data set is sorted by Town, and Event Start Date. If the municipal authority does not know the source of elevated bacteria, “unknown” is reported under the “SOURCE” column.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TOWN | BEACH NAME | EVENT TYPE | START DATE | DURATION (DAYS) | REASON | SOURCE |
| BRANFORD | BRANFORD POINT BEACH | Close | 08/02/2020 | 4 | Preemptive - Sewage | POTW |
| CLINTON | TOWN BEACH (CLINTON) | Close | 07/08/2020 | 3 | Elevated bacteria | Storm water runoff |
| DARIEN | PEAR TREE POINT BEACH | Close | 07/02/2020 | 1 | Preemptive - Rainfall | Septic systems |
| DARIEN | PEAR TREE POINT BEACH | Close | 07/18/2020 | 1 | Preemptive - Rainfall | Septic systems |
| DARIEN | PEAR TREE POINT BEACH | Close | 07/22/2020 | 1 | Preemptive - Rainfall | Septic systems |
| DARIEN | WEED BEACH | Close | 07/02/2020 | 1 | Preemptive - Rainfall | Septic systems |
| DARIEN | WEED BEACH | Close | 07/18/2020 | 1 | Preemptive - Rainfall | Septic systems |
| DARIEN | WEED BEACH | Close | 07/22/2020 | 1 | Preemptive - Rainfall | Septic systems |
| EAST LYME | ROCKY NECK STATE PARK BEACH | Close | 07/14/2020 | 2 | Elevated bacteria | Wildlife |
| EAST LYME | ROCKY NECK STATE PARK BEACH | Close | 07/21/2020 | 2 | Elevated bacteria | Wildlife |
| GREENWICH | BYRAM BEACH | Close | 07/02/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 07/04/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 07/11/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 07/18/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 07/31/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 08/05/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 08/18/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | BYRAM BEACH | Close | 08/20/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GREENWICH | GREAT CAPTAIN'S ISLAND BEACH | Close | 07/01/2020 | 1 | Elevated bacteria | Wildlife |
| GREENWICH | GREAT CAPTAIN'S ISLAND BEACH | Close | 08/04/2020 | 7 | Elevated bacteria | Wildlife |
| GREENWICH | GREENWICH POINT BEACH | Close | 08/05/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| GUILFORD | JACOBS BEACH (TOWN BEACH) | Close | 07/08/2020 | 6 | Preemptive - Sewage | SSO |
| MADISON | EAST WHARF BEACH | Close | 07/09/2020 | 2 | Preemptive - Sewage | Sewer line break |

**Table E1:** Connecticut Beach Advisories and Closures for the 2020 Swim Season. (Continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TOWN | BEACH NAME | EVENT TYPE | START DATE | DURATION (DAYS) | REASON | SOURCE |
| MILFORD | SILVER SANDS STATE PARK BEACH | Close | 07/21/2020 | 2 | Elevated bacteria | Storm water runoff |
| MILFORD | SILVER SANDS STATE PARK BEACH | Close | 08/18/2020 | 2 | Elevated bacteria | Storm water runoff |
| NEW HAVEN | LIGHTHOUSE POINT BEACH | Close | 07/08/2020 | 3 | Elevated bacteria | CSO |
| NEW LONDON | GREEN HARBOR BEACH | Advisory | 07/08/2020 | 9 | Elevated bacteria | Unknown |
| NEW LONDON | GREEN HARBOR BEACH | Advisory | 08/26/2020 | 8 | Elevated bacteria | Unknown |
| STAMFORD | CUMMINGS BEACH | Close | 07/31/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | CUMMINGS BEACH | Close | 08/14/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | EAST (COVE ISLAND) BEACH | Close | 07/31/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | EAST (COVE ISLAND) BEACH | Close | 08/14/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | QUIGLEY BEACH | Close | 07/31/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | QUIGLEY BEACH | Close | 08/14/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | WEST BEACH | Close | 07/31/2020 | 1 | Preemptive - Rainfall | Storm water runoff |
| STAMFORD | WEST BEACH | Close | 08/14/2020 | 1 | Preemptive - Rainfall | Storm water runoff |

Appendix A: Spring Meeting Agenda.

CONNECTICUT BEACH GRANT MEETING FOR COASTAL HEALTH OFFICIALS

September 24 2020 @ 12:30 PM

***On-Line via GoToWebinar***

***\*\*\*\*\*\*\****

AGENDA

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 12:30 - 12:45 | Stewart Chute, *DPH* | Welcome |
| 12:45 - 1:15 | Kimberly Holmes-Talbot, *DPH* | The State Laboratory and summer beach monitoring |
|  |  |  |
| 1:15 - 1:30 | Stewart Chute, *DPH* | Beach Grant annual report |
|  |  |  |
| 1:30 - 2:00 | Tracy Lizotte & Ansel Aarrestad; *DEEP* | State Park Beach Monitoring Program |
|  |  |  |
| 2:00 -2:30  2:30 -3:00 | Emily Van Gulick,  State of Connecticut Department of Agriculture Bureau of Aquaculture  Kristin DeRosia-Banick  State of Connecticut Department of Agriculture Bureau of Aquaculture | Harmful Algal Bloom Update    Modernization of Shellfish Program Management in Connecticut" |
|  |  |  |
| 3:00 - 3:30 | Michael A. Pascucilla & Sarah Esenther; East Shore HD & Yale University | Preemptive Closures |

## Appendix B: Eighteen-year summary data.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **YEAR** | **'03** | **'04** | **'05** | **'06** | **'07** | **'08** | **'09** | **'10** | **'11** | **'12** | **'13** | **'14** | **'15** | **'16** | **'17** | **'18** | **'19** | **'20** |
| Count of marine beaches tracked for the | 67 | 67 | 67 | 67 | 66 | 66 | 66 | 66 | 73 | 73 | 73 | 73 | 74 | 73 | 73 | 73 | 74 | 74 |
| US EPA Beach Grant |
| Count of marine beaches monitored weekly during the bathing season | 65 | 65 | 65 | 63 | 64 | 66 | 65 | 65 | 72 | 72 | 72 | 72 | 72 | 72 | 73 | 73 | 74 | 69 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Count of reported marine beach | 19 | 2 | 7 | 1 | 1 | 1 | 1 | 1 | 16 | 28 | 12 | 3 | 4 | 3 | 8 | 9 | 6 | 2 |
| **Advisory Events** |
| Count of reported marine beach | 28 | 7 | 69 | 2 | 1 | 30 | 2 | 3 | 101 | 191 | 52 | 6 | 5 | 6 | 22 | 16 | 6 | 6 |
| **Advisory Days** |
| Count of reported marine beach | 115 | 95 | 86 | 106 | 65 | 66 | 74 | 66 | 152 | 68 | 66 | 65 | 50 | 79 | 52 | 83 | 96 | 37 |
| **Closure Events** |
| Count of reported marine beach | 179 | 176 | 131 | 222 | 107 | 105 | 106 | 140 | 535 | 107 | 99 | 111 | 70 | 157 | 132 | 115 | 153 | 63 |
| **Closure Days** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Count of total marine beach **events** | 134 | 97 | 93 | 107 | 66 | 67 | 75 | 67 | 168 | 96 | 78 | 68 | 54 | 82 | 60 | 92 | 102 | 39 |
| (closure events and advisory events) |
| Count of total marine beach event days | 207 | 183 | 200 | 224 | 108 | 135 | 108 | 143 | 636 | 298 | 151 | 117 | 75 | 163 | 154 | 131 | 159 | 80 |
| (closure days and advisory days) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Count of Tier 1 marine beaches1 | 46 | 43 | 41 | 46 | 54 | 54 | 49 | 52 | 29 | 55 | 57 | 53 | 57 | 54 | 60 | 49 | 49 | 63 |
| Count of Tier 2 marine beaches1 | 6 | 11 | 15 | 8 | 7 | 4 | 10 | 11 | 27 | 12 | 11 | 14 | 14 | 9 | 6 | 18 | 17 | 9 |
| Count of Tier 3 marine beaches1 | 15 | 13 | 11 | 13 | 5 | 8 | 7 | 3 | 17 | 6 | 5 | 6 | 3 | 10 | 7 | 6 | 8 | 2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Count of marine beach **closure events** due to elevated indicator bacteria | 18 | 13 | 15 | 18 | 8 | 13 | 9 | 37 | 49 | 12 | 17 | 18 | 13 | 46 | 17 | 32 | 19 | 10 |
| Count of preemptive **closure events** (usually due to heavy rainfall) | 89 | 77 | 70 | 81 | 54 | 53 | 65 | 27 | 95 | 56 | 47 | 47 | 37 | 33 | 34 | 60 | 68 | 23 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Number of reported marine beach recreational water quality monitoring samples | 966 | 1086 | 1129 | 1385 | 1682 | 1636 | 1962 | 2213 | 2051 | 1953 | 1806 | 1787 | 1864 | 1826 | 1981 | 1804 | 1882 | 1835 |
| Number of marine beach recreational water quality monitoring samples that exceeded the US EPA standard of 104 CFU/100ml | 51 | 62 | 47 | 75 | 89 | 73 | 93 | 261 | 235 | 156 | 112 | 108 | 74 | 124 | 105 | 122 | 97 | 85 |
| Number of marine beaches with one or more marine recreational water quality samples that exceeded the US EPA standard of 104 CFU/100ml | 16 | 18 | 14 | 29 | 39 | 28 | 33 | 55 | 58 | 44 | 40 | 30 | 30 | 41 | 39 | 44 | 43 | 33 |

## Appendix C: EPA’s Reply to Connecticut’s Justification to Maintain Its Current Beach Action Values

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# END OF ANNUAL REPORT